

GRINDER/POLISHERS
AND POWER HEAD



Affordable Manual
Grinder/Polishers

Upgrade to Semi-
Automatic System
with VECTOR™ Power
Head

Single and Multiple
Sample Capability

Heavy Duty
Construction

BUEHLER® ALPHA, BETA & VECTOR™

Designed to Expand as Your Needs Grow



The PHOENIX ALPHA and BETA are members of a new family of manual grinder/polishers. These machines are offered in both single and twin wheel versions and are designed for use with 8" (200mm) and 10" (250mm) platens.

Affordable and Durable

While the ALPHA offers the convenience of a basic two speed grinder/polisher, the BETA offers the versatility of variable wheel speed allowing the tailoring of operating parameters to individual needs. All ALPHA and BETA Grinder/Polishers bring the same rugged, quiet operation of the BUEHLER® PHOENIX family of machines to a new line of

smaller, affordable grinder/polishers. ALPHA and BETA Grinder/Polishers feature heavy duty mineral cast bases for long-lasting service, even under harsh working conditions.

Upgradable

The ALPHA and BETA can be upgraded to semi-automatic operation with the addition of the new VECTOR™ Power Head. The VECTOR Power Head enables the grinder/polishers to prepare samples using either singly or centrally applied pneumatic loading. The power head can be interfaced with the BUEHLER METLAP® 2000 Fluid Dispenser, bringing yet another level of automation to the ALPHA and BETA family of machines.

Productive

PHOENIX ALPHA and BETA Grinder/Polishers are ideal for the laboratory or quality assurance departments with manual sample preparation requirements. In addition, as the requirements for sample preparation increase, the productive capacity of the PHOENIX ALPHA and BETA machines can be extended with the simple addition of a VECTOR Power Head and a METLAP 2000 Dispenser, thus creating an integrated system suitable for higher sample throughput.

The PHOENIX ALPHA and BETA Family of Polisher/Grinders: rugged and versatile...a sound equipment investment for now and the future.

Technical Data

PHOENIX ALPHA, BETA Grinder/Polishers:

	Platen Speeds	Platen Diameters	Dimensions (mm)	Weight	Power	Mains	Water
PHOENIX ALPHA Grinder/Polisher:							
Single	180-360 rpm/60Hz 150-300 rpm/50Hz	8" (200mm) 10" (250mm)	19"W x 20"D x 10"H (475 x 500 x 250mm)	84 lbs. (38kg)	150/220W	400V50-60Hz/3Ø 230V/50-60Hz/3Ø	1/2" NPT – Male 15-87 psi (1-6 bar)
Twin	180-360 rpm/60Hz 150-300 rpm/50Hz	8" (200mm) 10" (250mm)	30"W x 20"D x 10"H (755 x 500 x 250mm)	117 lbs. (53kg)	150/220W	400V50-60Hz/3Ø 230V/50-60Hz/3Ø	1/2" NPT – Male 15-87 psi (1-6 bar)
PHOENIX BETA Grinder/Polisher:							
Single	30-600 rpm (continuously variable)	8" (200mm) 10" (250mm)	19"W x 20"D x 10"H (475 x 500 x 250mm)	84 lbs. (38kg)	200W	230V/50-60Hz/1Ø 115V/60Hz/1Ø	1/2" NPT – Male 15-87 psi (1-6 bar)
Twin	30-600 rpm	8" (200mm) 10" (250mm)	30"W x 20"D x 10"H (755 x 500 x 250mm)	117 lbs. (53kg)	200W	230V/50-60Hz/1Ø 115V/60Hz/1Ø	1/2" NPT – Male 15-87 psi (1-6 bar)

All units include platen drive plate(s), splash ring(s), dust cover(s) water spigot(s) and drain hose.

VECTOR Power Head:

Configuration: Electrically-driven head mounted to grinder/polisher base via rigid post

Operation: Single and central sample loading, pneumatically applied

Sample Capacity:

Single: 1 to 4

Central: Up to 6 depending on holder

Sample Sizes: 25mm, 1", 30mm, 1 1/4", 32mm, 1 1/2", 38mm and 40mm

Controls:

Touch-pads with LED displays for:
On/Off; Head Direction (Comp/Contra);
Run/Stop; Dispenser On/Off; Time; Force
(Lb/N); Water On/Off

Time: From 30 seconds to 9 minutes 50 seconds in 10 second increments, and from 10 minutes to 99 minutes in 1 minute increments

Sample Force:

Individual: 0 to 15 lbs. in 1 lb. increments
(0 to 75 N in 5 N increments)

Rigid: 4 to 60 lbs. in 4 lb. increments
(20 to 300 N in 20 N increments)

Soft start and stop

Head Speed: 60 rpm

Mains Power: Operation on 85 VAC to 265 VAC, 50-60Hz, 1 phase

Motor: 1/20 HP (32 watt)

Compressed Air: 85 psi (6 bar) filtered, regulated air; mini-barb push-in coupling to fit 0.25" (6mm) diameter hose

Control Voltage: 12 VDC

Other Features:

Integrated drip-lubricator • Interface to METLAP® 2000 Dispenser • Soft start and stop function • "Zero" sample force operation for sensitive samples

Weight: 28 lbs. (13kg)

Dimensions:

Width	Depth	Height
8 1/2" (210mm)	16" (400mm)	13 1/2" (340mm)



All PHOENIX ALPHA and BETA Grinder/Polishers are available in both single and twin wheel models with a choice of variable or dual fixed platen speeds.



Easy to read icons guide you quickly through the programming process.



The VECTOR Power Head gives the operator the choice of preparing samples using single or central force application.



All ALPHA and BETA Grinder/Polishers can be upgraded to high-productivity semi-automatic systems with addition of the VECTOR Power Head and the METLAP 2000 Fluid Dispenser.

Specifications

DESCRIPTION	CATALOG NUMBER
ALPHA, Single Wheel Grinder/Polisher for 400V/50-60Hz/3 phase (not available in USA)	49-5500-400
ALPHA, Single Wheel Grinder/Polisher for 230V/50-60Hz/3 phase	49-5500-230
ALPHA, Single Wheel Grinder/Polisher for 115V/50-60Hz/1 phase	49-5500-115
ALPHA, Twin Wheel Grinder/Polisher for 400V/50-60Hz/3 phase (not available in USA)	49-5502-400
ALPHA, Twin Wheel Grinder/Polisher for 230V/50-60Hz/3 phase	49-5502-230
ALPHA, Twin Wheel Grinder/Polisher for 115V/50-60Hz/1 phase	49-5502-115
BETA, Single Wheel Grinder/Polisher for 230V/50-60Hz/1 phase	49-5100-230
BETA, Single Wheel Grinder/Polisher for 115V/50-60Hz/1 phase	49-5100-115
BETA, Twin Wheel Grinder/Polisher for 230V/50-60Hz/1 phase	49-5102-230
BETA, Twin Wheel Grinder/Polisher for 115V/50-60Hz/1 phase	49-5102-115

Note: Platens are supplied separately

Accessories

Aluminum Platen, 8" (200mm)	40-4061
Paper Holding Band for 8" (200mm) Platen	30-2008
Cloth Clamp for 8" (200mm) Platen	40-2058
Splash ring for 8" (200mm) Platen	60-3008
Aluminum Platen, 10" (250mm)	40-0500
Paper Holding Band for 10" (250mm) Platen	95-2825
Cloth Clamp for 10" (250mm) Platen	95-2826
Splash Ring, for 10" (250mm) Platen (old style)	60-3009
Splash Ring, for 10" (250mm) Platen (new style, BETA)	60-3023
Dust Cover for ALPHA and BETA Grinder/Polisher	60-3011

VECTOR Power Head	60-1990
--------------------------------	---------

Note: Specimen Holders are supplied separately

Single Force Specimen Holders with Retaining Rings:

4 x 1" samples	60-3001
4 x 1 1/4" (32mm) samples	60-3002
4 x 1 1/2" (38mm) samples	60-3003
4 x 25mm samples	60-3004
4 x 30mm samples	60-3005
4 x 40mm samples	60-3006
Retaining Rings (set of 12 in assorted sizes)	60-3007

Central Force Specimen Holders:

6 x 1" (25mm) samples	60-2482
6 x 1 1/4" (32mm) samples	60-2483
3 x 1 1/2" (38mm) samples	60-2485
6 x 30mm samples	60-2486
3 x 40mm samples	60-2487
Blank Holder	60-2408
Lift lock Drive Adaptor for Central Force Specimen Holders	60-2499

Note: One drive adaptor required for each central force specimen holder (one supplied standard with VECTOR)

Gravity Feed Lubricator for VECTOR LC and VECTOR Power Heads	60-3024
Lubricator Stand, holds three Gravity Feed Lubricators for all models of VECTOR Power Heads	60-3025
Loading Plate for Central Force Specimen Holders	60-2425
METLAP® 2000 Dispensing System	40-2700
Cable to connect METLAP 2000 to VECTOR	40-2704

For a complete listing of Buehler consumable supplies for use with the PHOENIX ALPHA and BETA machines, please refer to Buehler's Consumables Buyer's Guide. Buehler continuously makes product improvements; therefore, technical specifications are subject to change without notice.

© 2000 BUEHLER LTD. Printed in U.S.A. 5M0400 FN00987 rev1. *For metallurgical equipment produced by BUEHLER LTD. USA

BUEHLER ANALYST®
SECTION

5



BUEHLER

BUEHLER LTD. – Worldwide Headquarters
41 Waukegan Road • P.O. Box 1
Lake Bluff, Illinois 60044-1699 USA
Tel: 847/295-6500 • Fax: 847/295-7979
Sales: 1/800/BUEHLER • 1/800/283-4537
Web Site: <http://www.buehler.com>

WIRTZ-BUEHLER GMBH
In der Steele 2 • 40599 Düsseldorf
Postfach 16 03 55 • 40566 Düsseldorf
Telefon: (+49) 0211/974100 • Telefax: (+49) 0211/9741079
Web Site: <http://www.wirtz-buehler.de>

KRAUTKRAMER FRANCE – BUEHLER Division
68, Chemin des Ormeaux
69760 Limonest
Téléphone: (+33) 04/72/17/92/50 • Télécopie: (+33) 04/78/47/56/98

BUEHLER KRAUTKRAMER
Milburn Hill Road • University of Warwick Science Park
Coventry CV4 7HS United Kingdom
Tel: (+44) (0) 24 7669 2242 • Fax: (+44) (0) 24 7669 3032