

POLYTRON® batch homogenizer for lab and pilot plant cover working volumes from about 0.1 ml up to about 50 liters. Basic models up to electronically controlled drive systems with computer interfaces are available and handle reliable different dispersing tasks.

The batch homogenizers are classified into lab handheld, small, medium and large benchtop units and pilot plant versions.

All POLYTRON® homogenizers to convince with the following features:

- quick coupling for the dispersing aggregates
- powerful and safe drive systems
- high speed levels / extreme high tip speeds
- intelligent regulations and / or controllers
- digital displays or readable scales
- long working life

From over 40 different and exchangeable POLYTRON® dispersing aggregates the optimum for each specific homogenizing application can be chosen.

The efficiency of POLYTRON® dispersing aggregates is unrivalled until now. Thanks to optimized shear forces and bounce effects the processed medium will be treated at finest level in shortest time.



POLYTRON® dispersing aggregates with EC design (standard) can be disassembled with effortless ease, are easily cleaned and can be sterilised / autoclaved according to all current methods.




Model / Series	for volumes up to	speed max.	Power	Ø generator	standard Shaft length	Further Description, Options
PT 1200 E	0.05 - 250 ml	28'000 rpm	100 W	3 - 12 mm	50 - 123 mm	1,9,11,14
PT 1300 D	0.05 - 250 ml	30'000 rpm	100 W	3 - 12 mm	50 - 123 mm	1,7,8,9,11,14
PT 2500 E	0.05 - 2000 ml	30'000 rpm	500 W	3 - 25 mm	50 - 170 mm	2,8,9,11,13,14
PT 10-35 GT	0.1 - 10'000 ml	30'000 rpm	1200 W	5 - 36 mm	78 - 250 mm	3,8,10,11,13,14
PT 3100 D	0.1 - 10'000 ml	30'000 rpm	1200 W	5 - 36 mm	78 - 250 mm	3,7,8,10,11,13,14
PT 6100 D	up to 30 l	26'500 rpm	1700 W	36-60 mm	250 mm	4,7,8,10,11,13,14
PT 45-80 GT	up to 30 l	26'500 rpm	1700 W	36-60 mm	250 mm	3,8,10,11,13,14
PT 7100	up to 40 l	12'000 rpm	1.5 kW	36-60 mm	400 mm	5,7,8,10,11,13,14
PT-D(D) 36-60 (EX)	up to 50 l	12'000 rpm	~ 3.0 kW	36-60 mm	400 mm	5,6,8,10,11,12,13,14

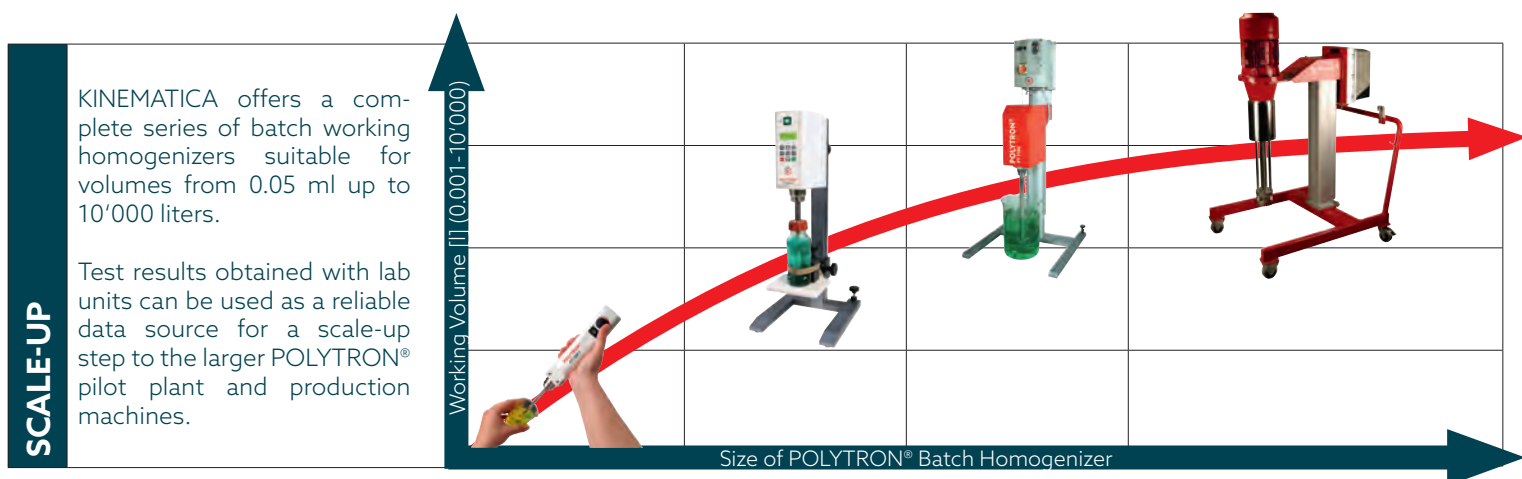
Technical specification is indicative





Further Descriptions / Options			
1	Handheld Homogenizer Lab	8	Digital display
2	Benchtop Homogenizer Lab „small“	9	Quick Coupling type E for Dispersing Aggregates
3	Benchtop Homogenizer Lab „medium“	10	Quick Coupling type F for Dispersing Aggregates (also Dispersing Aggregates with coupling type B can be connected)
4	Benchtop Homogenizer Lab „large“	11	Dispersing aggregate in EC design; easily disassembled and cleaned or sterilized
5	Pilot Plant Batch Homogenizer	12	Dispersing aggregates / shafts available as C (PT-C series) design for CIP
6	ATEX versions available (standard II2G-T3 - Zone 1)	13	Dispersing aggregates available with mechanical seal systems for pressure and/or vacuum applications
7	PC connection and User Interface Software available	14	Special shaft lengths and designs possible

POLYTRON® Generator (PTG) PTG 5/2 Standard generator rotor/stator with one teeth row each	PTG 7/2 Standard generator rotor/stator with one teeth row each	PTG 12/2 Standard generator rotor/stator with one teeth row each	PTG 20/2 Standard generator rotor/stator with one teeth row each	PTG 20/2M Special M-Generator Rotor with knives/rotor/stator with one teeth row each	PTG 20/2W Special W-Generator rotor/stator with one teeth row each	PTG 30/2Z Special Z-Generator rotor/stator with one teeth row each
Maximum Tip Speed 6 m/s	8 m/s	14 m/s	21 m/s	21 m/s	21 m/s	34 m/s
Working volume 0.1 - 5 ml	0.3 - 10 ml	3 - 250 ml	20 - 2000 ml	20 - 2000 ml	20 - 2000 ml	100 - 4000 ml
Applications - Dispersing smallest plant, human or animal pieces - Dissolving solids - Extractions	- Dispersing cells and tissues in a small amount of liquid - Dissolving solids - Extractions	- Dispersing plant, human or animal tissues, resins and pigments - Dissolving solids - Extractions - Producing suspensions and emulsions	- Dispersing plant, human or animal tissues, resins and pigments - Dissolving solids - Extractions - Producing suspensions and emulsions	- Dispersing and mixing particles up to 10 mm in size - Sample preparation for extraction and solution organic material - Intensive mixing - Rotor with knives facilitate the processing larger cell tissue samples or particles	- Dispersing fibrous, stringy and brittle samples (e.g. flesh)	- Breaking open and dispersing pills, capsules and hard large grains
 5 mm	 7 mm	 12 mm	 20 mm	 20 mm	 20 mm	 30 mm

POLYTRON® PT 10-35 GT	POLYTRON® PT 3100 D	POLYTRON® PT 45-80 GT
		

USER SOFTWARE	 <ul style="list-style-type: none"> - Suitable for PC's using MS-Windows - Possibility of data logging into MS-Excel-sheets for all parameters - Programmable Speed-Time-Profiles for automatic operation - Programmable temperature limits for use as stopping criteria to avoid product overheating - Graphical parameter visualization in time-based diagram - Written parameter visualization in text boxes - Drive health and status is displayed - Available for PT 3100 D, PT 6100 D and PT 1300 D
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PTG 30/4TiN Special generator titan-nitrated Rotor/stator with two teeth rows each	PTG 36/2 Standard generator Rotor/stator with one teeth row each	PTG 36/2W Special W-Generator Rotor/stator with one teeth row each	PTG 36/4 Standard generator Rotor/stator with two teeth rows each	PTG 36/4G Special G-Generator with mechanical seal Rotor/stator with three teeth rows each	BAG 36 BIOTRONA® Generator blade rotor and stator with inclined slots	PTG 40/2 Standard generator Rotor/stator with one teeth row each
34 m/s	34 m/s	34 m/s	34 m/s	34 m/s	34 m/s	36 m/s
200 - 4000 ml	200 - 4000 ml	200 - 4000 ml	100 - 2500 ml	100 - 2500 ml	500 - 10'000 ml	200 - 5000 ml
<ul style="list-style-type: none"> - Fine emulsions and suspensions - Mixes and reduces highly intensive solids into fluids - Gasses solutions - Separate fibres and cellular material into very small particles - Extractions - Applications with abrasive components 	<ul style="list-style-type: none"> - Dispersing and mixing of particles up to 15 mm in size - Sample preparation for extraction and solution of organic material - Intensive mixing 	<ul style="list-style-type: none"> - Dispersing fibrous, stringy and brittle samples (e.g. flesh) 	<ul style="list-style-type: none"> - Fine emulsions and suspensions - Mixes and reduces highly intensive solids into fluids - Gasses solutions - Separate fibres and cellular material into very small particles - Extractions 	<ul style="list-style-type: none"> - Working under pressure / vacuum - Finest emulsions and suspensions - Mixes and reduces highly intensive solids into fluids - Gasses solutions - Separates fibres and cellular material into very small particles - Extractions - Prevents foam built-up 	<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 up to 20 mm in size - Sample preparation for extraction and solution of organic material - Intensive mixing
						
30 mm	36 mm	36 mm	36 mm	36 mm	36 mm	40 mm

POLYTRON® PT 6100 D



POLYTRON® PT 7100



POLYTRON® PT-D 36-60 (EX)



The selection of the right dispersing aggregate and the right drive system depends on the application: treated medium, viscosity, processing time, volume, etc. KINEMATICA don't leave you alone with these difficult questions. Our applications team would like to discuss with you the right system components for succesful working in accordance to a filled-in questionnaire or a test run in our laboratory. A short overview about available dispersing aggregates and systems shall give you a first information.

Aggregates Systems	Ø 3 mm	Ø 5 mm	Ø 7 mm	Ø 12 mm	Ø 20 mm	Ø 25 mm	Ø 30 mm	Ø 36 mm	Ø 40 mm	Ø 45 mm	Ø 50 mm	Ø 60 mm
PT 1200 E	+++	+++	+++	++								
PT 1300 D	+++	+++	+++	++								
PT 2500 E	++	++	+++	+++	+++	++						
PT 10-35 GT		+	++	+++	+++		+++	++				
PT 3100 D		+	++	+++	+++		+++	++				
PT 6100 D		+	+	+	++		+++	+++	+++	++	++	+
PT 45-80 GT		+	+	+	++		+++	+++	+++	++	++	+
PT 7100		+	+	+	+		++	+++	+++	+++	+++	++
PT-D 36-60 (EX)		+	+	+	+		+	++	+++	+++	+++	+++
+ limited adapted ++ well adapted +++ very well adapted <input type="checkbox"/> not available												

Which aggregates are available for my drive system?



Which designs are available for my dispersing aggregate?



POLYTRON® Generator PTG PTG 40/2M Special M-Generator Rotor with knives Rotor/stator with one teeth row each	PTG 40/2W Special W-Generator Rotor/stator with one teeth row each	PTG 45/2 Standard generator Rotor/stator with one teeth row each	PTG 45/2M special M-Generator Rotor with knives rotor/stator with one teeth row each	PTG 45/6 standard generator rotor/stator with three teeth rows each	BAG 45 BIOTRONA® Generator blade rotor and stator with inclined slots	PTG 50/2 Standard generator Rotor/stator with one teeth row each
Maximum Tip Speed 36 m/s	36 m/s	40 m/s	40 m/s	40 m/s	40 m/s	44 m/s
Working volume 200 - 4000 ml	200 - 5000 ml	200 - 6000 ml	200 - 6000 ml	200 - 4000 ml	1000 - 15 000 ml	300 - 10 000 ml
Applications - Dispersing and mixing of particles up to 20 mm in size - Sample preparation for extraction and solution of organic material - Intensive mixing - Rotor with knives facilitate the processing of larger cell tissue samples or particles	- Dispersing of fibrous, stringy and brittle samples (e.g. flesh)	- Dispersing and mixing of particles up to 22 mm in size - Sample preparation for extraction and solution of organic material - Intensive mixing	- Dispersing and mixing of particles up to 22 mm in size - Sample preparation for extraction and solution of organic material - Intensive mixing - Rotor with knives facilitate the processing of larger cell tissue samples or particles	- Making finest emulsions and suspensions - Mixes and reduces highly intensive solids into fluids - Gasses solutions - Separates fibres and cellular material into very small particles - Extractions	- High turbulent mixing with low shear forces - Fast dissolving and suspending of solids also at higher viscosity	- Dispersing and mixing of particles up to 25 mm in size - Sample preparation for extraction and solution of organic material - Intensive mixing



40 mm



40 mm



45 mm



45 mm



45 mm



45 mm





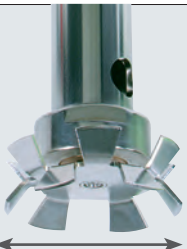




50 mm



Aggregates Design „Stator tube“	Ø 3 mm	Ø 5 mm	Ø 7 mm	Ø 12 mm	Ø 20 mm	Ø 25 mm	Ø 30 mm	Ø 36 mm	Ø 40 mm	Ø 45 mm	Ø 50 mm	Ø 60 mm
Slotted					+	+	+	+	+	+	+	+
EC (Standard)	+	+	+	+	+	+	+	+	+	+	+	+
G					+	+	+	+	+	+	+	+
T				+	+	+	+	+	+	+	+	+
Aggregates Design „R/S-Head“	Ø 3 mm	Ø 5 mm	Ø 7 mm	Ø 12 mm	Ø 20 mm	Ø 25 mm	Ø 30 mm	Ø 36 mm	Ø 40 mm	Ø 45 mm	Ø 50 mm	Ø 60 mm
..2 (R/S with 1TR each)	+	+	+	+	+	+	+	+	+	+	+	+
..4 (R/S with 2TR each)							+	+	+	+	+	+
..6 (R/S with 3TR each)										+	+	+
M Rotor				+	+	+	+	+	+	+	+	+
W Stator				+	+	+	+	+	+	+	+	+
Z Stator							+					
BIOTRONA®								+		+		

+ equipable, TR = teeth row(s), R/S = rotor/stator (= dispersing generator)

- **EC-Design** Easy-Clean, easy disassembled, easy cleaned or sterilized
- **G-Design** Pressure, vacuum, anti-foam, with mechanical seal
- **M-Generator** Rotor with knives for precutting
- **W-Generator** For fibrous and stringy material
- **Z-Generator** For hard and brittle material
- **BIOTRONA®** High turbulences, low shear forces

PTG 50/2M Special M-Generator Rotor with knives Rotor/stator with one teeth row each	PTG 50/6G Special G-Generator with mechanical seal Rotor/stator with three teeth rows each	PTG 58 DI Special dissolver disk	PTG 60/2 Standard generator Rotor/stator with one teeth row each	PTG 60/2W Special W-Generator Rotor/stator with one teeth row each	PTG 60/2M Special M-Generator Rotor with knives Rotor/stator with one teeth row each	PTG 60/6 Standard generator Rotor/stator with three teeth rows each
44 m/s	44 m/s	47 m/s	50 m/s	50 m/s	50 m/s	50 m/s
300 - 10 000 ml	300 - 4000 ml	1000 - 40 000 ml	200 - 4000 ml	1000 - 30 000 ml	1000 - 30 000 ml	1000 - 20 000 ml
- Dispersing and mixing of particles up to 25 mm in size - Sample preparation for extraction and solution of organic material - Intensive mixing - Rotor with knives facilitate the processing of larger cell tissue samples or particles	- Working under pressure / vacuum - Making finest emulsions and suspensions - Mixes and reduces highly intensive solids into fluids - Gasses solutions - Separates fibres and cellular material into very small particles - Extractions - Prevents foam built-up	- Fast mixing and homogenizing of solid material into fluid by means of a dissolving disk - Preparing highly viscous products	- Dispersing and mixing of particles up to 30 mm in size - Sample preparation for extraction and solution of organic material - Intensive mixing	- Dispersing of fibrous, stringy and brittle samples (e.g. flesh)	- Dispersing and mixing of particles up to 30 mm in size - Sample preparation for extraction and solution of organic material - Intensive mixing - rotor with knives facilitate the processing of larger cell tissue samples or particles	- Making finest emulsions and suspensions - Mixes and reduces highly intensive solids into fluids - Gasses solutions - Separates fibres and cellular material into very small particles - Extractions
 50 mm	 50 mm	 58 mm	 60 mm	 60 mm	 60 mm	 60 mm