

Synopsis of Dental Laboratory Porcelain Ovens (Project 08-002) (8/08)

Porcelain ovens are used extensively in fixed appliance fabrication and thus are one of the most vital components in today's dental laboratories. The primary functions of porcelain ovens are to oxidize the porcelain bearing areas of a ceramometal framework and to bake and glaze porcelain. They are also used for soldering purposes, although this practice is becoming less common with the proliferation of laser welders.

There are several important factors to keep in mind when purchasing a porcelain oven: the cost of the oven and the clinic's budget; the number of ceramic systems used; the number of technicians that will use the oven; and the amount of laboratory space available. If money is a concern, the tables reveal that many of the less expensive ovens share the same attributes as many of the more expensive models. If there are several technicians using several different types of porcelain systems the facility may want to purchase an oven with at least 100 open programs. If space in the laboratory is limited, be sure to make note of the dimensions of the ovens listed in the tables.

All porcelain ovens require an external vacuum pump to remove air during the firing cycles. This will obviously add to the cost of the purchase unless the pump is included in the price. Another factor to consider is if the oven is upgradeable. This feature helps to ensure the oven will not become obsolete in the near future. An upgradeable oven offers the opportunity to gain new functions and optimized software without the expense of buying an entirely new oven.

The [tables](#) below list selected porcelain ovens commonly used in Air Force dental laboratories, their manufacturers, and various features. This information should assist the reader in selecting a porcelain oven that will best suit their needs.

Synopsis of Dental Laboratory Porcelain Ovens*

Product/Model	Meta-Fire H76CMF 	Centurion QEX 	Centurion Q50 
Manufacturer or Distributor	Chrysalis Technologies 20 Higgins Drive Milford, CT 06460 (203) 876-1649 (203) 876-1672 FAX www.chrystechllc.com	Dentsply Ceramco Six Terri Lane Burlington, NJ 08016 (800) 487-0100 (609) 386-8900 (877) 630-2894 FAX www.ceramco.com	Dentsply Ceramco Six Terri Lane Burlington, NJ 08016 (800) 487-0100 (609) 386-8900 (877) 630-2894 FAX www.ceramco.com
Other Models	Meta-Press	CeramPress QEX, CeramPress Q50	CeramPress QEX, CeramPress Q50
Price (retail/govt)	\$2,895.00/\$2,100.00	\$3,415.00/\$2,533.85	\$2,880.00/\$2,117.92
Components Warranty	2 years	2 years	2 years
Includes Vacuum Pump	Yes	Yes	Yes
Closed Dimensions (inches) (W x H x D)	13 x 21 x 10.75	13 x 13 x 16	13 x 13 x 16
Weight	37.6 lbs	45 lbs	45 lbs
Voltage	115v 60Hz or 230v 50Hz	100-120v 50/60Hz or 230v 50/60Hz	100-120v 50/60Hz or 230v 50/60Hz
Display Type	LCD Backlit	Graphic	LCD Backlit
Number of Programs	99	100	50
Computer/Printer Connection	Yes	No	No
Self-Calibrating	Yes	Yes	Yes
Self-Diagnostic	Yes	Yes	Yes
Max Temperature	1,200° C	1,200° C	1,200° C
Upgradeable	Yes	No	No
Max Heat Rate	200° C/Min	200° C/Min	200° C/Min
Special Features and Notes	Absolute vacuum reference sensor for true vacuum readings that are not affected by altitude	Optional InCer card for sintering ceramics	Auto calibration, auto purge, auto night mode

*Manufacturers provided the data for these tables. The listing or omission of a product in this table does not imply endorsement, approval, or disapproval by DECS.

Synopsis of Dental Laboratory Porcelain Ovens*

Product/Model	Equinox	Programat P300	Programat P500
			
Manufacturer or Distributor	Henry Schein 135 Duryea Road Melville, NY 11747 (800) 496-9500 (877) 303-1100 FAX www.zahndental.com	Ivoclar Vivadent 175 Pineview Drive Amherst, NY 14228 (800) 533-6825 (716) 691-2285 FAX www.ivoclarvivadent.us.com	Ivoclar Vivadent 175 Pineview Drive Amherst, NY 14228 (800) 533-6825 (716) 691-2285 FAX www.ivoclarvivadent.us.com
Other Models	N/A	Programat EP 5000	Programat EP 5000
Price (retail/govt)	\$2,399.99/\$1,871.99	\$3,800.00/\$3,212.00	\$4,875.00/\$4,136.00
Components Warranty	2 years	2 years	3 years
Includes Vacuum Pump	Yes	Yes	Yes
Closed Dimensions (inches) (W x H x D)	12 x 22.4 x 14	16 x 12.6 x 18.5	12 x 12.6 x 18.5
Weight	37.5 lbs	37.7 lbs	39.7 lbs
Voltage	110-120v 50/60Hz	110-120v 50/60Hz or 200-240v 50/60Hz	110-120v 50/60Hz or 200-240v 50/60Hz
Display Type	LCD Backlit	LCD Backlit	LCD graphic touch screen display
Number of Programs	99	100	300
Computer/Printer Connection	Yes	Computer connection	Computer connection
Self-Calibrating	No	No	Yes
Self-Diagnostic	Yes	Yes	Yes
Max Temperature	1,200° C	1,200° C	1,200° C
Upgradeable	No	Yes	Yes
Max Heat Rate	100° C/Min	140° C/Min	140° C/Min
Special Features and Notes	One touch night mode	Turbo opening system (5 second opening), error notification system	Turbo opening system (5 second opening), error notification system, swivel graphics display

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Synopsis of Dental Laboratory Porcelain Ovens*

Product/Model	Programat P700	VIP Universal	Zubler Vario 300
			
Manufacturer or Distributor	Ivoclar Vivadent 175 Pineview Drive Amherst, NY 14228 (800) 533-6825 (716) 691-2285 FAX www.ivoclarvivadent.us.com	Jelrus International 1295 Walt Whitman Road Melville, NY 11747 (800) JELRUS1 (516) 942-0202 (516) 433-7684 FAX www.jelrus.com	Jensen Industries, Inc. 50 Stillman Road North Haven, CT 06473 (800) 243-2000 (203) 239-2090 (203) 239-7630 FAX www.jensenindustries.com
Other Models	Programat EP 5000	VIP Universal X-Press	Vario Press 300
Price (retail/govt)	\$6,750.00/\$5,940.00	\$4,135.00/\$3,101.25	\$6,475.00/Call for govt price
Components Warranty	3 years	1 year/2 year muffle	2 years
Includes Vacuum Pump	Yes	No	Yes
Closed Dimensions (inches) (W x H x D)	15 x 12.6 x 18.5	15 x 22.6 x 16	14.2 x 24.6 x 17
Weight	39.7 lbs	52 lbs	53 lbs
Voltage	110-120v 50/60Hz or 200-240v 50/60Hz	120v 50/60Hz	120v 60Hz
Display Type	LCD graphic touch screen display	LCD	Color display
Number of Programs	500	100	500
Computer/Printer Connection	Computer connection	Yes	No
Self-Calibrating	Yes	No	No
Self-Diagnostic	Yes	Yes	No
Max Temperature	1,200° C	1,204° C	1,200° C
Upgradeable	Yes	No	Yes
Max Heat Rate	140° C/Min	139° C/Min	80° C/Min
Special Features and Notes	Turbo opening system (5 second opening), error notification system, case image viewer, MP3 player	Two built-in decontamination programs provide clean, pure optimal conditions	Comes with compact flash card, enables easy transfer between furnaces and program back-up

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Synopsis of Dental Laboratory Porcelain Ovens*

Product/Model	Master S	Master S-u	Vacumat 4000 Premium T
			
Manufacturer or Distributor	KDF US Inc 2301 W. 205 th St Suite 107 Torrance, CA 90501 (310) 320-6633 (310) 320-6116 FAX www.kdfus.com	KDF US Inc 2301 W. 205 th St Suite 107 Torrance, CA 90501 (310) 320-6633 (310) 320-6116 FAX www.kdfus.com	Vident 3150 East Birch St Brea, CA 92821 (800) 828-3839 (714) 961-6200 (714) 961-6299 FAX www.vident.com
Other Models	N/A	N/A	Automatic Glazing Furnace (A.G.F.)
Price (retail/govt)	\$8,999.00/\$8,100.00	\$12,999.00/\$11,700.00	\$6,745.00/\$5,851.09
Components Warranty	Limited 2 year	Limited 2 year	2 years parts and labor
Includes Vacuum Pump	No	No	Yes
Closed Dimensions (inches) (W x H x D)	12 x 22 x 19	22 x 22 x 19	9.5 x 18 x 13.4
Weight	62 lbs	71 lbs	35.3 lbs
Voltage	120v 50/60Hz	120v 50/60Hz	100/110v 50/60 Hz or 230v 50 Hz
Display Type	LCD Touch Panel	LCD Touch Panel	High resolution color touch screen
Number of Programs	250	250	500
Computer/Printer Connection	No	No	Yes
Self-Calibrating	Yes	Yes	Yes
Self-Diagnostic	Yes	Yes	Yes
Max Temperature	1,200° C	1,200° C	1,200° C
Upgradeable	No	No	Yes
Max Heat Rate	80° C/Min	80° C/Min	120° C/Min
Special Features and Notes	Has in-muffle rapid cooling feature	3 Tray Robotic Arm System	Picture viewer software allows for viewing the users own digital pictures via USB memory stick. Cycles selected from windows based folder name instead of just numbers.

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Synopsis of Dental Laboratory Porcelain Ovens*

Product/Model	Vacumat 40T	FireLite	Pro 100
			
Manufacturer or Distributor	Vident 3150 East Birch St Brea, CA 92821 (800) 828-3839 (714) 961-6229 (714) 961-6259 FAX www.vident.com	Whip Mix Corp P.O. Box 17183 Louisville, KY 40217 (800) 626-5651 (502) 637-1451 (502) 634-4512 FAX www.whipmix.com	Whip Mix Corp P.O. Box 17183 Louisville, KY 40217 (800) 626-5651 (502) 637-1451 (502) 634-4512 FAX www.whipmix.com
Other Models	Automatic Glazing Furnace (A.G.F.)	Pro Press 100	Pro Press 100
Price (retail/govt)	\$4,995.00/\$4,389.45	\$3,142.70/\$2,387.44	\$3,375.20/\$2,561.59
Components Warranty	2 years/parts and labor	3 years or 3,750 muffle hours (whichever occurs first)	3 years or 3,750 muffle hours (whichever occurs first)
Includes Vacuum Pump	Yes	Yes	Yes
Closed Dimensions (inches) (W x H x D)	8.7 x 16.6 x 12.6	13.5 x 20.5 x 13.5	11 x 20 x 16
Weight	22 lbs	50 lbs	59 lbs
Voltage	100-110v 50/60Hz or 230v 50Hz	110v 50/60 Hz	120v 50/60 Hz or 220v 50/60Hz
Display Type	Color Touch Screen	LED	LCD
Number of Programs	200	50	100
Computer/Printer Connection	Yes	No	Yes
Self-Calibrating	Yes	No	Yes
Self-Diagnostic	Yes	Yes	Yes
Max Temperature	1,200° C	1,200° C	1,200° C
Upgradeable	Yes	Yes, if you change chip	Yes
Max Heat Rate	120° C/Min	100° C/Min	100° C/Min
Special Features and Notes	Very lightweight furnace, vacuum pump requires no service	Fast-cool cycle uses vacuum to cool the muffle	Quick-Cool jet cools the muffle twice as fast as previous model

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Synopsis of Dental Laboratory Porcelain Ovens*

Product/Model	Pro 100 Plus 
Manufacturer or Distributor	Whip Mix Corp P.O. Box 17183 Louisville, KY 40217 (800) 626-5651 (502) 637-1451 (502) 634-4512 FAX www.whipmix.com
Other Models	Pro Press 100
Price (retail/govt)	\$4,548.00/\$3,442.05
Components Warranty	1 year all parts and labor
Includes Vacuum Pump	Yes
Closed Dimensions (inches) (W x H x D)	11 x 25 x 16
Weight	58 lbs
Voltage	120v 50/60 Hz
Display Type	LCD
Number of Programs	100
Computer/Printer Connection	Yes
Self-Calibrating	No
Self-Diagnostic	Yes
Max Temperature	1,250° C
Upgradeable	Yes
Max Heat Rate	150° C/Min
Special Features and Notes	Larger diameter heater wire for more even heating and long life under extreme conditions

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