

POLYTRON[®]

DISPERSING AND MIXING TECHNOLOGY BY KINEMATICA

Dispensing Technology for Laboratory and Pilot Plant System POLYTRON[®] PT 6100



KINEMATICA AG
Dispensing and Mixing Technology

POLYTRON[®] System PT 6100

The «Hercules» among the Lab Dispensing Devices

The POLYTRON[®] PT 6100 system with its powerful 1600 Watt PT-MR 6100 drive can be equipped with more than 40 different POLYTRON[®] dispersing aggregates according to the rotor/stator principle. Therefore the PT 6100 System offers its user solutions for a wide range of dispersing and homogenizing applications with volumes in between approx. 100 ml and 30 000 ml.

The following features particularly distinguish our “Hercules”:

- ▶ powerful 1600 watt drive
- ▶ up to 24 000 min⁻¹ and up to approx. 50 m/s tip speed
- ▶ sound-proof to approx. 80 dB A
- ▶ intelligent control with LED display for speed indication
- ▶ soft-start, overload protection and speed stabilisation
- ▶ safety quick-coupling
- ▶ more than 40 different and interchangeable dispersing aggregates
- ▶ connection for programmable RECO[®] control unit

Of course also this KINEMATICA product complies to all mechanical and electrical regulations, especially in regard to product safety and bears the CE mark.

Intelligent Control

The integrated electronic control unit maintains a constant speed up to the load limit of the drive, which is especially important with a changing viscosity of the product. When this load limit is reached, the electronic overload protection activates. The speed is now controlled to the maximum possible motor load. The actual speed is continually displayed on the three-digit LED digital readout.

Coupling Safety

With the elegant stainless steel safety quick-coupling you can lock the POLYTRON[®] dispersing aggregate by a single operation without tedious tightening of screws or other handling. When releasing, a spring system prevents the dispersing aggregate from falling.

The solution for your homogenising, dispersing, emulsifying, suspending, size reduction and wet milling application is offered by KINEMATICA – our staff will be glad to assist you.



Drive unit PT-MR 6100 with stand PT-ST 6001



Lock the dispersing aggregate to the drive unit with the safety quick-coupling




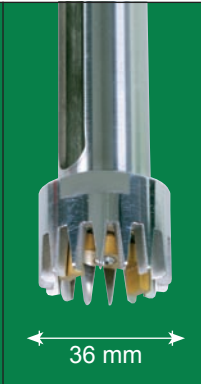



Lift the dispersing vessel into work position with the work table of the stand PT-ST 6001



Set and read the desired velocity of the rotor

POLYTRON[®] Dispersing Aggregates

Selected Dispersing Aggregates for the POLYTRON[®] System PT 6100

Designations					
EC = EasyClean version G = with mechanical seal M = with knife rotor T = foam-inhibiting version W = W-Generator Z = Z-Generator /2 Rotor/Stator with 1 tooth row each /4 Rotor/Stator with 2 teeth rows each /6 Rotor/Stator with 3 teeth rows each	30 mm	36 mm	36 mm	40 mm	45 mm
Model	PT-DA 3030/4EC	PT-DA 6036/2W	PT-BIA 6036	PT-DA 6040/2	PT-DA 6045/6
Useful capacity (ml)	100–2500	200–4000	500–8000	200–5000	200–4000
Recommended dispersing vessels	KINEMATICA dispersing vessels from GS 40 upwards or a vessel with min. 35 mm inside diameter	KINEMATICA dispersing vessels from GS 50 upwards or a vessel with min. 45 mm inside diameter	KINEMATICA dispersing vessels from GS 50 upwards or a vessel with min. 45 mm inside diameter	KINEMATICA dispersing vessels from GS 50 upwards or a vessel with min. 45 mm inside diameter	KINEMATICA dispersing vessels from GS 60 upwards or a vessel with min. 55 mm inside diameter
If you do not use a KINEMATICA dispersing vessel, it is recommended to use a square or rectangular vessel in order to avoid causing a vortex or spout. Round vessels can also be fitted with breakwaters.					
Applications	<ul style="list-style-type: none"> • Making suspensions and emulsions • Speeds up the solution of solid materials • Making fluid mixtures • Gassing • Extractions 	<ul style="list-style-type: none"> • Dispersing of fibrous, stringy and brittle samples 	<ul style="list-style-type: none"> • High turbulent mixing with low shear forces • Fast dissolving and suspending of solids also at higher viscosity 	<ul style="list-style-type: none"> • Dispersing and mixing of particles of up to 20 mm • Sample preparation for extraction and solution of organic material • Intensive mixing 	<ul style="list-style-type: none"> • Making finest emulsions and suspensions • Mixes and reduces highly intensive, e.g. ashes, into fluids • Gasses solutions • Separates fibers and cellular material into smallest particles • Extractions

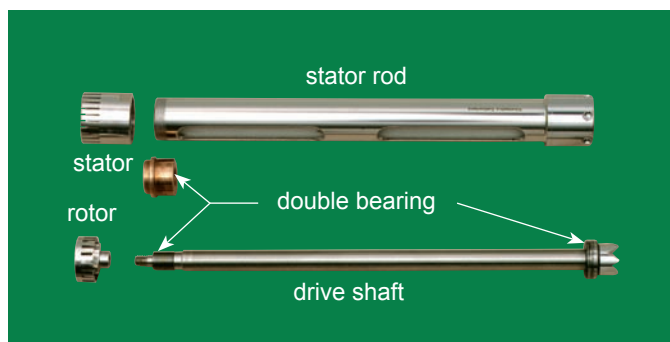
POLYTRON[®] Dispersing Aggregates – unrivalled

Up to the present the efficiency of POLYTRON[®] dispersing aggregates remains unequalled. Thanks to the optimized shear forces and bounce effects the processed medium will be treated at finest level in shortest time.

The optimal aggregate for the dispersing application can be chosen from over 40 different, interchangeable POLYTRON[®] dispersing aggregates.

POLYTRON[®] dispersing aggregates have shafts with double bearings as standard equipment and are made of high quality stainless steel (V4A,316L).

For specific applications KINEMATICA offers customer tailored work. Elaborated rotor/stator geometries are a speciality of KINEMATICA.




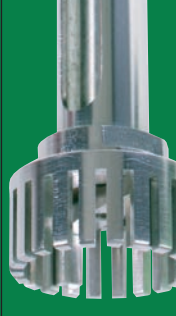
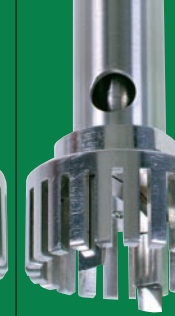
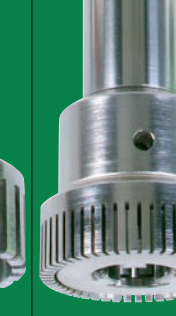
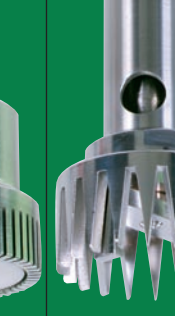
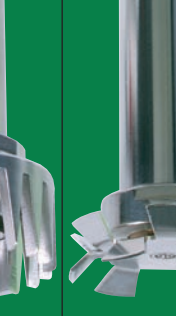

Standard aggregate PT-DA 3030/4 disassembled

List of dispersing aggregates for the PT 6100 System (standard shaft length = 250 mm, special lengths on request)

Basic model	Tip Speed maximum	Equipable with								
		/2	/4	/6	EC	T	G	M	W	Z
PT-DA 3030/..	32 m/s	x	x		x	x	x	x	x	x
PT-DA 6036/..	34 m/s	x			x	x			x	
PT-DA 6040/..	36 m/s	x			x	x		x	x	
PT-DA 6045/..	40 m/s	x		x	x	x	x	x	x	
PT-DA 6050/..	44 m/s	x		x	x	x	x	x	x	
PT-DA 6060/..	50 m/s	x			x	x	x	x	x	
PT-BIA 6036	34 m/s	BIOTRONA			x	x				
PT-BIA 6045	40 m/s	BIOTRONA			x	x				
PT-DI 6058	47 m/s	Dissolver			x	x				

Please call or fax us to receive extensive information about our dispersing aggregates.

The suitable solution for all dispersing processes

						
45 mm	50 mm	50 mm	50 mm	50 mm	58 mm	60 mm
PT-BIA 6045	PT-DA 6050/2	PT-DA 6050/2TM	PT-DA 6050/6G	PT-DA 6050/2WEC	PT-DI 6058	PT-DA 6060/2
1000–15 000	300–10 000	300–10 000	300–4000	300–10 000	1000–40 000	1000–30 000
KINEMATICA dispersing vessels from GS 100 upwards or a vessel with min. 70 mm inside diameter	KINEMATICA dispersing vessels from GS 60 upwards or a vessel with min. 55 mm inside diameter	KINEMATICA dispersing vessels from GS 60 upwards or a vessel with min. 55 mm inside diameter	KINEMATICA dispersing vessels from GS 60 upwards or a vessel with min. 55 mm inside diameter	KINEMATICA dispersing vessels from GS 60 upwards or a vessel with min. 55 mm inside diameter	KINEMATICA dispersing vessels from GS 100 upwards or a vessel with min. 70 mm inside diameter	KINEMATICA dispersing vessels from GS 100 upwards or a vessel with min. 65 mm inside diameter
If you do not use a KINEMATICA dispersing vessel, it is recommended to use a square or rectangular vessel in order to avoid causing a vortex or spout. Round vessels can also be fitted with breakwaters.						
<ul style="list-style-type: none"> • High turbulent mixing with low shear forces • Fast dissolving and suspending of solids also at higher viscosity 	<ul style="list-style-type: none"> • Dispersing and mixing of particles of up to 25 mm • Sample preparation for extraction and solution of organic material • Intensive mixing 	<ul style="list-style-type: none"> • Dispersing and mixing of particles of up to 25 mm • Sample preparation for extraction and solution of organic material • Intensive mixing • Prevents additional mixing of air into the medium • Knife rotor eases the preparation of larger cellular tissues or particles 	<ul style="list-style-type: none"> • Working under pressure and vacuum • Making finest emulsions and suspensions • Mixes and reduces highly intensive, e.g. ashes, into fluids • Gasses solutions • Separates fibers and cellular material into very small particles • Extractions • Prevents foam buildup thanks to the built-in mechanical seal 	<ul style="list-style-type: none"> • Dispersing of fibrous, stringy and brittle samples 	<ul style="list-style-type: none"> • Fast mixing and homogenizing of solid materials by means of a dissolving disk • Preparing highly viscose products 	<ul style="list-style-type: none"> • Dispersing and mixing of particles of up to 30 mm • Sample preparation for extraction and solution of organic material • Intensive mixing

Simple and safe cleaning

POLYTRON® dispersing aggregates are also available as EC (Easy Clean) aggregates. In this design, slide bearings made of high quality plastic in combination with special ball bearings are used because of their excellent mechanical properties and best chemical resistance.

POLYTRON® dispersing aggregates in the EC version are disassembled in a few steps, cleaned easily and can be sterilized and autoclaved by any standard method.

High turbulence: BIOTRONA®

The BIOTRONA® flash blender is designed for special jobs. Thanks to the extremely high turbulence and low shear forces it is excellently suited for fast suspending and dispersing of solids also at higher viscosity.

W-Generators – for fibrous and stringy material

The preparation of hard and brittle, partially tough and fibrous samples for analysis is often tedious and time consuming work, creating high demands for the user and the equipment. Frozen kernels of grain for example, or field beans, are extremely hard and abrasive; the connective tissue of meat, on the other hand, is very fibrous and tough. The new geometry of the W-generators has solved these problems.

Z-Generators – for hard and brittle material

Pills, capsules and hard large grains are broken open and dispersed by the Z generators in a short time. The special effect is caused by the unique geometry of the generator teeth.

Complete versatile

Programmable: RECO® RP 502

This electronic control allows you to program work which recurs often. Speed, working time and maximal temperature can be entered for five separate programs. The RECO® RP 502 continually informs you of the current values on an LCD display.

The RECO® RP 502 is equipped with a data output (RS 232 interface) and therefore can comfortably be connected to a computer.



Programmable control unit RECO® RP 502 on the PT-ST 6001 stand

Choice of stands

Three different stands are available for ease of work and for carrying:

- The practical PT-ST 6001 of anodized aluminum with its stable H foot and a PTFE coated work table which can be adjusted in height and swung out.
- The user friendly PT-ST 6002, a telescopic stand with pneumatic springs and 300 mm stroke.
- The economical PT-ST 6003 stand with the same H foot, a column, two cross sleeves and a vessel holder, all made of stainless steel.



From left to right: PT-ST 6003, PT-ST 6002 and PT-ST 6001

The suitable dispersing vessel

The following overview should help you to find the correct working vessel for your application.

We will be pleased to provide you with further information on other vessels and about special designs as well.

Description	Order No.	Dimen. (mm) Ø / H	Working Volume	Model		
GS 40	9135020	80 / 200	500 ml	Clover leaf shaped	Borosilicate glass	top open without cover
GS 50	9135021	90 / 250	1000 ml			with screw cap glass inlet Ø 40 mm
GS 60	9135022	100 / 300	1300 ml			with screw cap with tapered fittings 25 mm glass inlet Ø 40 mm
GS 40 K	9135062	80 / 200	500 ml	Cylindrical	V2A stainless steel	top open with cover
GS 50 K	9135063	90 / 250	900 ml			top open without cover
GS 60 K	9135064	100 / 300	1300 ml			top open without cover
GS 40 KL25	9135054	80 / 200	500 ml	Cylindrical	V2A stainless steel	top open without cover
GS 50 KL25	9135056	90 / 250	900 ml			
GS 60 KL25	9135058	100 / 300	1300 ml			
GS 100	9135045	155 / 200	3000 ml			
GS 130	9135023	180 / 210	4000 ml			
GS 150	9135024	180 / 320	6000 ml			
GS 190	9135025	230 / 320	10000 ml			
GS 100 Z	9135070	100 / 150	900 ml			
GS 155 Z	9135072	175 / 190	3500 ml			
GS 200 Z	9135074	200 / 270	7000 ml			



Choice of dispersing vessels

Order information for system PT 6100 (suitable dispersing aggregates on request)

Description	Order No.	Description	Order No.
PT-MR 6100 Drive unit 230V/ 50Hz	CH: 9161001 EU: 9161002	Stand PT-ST 6001	9105050
		Telescopic stand PT-ST 6002	9105062
		Economy stand PT-ST 6003	9060111
PT-MR 6100 Drive unit 115V/60HZ	9161003	RECO® RP 502	9110091
		PT 100 temp. sensor to RECO®	9115019

Finest Solutions ... worldwide !

A wide range of products with the finest solution for every application, matched by the superior quality of all components make KINEMATICA a world leader for Dispersing and Mixing technology.

With Keen Eyes ...

Development knows no rest at KINEMATICA. Our systems are constantly upgraded to reflect the state-of-the-art technology and the needs of the market. KINEMATICA has always had a keen eye for major advances, as proved by various patents. The rotor/stator principle for dispersing technology was conceived and developed at KINEMATICA and has become the world standard.

... For Your Needs

Applications for Dispersing/Homogenizing Technology are always on the increase. KINEMATICA continually creates new areas of processing applications based on innovations. We do not neglect the human factor as it is exemplified by the noise reduction of our high-speed systems.

Please, get in touch with us, our local appointed agent or your preferred dealer. We will be pleased to supply more details or arrange for a personal demonstration of our POLYTRON® and MEGATRON® systems.

Feinste Lösungen ... weltweit !

Eine breite Produktpalette mit der optimalen Lösung für jede Applikation, sowie der hohe Qualitätsstandard aller Systemteile machen KINEMATICA zum weltweit führenden Unternehmen im Bereich der Rotor/Stator-Dispergier- und Mischtechnik.

Mit offenen Ohren...

KINEMATICA entwickelt die Systeme laufend weiter und bringt sie konzeptionell und konstruktiv auf den neuesten Stand der Technik. Denn KINEMATICA hat die Ohren noch nie vor dem verschlossen, was unerhörte Fortschritte bringt - davon zeugen auch verschiedene Patente.

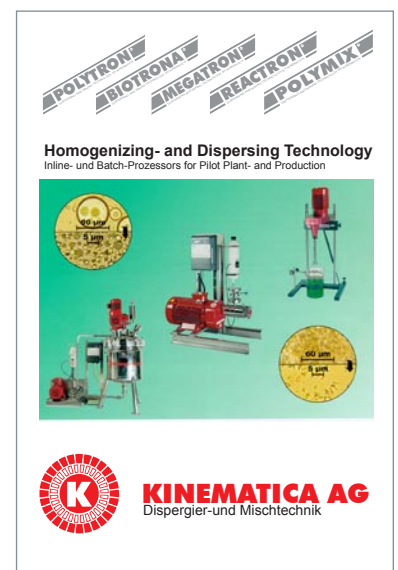
So hat sich das von KINEMATICA entwickelte Rotor/Stator-Dispergierprinzip weltweit durchgesetzt und bewährt.

... für Ihre Bedürfnisse

Die Einsatzbereiche der Rotor/Stator-Dispergiertechnik erweitern sich ständig. Das nicht zuletzt deshalb, weil KINEMATICA durch Innovationen, wie erhöhte Umfangsgeschwindigkeiten, neue Arbeitsgebiete und neue Applikationen erschliesst - ohne dabei menschliche Aspekte zu vernachlässigen. Erinnert sei an das Bemühen um die Geräuschkürzung am Arbeitsplatz.

Wenden Sie sich an uns. Gerne senden wir Ihnen weitere Unterlagen oder führen Ihnen unsere POLYTRON®- und MEGATRON®-Systeme vor.

Represented by / Vertreten durch:



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