

A system to enable a wide range of precision grinding operations whether nonmetallic, resin or ceramic materials.

[Features]

■ A wide variety of workpieces!

Workpieces of such nonmagnetic materials as plastic, aluminum, stainless steel, ceramic and glass that are difficult to hold during grinding can be held easily. In particular, this system is suitable for small workpieces that cannot be held by magnetic chucks.^{**1}

■ Significantly improved grinding accuracy!

Highly precise grinding in the order of micron achievable!

- The bonding film that affects grinding accuracy has been made thinner by using “workpiece fixing material” newly developed by Kanetec to realize a grinding accuracy in the order of micron. Also it has been made possible to secure workpieces at low temperature close to room temperature and a difference in temperature between securing and releasing has been reduced to significantly reduce thermal impact on workpieces. Wet operations are supported.^{**2}
- Adverse influence on accuracy due to warp of workpieces, which is unavoidable when mechanical clamps are used, has been eliminated.
- The work face is made of iron in consideration of accuracy stability and wear resistance. The work face accuracy can be recovered by regrinding.

■ Easy installation

The main unit can be installed on the machine by use of T slots. Also since its mounting face is made of iron, it can easily be mounted on your magnetic chuck.

■ Compact controller

The controller measures as small as 450 mm wide × 450 mm deep × 845 mm high and can be installed in any places. It comes with a remote operation box.

- ※1 Both magnetic and nonmagnetic materials can be secured. In particular, this system is suitable for grinding of cemented carbide, ceramic, stainless steel and aluminum materials. However, it cannot be used with the following workpieces in some cases:
- Workpieces having abrasive-like surface (e.g. plaster)
 - Workpieces warped largely (more than 0.5 mm)
 - Thin (less than 1.0 mm) workpieces such as stainless steel that tend to be distorted by grinding heat
 - Some resins such as Teflon
- ※2 The wax used with this system is susceptible to impact and therefore cannot be used for cutting as a rule. In dry operations, the temperature of workpieces rises to melt the wax and therefore, it cannot be used.



■ Two types of fixing material; standard type and low-viscosity type (high precision type) available!

Standard type

Melting temperature 65°C

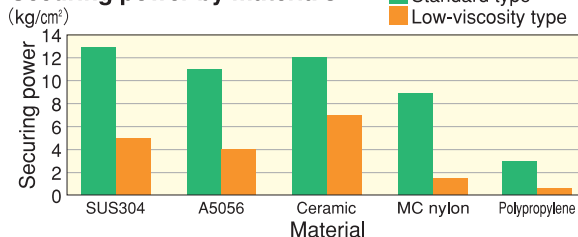
The securing power is high, but its film thickness is 5 to 10 μm.

Low-viscosity type (High precision type)

Melting temperature 45°C

The securing power is low, but its film thickness is only 1 to 2 μm, which make this type suitable for finishing operations. The following figure indicates the holding power (per cm²) by materials.


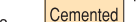

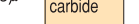


Securing power by materials



- For removing fixing material remaining after securing workpieces, high performance cleaner and microwave cleaner (optional) are available.

Securing method		Promelta System	Refrigerating Chuck	Vacuum Chuck	Magnetic Chuck (Electromagnetic Permanent Electromagnetic)	Mechanical Clamp (e.g. Vice)
Item	Material	○	○	○	× (Magnetic substance only)	△ (Soft material not possible)
Workpiece to secure	Size/plate thickness	○	○	△ (Small workpieces not possible)	△	△ (Thin plates not possible)
	Material distortion	○	○	×	○	○
	Pretreatment	△ (Washing required)	△	△ (Unused holes to be masked)	○	○
Operability	Securing time	△	△	○	○	○
	Releasing time	△	△	○	○	○
	Post treatment	△ (Washing required)	○	○	○	○
Grinding condition	Infeed per pass (Securing power stability)	○	△ (Weak to grinding heat)	○	○	○
	Wet operations	○	×	○	○	○
Grinding accuracy (Workpiece distortion when clamped)		○	○	△	△ (depending on grinding methods)	○
Cost	Running cost	○	○	○	○	○
	Equipment scale	△	△	○	○	○
	System price	△	△	○	○	○

For test grinding

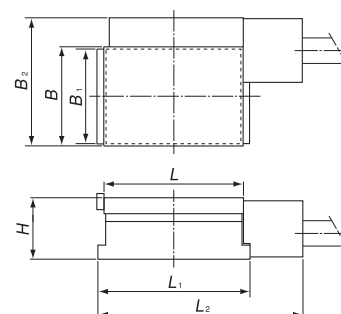
Workpiece		Grinding			※Grinding Accuracy		Workpiece		Grinding			※Grinding Accuracy	
Material	Size and Shape	Method	Grinding Wheel	Fixing Material	Flatness	Parallelism	Material	Size and Shape	Method	Grinding Wheel	Fixing Material	Flatness	Parallelism
SKD	65×65×15 (mm) 	Surface grinding 2 μ per pass	Diamond grinding wheel	Both sides low viscosity	2 μ	3 μ	Cemented carbide	10×20×5 (mm) 	Surface grinding 2 μ per pass	Diamond grinding wheel	Both sides low viscosity	1 μ	1 μ
Ceramic (Alumina)	50×50×10 (mm) 	Surface grinding 2 μ per pass	Diamond grinding wheel	Both sides low viscosity	2 μ	3 μ	S50C	12×100×6 (mm) 	Surface grinding 2 μ per pass	GC grinding wheel	Both sides low viscosity	2 μ	3 μ
Carbon	50×50×5 (mm) 	Surface grinding	GC grinding wheel	(Face A) Standard 2 μ per pass (Face B) Low viscosity 2 μ per pass	1.5 μ	3 μ	SUS304	φ72×20 (mm) 	Surface grinding	GC grinding wheel	Standard	1 μ	3 μ

※Note: The grinding accuracy is presented for reference only. It varies according to shapes, materials and sizes of workpieces and grinding environment such as machines.

Model PRB PROMELTA* SYSTEM CHUCK



PRB-2050A



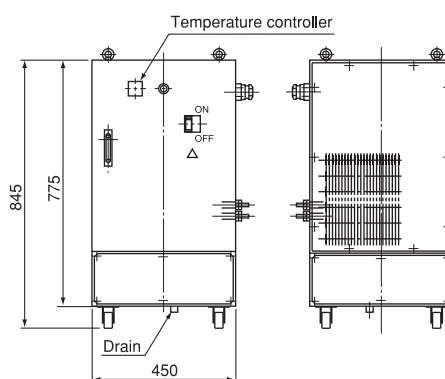
Model	Dimensions							200 VAC	Mass
	B	B ₁	B ₂	L	L ₁	L ₂	H		
PRB-1218A	125 (4.92)	121 (4.76)	161 (6.33)	177 (6.96)	193 (7.59)	260 (10.2)	78 (3.07)	3A	14kg/ 30 lb
PRB-1530A	150 (5.90)	146 (5.74)	205 (8.07)	300 (11.8)	316 (12.4)	383 (15.0)		7A	28kg/ 61 lb
PRB-2050A	200 (7.87)	196 (7.71)	255 (10.0)	500 (19.6)	516 (20.3)	583 (22.9)	80 (3.15)	17A	55kg/121 lb

※ Three pieces of standard type fixing material (1 piece: φ30×160) are included. When they have been used up, re-purchase by ordering with us.

Model PRC CONTROL UNIT FOR PROMELTA* SYSTEM

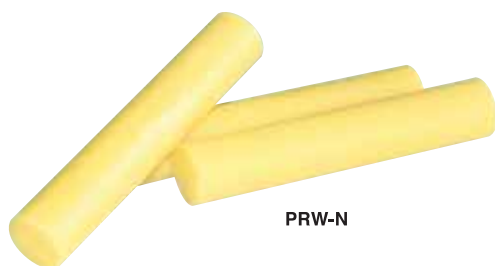


PRC-220B

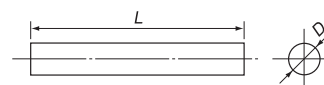


Model	Input	Output		Mass
	Voltage	Voltage	Current	
PRC-220B	3P-200 VAC 50/60Hz	200 VAC	20A	120kg/2641 lb

Model PRW FIXING MATERIAL FOR PROMELTA* SYSTEM



PRW-N



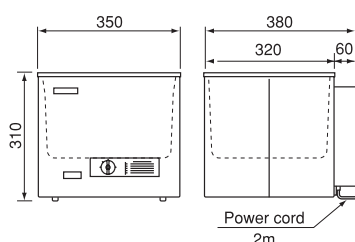
※Note: This is available only to the purchasers of the PROMELTA SYSTEMS.

Model		Dimensions		Melting Temperature	Mass
		L	D		
PRW-N	Standard type	160 (6.29)	30 (1.18)	65°C (149°F)	100g×3 pcs
PRW-L	Low-viscosity type			45°C (113°F)	0.22 lb×3

Model PRU MICROWAVE CLEANER



PRU-F20



Model	Power Source	Capacity	Mass
PRU-F20	100 VAC	18ℓ	20kg/44 lb

ELECTROMAGNETIC CHUCKS

CHUCK CONTROLLERS

PERMANENT MAGNETIC CHUCKS

PERMANENT ELECTROMAGNETIC CHUCKS

BLOCKS FOR MC

VACUUM CHUCKS

PROMELTA SYSTEM

SINE BAR CHUCKS

INJECTION MOLDING MACHINE MOLD FIXTURE

WORKING TOOLS

MAGNETIC BLOCKS

MEASURING TOOL HOLDERS

MEASURING TOOLS