

# OPERATION MANUAL-----F C G 7500

THANK YOU FOR YOUR RECENT PURCHASE OF THE FCG-7500 FERRITE CENTER GRINDER. THIS MACHINE IS DESIGNED TO GRIND SMALL PRODUCTION RUNS OR PROTO-TYPES FOR ENGINEERING DEVELOPMENT. NOTE HOWEVER, THAT ROUTINE USE OF THIS MACHINE FOR GRINDING CORES IN HIGH PRODUCTION QUANTITIES WILL SIGNIFICANTLY REDUCE THE LIFE OF THE POWER TRAIN COMPONENTS, DIAMOND MANDRELS, RINGS, AND HEADS. YOUR WARRANTY MAY BE VOIDED BY SUCH USE. ADDITIONALLY, ANY ALTERATION OF THE POWER SOURCES SUPPLIED WILL VOID YOUR WARRANTY.

HEADS, RINGS, AND DIAMOND MANDRELS NOT INCLUDED IN OUR STANDARD KIT ARE AVAILABLE. SOME ARE LISTED IN THIS LITERATURE. FOR THOSE NOT LISTED PLEASE CONSULT REPCO SALES.

\*\*\*\*\*

PRIOR TO OPERATION PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS!

\*\*\*\*\*

THE POWER TRANSFORMER SOURCE IS 115/230 VOLTS AC 50/60 HZ INPUT, AND 24 VOLT AC OUTPUT. IT IS PRE-WIRED AT THE FACTORY PRIOR TO SHIPMENT. THE TRANSFORMER CIRCUIT HAS A SELF-RESETTING THERMAL FUSE THAT SHUTS-DOWN THE POWER IN THE EVENT OF AN OVERLOAD. THE PUMP REQUIRES A SEPARATE SOURCE OF 115V AC 60 HZ. USER MUST ENSURE THAT THIS SOURCE INCLUDES A GFCI (GROUND FAULT CIRCUIT INTERRUPTER). A STEP-DOWN PUMP TRANSFORMER IS AVAILABLE FOR 230V POWER SOURCES IN OTHER COUNTRIES. THIS TRANSFORMER IS NOT PART OF THE STANDARD KIT. CONSULT REPCO SALES FOR PRICING AND AVAILABILITY.

INITIALLY, PLACE MIXED WATER-SOLUBLE OIL SOLUTION INTO THE TRAY (.5" FROM TOP). OPEN BOTH THE HORIZONTAL AND VERTICAL SIDE VALVES. PLUG IN THE PUMP. IF IT FAILS TO PUMP, SEE THE ATTACHED INSTRUCTIONS ON HOW TO PRIME IT. IF THE PUMP IS OK THEN TURN IT OFF. THEN CONNECT THE TRANSFORMER TO ITS SOURCE AND THE OUTPUT TO THE GRINDING MACHINE. EVERYTHING SHOULD BE OFF AT THIS POINT.

WATER SOLUBLE OIL MAY BE PURCHASED AT A LOCAL MACHINE SHOP SUPPLY DISTRIBUTOR. OTHERWISE, YOU CAN CHECK YOUR YELLOW PAGES FOR A LISTING OF "OIL - LUBRICATING" OR A SIMILAR HEADING. CALL REPCO SALES IF YOU ARE UNABLE TO LOCATE A SOURCE.

FOLLOW THE INSTRUCTIONS FOR DILUTING THE OIL WITH WATER. MIX THE OIL ON THE THIN SIDE AS THIS WILL MINIMIZE THE AMOUNT OIL THAT CLINGS TO THE CORES. TO REMOVE ANY OIL RESIDUE FROM THE CORES AFTER GRINDING, WARM WATER OR A DILUTED SOLUTION OF A DEGREASING AGENT, SUCH AS SIMPLE GREEN, WILL WORK.

ATTACHED IS A GUIDE TO AID YOU IN DETERMINING WHICH HEAD, RING, OR DIAMOND MANDREL TO USE WITH THE CORES LISTED. FOR CORES NOT LISTED, CONSULT REPCO SALES. FOR REFERENCE PURPOSES, THE TWO ENDS OF THE MACHINE ARE IDENTIFIED AS THE VERTICAL OR HORIZONTAL SIDE. SET SCREWS ARE USED TO SECURE DIAMOND MANDRELS, HEADS, AND RINGS IN THE DRIVE SHAFT END, THE VERTICAL, AND HORIZONTAL DIALS RESPECTIVELY. CHECK NUTS ARE USED TO FIX THE POSITION OF THE TWO DIALS ONCE THE SET-UP IS COMPLETE.

THE VERTICAL SIDE USES DIAMOND MANDRELS THAT ARE PLATED ON THE FACE OPPOSITE OF THE SHANK (1/4" SHANK WITH FLAT). IT USES ALL HEADS AND IN SOME SPECIAL CASES RINGS. THE FOLLOWING INSTRUCTIONS EXPLAIN HOW TO SET UP THE VERTICAL SIDE:

1. SELECT DIAMOND AND HEAD/RING USING GUIDE ON PAGE- .
2. INSERT THE DIAMOND INTO THE SHAFT, AND SECURE BY TIGHTENING THE SET SCREW. THE CORRECT POSITIONING OF THE DIAMOND IS A GUESS INITIALLY, BUT WITH EXPERIENCE YOUR ESTIMATES WILL BECOME VERY ACCURATE.
3. SECURE THE HEAD/RING INTO THE VERTICAL DIAL TIGHTLY TO RETAIN HEAD IN POSITION. IT MAY FIRST BE NECESSARY TO LOOSEN THE CHECK NUT ON THE DIAL AND ROTATE THE DIAL UNTIL THE SET SCREW IS ACCESSIBLE.
4. THE CHECK NUT, WHICH RETAINS THE VERTICAL DIAL IN POSITION, MUST BE LOOSENED TO ALLOW ROTATION OF THE DIAL EITHER CLOCKWISE OR COUNTER CLOCKWISE. THE ROTATION CONTROLS THE POSITION OF THE HEAD RELATIVE TO THE FIXED DIAMOND MANDREL. HOLD THE CORE TO BE GROUND IN THE HEAD AND ROTATE THE VERTICAL DIAL UNTIL THE CENTER POST OF THE FERRITE MAKES "SLIGHT CONTACT" WITH THE FIXED DIAMOND. NEXT, TIGHTEN THE CHECK NUT TO FIX THE VERTICAL DIAL INTO POSITION.
5. IN THEORY, YOU ARE NOW AT ZERO WITH RESPECT TO THE SURFACE OF THE CENTER POST OF THE FERRITE CORE AND THE DIAMOND MANDREL. ONE 360 DEGREE ROTATION IN ANY DIRECTION WILL MOVE THE LOCATION OF THE DIAL APPROXIMATELY .025". LOOSEN THE CHECK NUT AND ROTATE THE VERTICAL DIAL TO LESS THAN THE DEPTH REQUIRED, AND TIGHTEN THE SET SCREW. FOR EXAMPLE, IF YOU INTENDED TO GAP A CORE TO .025 THEN ROTATE THE DIAL CLOSE TO ONE REVOLUTION, AND FIX THE POSITION OF THE DIAL.
6. CHECK TO SEE THAT THE HORIZONTAL COOLANT NEEDLE VALVE IS CLOSED. OPEN THE VERTICAL SIDE VALVE AND TURN ON THE PUMP. ADJUST THE POSITION OF THE COOLANT SOURCE SO THAT IT FLOWS ACROSS THE FACE OF THE DIAMOND MANDREL. SOME ADJUSTMENT OF THE VALVE MAY BE NECESSARY. SET-UP IS NOW COMPLETED.

7. EXAMPLE:

REQUIREMENT: 2213PA145-3C81 APPROX. DEPTH: .025 (SEE CHART-2)  
(PHILIPS POT CORE 2213 AL-145 3C81 MATERIAL)

HEAD: H22MM

DIAMOND: D-1823-100

VERTICAL SIDE:

AFTER FINDING ZERO, (SEE PREVIOUS INSTRUCTIONS). LOOSEN THE VERTICAL DIAL CHECK NUT AND ROTATE THE DIAL THREE QUARTERS OF A TURN, AND TIGHTEN THE CHECK NUT. PUSH THE CORE INTO THE HEAD AND THE DIAMOND WILL BEGIN TO GRIND THE CENTER POST. AFTER THE CORE OUTSIDE WALL CONTACTS THE BASE OF THE HEAD AND THE GRINDING NOISE SUBSIDIZES, REMOVE THE CORE. CHECK THE CENTER POST FOR UNIFORM GRINDING AND FOR EXCESSIVE CHIPPING OF THE CENTER POST EDGES. CHIPPING CAN OCCUR AS A RESULT OF UNEQUAL PRESSURE WHEN INSERTING THE CORE INTO THE HEAD. ATTEMPTING TO REMOVE TOO MUCH MATERIAL AT A TIME CAN ALSO CAUSE UNEQUAL PRESSURE BETWEEN THE CORE AND THE DIAMOND. AN UNEVENLY WORN BASE IN THE HEAD CAN BE A CAUSE AS WELL. YOU MAY WISH TO ROTATE THE CORE 360 DEGREES SEVERAL TIMES TO INSURE A UNIFORM CUT ON THE CENTER POST. TEST THE AL-VALUE OF THE CORE WITH THE PROPER COIL AND METER IN ACCORDANCE WITH THE CORE MANUFACTURER SPECIFICATIONS. THE INTENT IS TO INITIALLY GRIND THE CORE JUST ABOVE THE NEEDED DEPTH AND THEN TO TUNE THE DIAL SO THAT THE DESIRED DEPTH, VERIFIED BY TESTING, IS REACHED. THIS WILL TAKE A MINIMUM OF ONCE AND THE MAXIMUM IS PREDICATED ON EXPERIENCE. ONCE THE DESIRED RESULTS ARE OBTAINED IT THEN BECOMES A MATTER OF REPEATING THE GRINDING STEP. IT IS RECOMMENDED THAT YOU PERIODICALLY TEST CORES TO MAKE SURE SETTINGS HAVE NOT ALTERED.

8. IN SOME CASES, POSITION OF THE DIAMOND IS TOO FAR FROM THE DIAL, REQUIRING RE-POSITIONING OF THE DIAMOND AND FINDING A NEW ZERO. AFTER GAINING SOME EXPERIENCE, YOU MAY FIND WAYS OF SPEEDING UP THE SET-UP.
9. IN THE EVENT YOU REMOVE TOO MUCH MATERIAL AND ARE BELOW THE AL-VALUE REQUIRED, THE OUTSIDE WALLS CAN BE REDUCED SLIGHTLY TO TUNE CORE INTO TOLERANCE. THIS IS MAINLY FOR HIGH AL-VALUES. YOU CAN USE WET/DRY SILICONE SANDPAPER OF 220 GRIT OR SO, PLACED ON A VERY FLAT SURFACE, TO DO THIS. WITH EVEN PRESSURE, IN A CIRCULAR MOTION, SAND THE OUTSIDE WALL TO REDUCE THE GAP, TESTING AS YOU GO. REMEMBER THAT YOU ARE USING UP THE SPACE BETWEEN THE BOBBIN AND THE CORE THAT ALLOWS FOR BOBBIN EXPANSION AND CLEARANCE.

10. TESTING PRE-CAUTIONS:

AS WITH ASSEMBLY PROCEDURES RECOMMENDED BY FERRITE MANUFACTURERS, MATING SURFACES MUST BE CLEAN PRIOR TO TESTING. THIS IS ESPECIALLY TRUE OF HIGH AL-VALUES, AND/OR SMALL CORES.



HORIZONTAL SIDE SET-UP INSTRUCTIONS:

THE HORIZONTAL SIDE USES ONLY RINGS AND DIAMONDS THAT ARE PLATED ON THE CIRCUMFERENCE, LIKE THE D-100-100 DIAMOND MANDREL. THE PURPOSE OF THE HORIZONTAL SIDE IS TO GRIND DEEPER GAPS MORE QUICKLY. OTHER THAN THAT MOST OF THE INSTRUCTIONS THAT APPLY TO THE VERTICAL DIAL, HEADS, AND FINDING ZERO BETWEEN THE CORE AND MOUNTED DIAMOND ARE THE SAME. THE FOLLOWING APPLIES TO THE HORIZONTAL SIDE:

1. CORES WITH ROUND CENTER LEGS GENERALLY TURN OUT BETTER THAN THOSE WITH SQUARE CENTER LEGS. SQUARE CORE LEGS SHOULD BE LIMITED TO PROTO-TYPES.
2. THE POSITIONING OF THE DIAMOND IS CRITICAL TO MINIMIZE CHIPPING OF CORES. THE DIAMOND IS LIMITED TO CUTTING SOLID CORE DIAMETERS SMALLER THAN TWICE THE WIDTH OF THE DIAMOND WHEEL. FOR CORES THAT HAVE A CENTER HOLE (POT CORES; RM CORES) THE WIDTH OF THE CENTER LEG WALL MAY NOT EXCEED THE WIDTH OF THE DIAMOND WHEEL. ROTATION OF THE CORE 360 DEGREES ALLOWS THE WHEEL TO CUT THROUGH THE ENTIRE CENTER OF CORE. POSITION THE DIAMOND SO THAT THE EDGE OF THE DIAMOND WHEEL FURTHEST AWAY FROM THE MACHINE EXTENDS JUST AHEAD OF THE CORE EDGE FURTHEST FROM THE MACHINE. (SEE FIGURE- ON PAGE- .)
3. WHEN THE HORIZONTAL VALVE IS OPEN AND PROPERLY POSITIONED, A SPRAY OF WATER IS WHIPPED INTO THE IMMEDIATE AREA. A SMALL SPONGE PLACED OVER THE RING WILL CONTAIN THE SPRAY WHEN YOU ARE BETWEEN GRINDING CORES.
4. THE MAXIMUM GRINDING DEPTH ON THE HORIZONTAL SIDE IS APPROXIMATELY .120".

5. EXAMPLE: POT CORE: 3622 AL-250

REQUIREMENT: 3622PA160-3C81 APPROX. DEPTH: .079  
(SEE CHART)

(PHILIPS POT CORE 3622 AL-160 3C81 MATERIAL)

RING: R36MM  
DIAMOND: D-100-100

HORIZONTAL SIDE:

IT MAY BE NECESSARY TO REMOVE THE SIDE COVER TO DO THE SET-UP. INSERT THE DIAMOND INTO THE SHAFT AND SNUG UP THE SET SCREW JUST ENOUGH SO THAT THE DIAMOND CAN BE MOVED WITH A LITTLE HAND PRESSURE. INSERT THE RING INTO THE HORIZONTAL SIDE DIAL AND TIGHTEN DOWN THE SET SCREW. PLACE THE POT CORE INTO THE RING AND POSITION THE WHEEL SO THAT ITS

OUTSIDE EDGE WITH RESPECT TO THE MACHINE IS SLIGHTLY AHEAD OF THE THE OUTSIDE EDGE OF THE CORES' CENTER POST. THE INSIDE EDGE OF THE DIAMOND WHEEL SHOULD BE VISIBLE THROUGH THE CENTER HOLE OF THE CORE. LOCK THE DIAMOND INTO POSITION WITH THE SET SCREW. REMOVE THE CORE FROM THE RING, AND CHECK THE POSITION OF THE COOLANT SOURCE TO INSURE THAT WILL FLOW ONTO THE OUTSIDE OF THE WHEEL. BEFORE DETERMINING IF IT IS POSITIONED PROPERLY, PLACE A SPRAY CONTROL MECHANISM, (SPONGE OR WHATEVER) ON TOP OF THE RING. THEN TURN ON THE PUMP AND THE MACHINE, LIFT THE SPONGE UP ENOUGH TO SEE IF THE COOLANT IS FLOWING ON THE WHEEL. ATOMIZED WATER IS A GOOD INDICATION. IF IT CHECKS OUT, SHUT OFF THE MACHINE AND ATTACH THE SIDE COVER.

1. FINDING THE ZERO POSITION IS BASICALLY DONE THE SAME WAY AS ON THE VERTICAL SIDE. PLACE THE CORE INTO THE RING, AND WITH THE HORIZONTAL DIAL FREE TO ROTATE, TURN IT UNTIL THE CENTER LEG OF THE CORE "SLIGHTLY TOUCHES" THE OUTSIDE OF THE DIAMOND WHEEL. SINCE WE KNOW THAT WE WILL BE GRINDING OFF APPROXIMATELY .079", ROTATE THE DIAL THREE REVOLUTIONS, WHICH IS APPROXIMATELY .075", AND LOCK THE DIAL INTO PLACE BY TIGHTENING THE CHECK NUT.
2. TURN ON THE MACHINE AND THE PUMP. PLACE THE CORE SO THE OUTSIDE WALL OF THE CORE AWAY FROM YOU TOUCHES INTO THE RING FIRST. THEN WITH EVEN PRESSURE AND A SLIGHT BACK AND FORTH ROTATION OF THE CORE, FEED IT INTO THE DIAMOND WHEEL UNTIL THE BASE OF THE CORE WALL CONTACTS THE BASE OF THE RING. AS THE GRINDING NOISE SUBSIDIZES, ROTATE THE CORE CLOCKWISE AND YOU WILL OBSERVE THAT THE WHEEL CONTINUES TO GRIND INTO THE REMAINING CENTER POST. AS YOU DO THIS, ROTATE THE CORE SLIGHTLY COUNTER CLOCKWISE, AND THEN CLOCK-WISE AGAIN. CONTINUE THIS BACK AND FORTH MOTION UNTIL THE CENTER LEG IS COMPLETELY GROUND. (ONE REVOLUTION OF THE CORE) MAKE ONE MORE REVOLUTION OF THE CORE AND YOU WILL NOTE THAT THE GRINDING NOISE STOPS, INDICATING THAT THE CORE IS UNIFORMLY GROUND. EXPLAINING THIS IS MUCH HARDER THAN DOING IT. DO IT A FEW TIMES AND YOU GET THE HANG OF IT.
3. REMOVE THE CORE WHILE PLACING THE SPONGE ON THE RING, AND TEST THE CORE TO DETERMINE THE AL-VALUE. ADJUST THE DIAL TO A NEW POSITION TO TUNE IN THE PROPER LOCATION FOR AN AL VALUE OF 160. SET-UP IS NOW COMPLETE.

NOTE: USE APPROPRIATE SAFETY EQUIPMENT....

1. PROTECT YOUR FINGERS FROM THE ABRASIVE AND ROUGH EDGES OF THE CORES.
2. USE SAFETY GLASSES.
3. DO NOT SWITCH ON OR OFF ANY ELECTRICAL SOURCE WITH WET HANDS.

FCG-7500 GRINDING MACHINE

---

MACHINE

TRAY

110v Motor power supply

HEADS - CIRCLED SUPPLIED

H-11mm

H-14mm

H-18mm

H-22mm

H-23mm

H-26mm

H-30mm

H-36mm

H-42mm

DIAMOND MANDRELS - CIRCLED SUPPLIED

D0914

D1823

D2630

D3645

D100-Turbo

RINGS

R-30mm

R-36mm

R-42mm

SPECIAL ORDER ITEMS

- D0704 Diamond mandrel
- D1000-100 Diamond mandrel
- 220v Motor power supply
- 220v Pump power supply

ALL ITEMS NOT LISTED UNDER "SPECIAL ORDER ITEMS" COME STANDARD WITH THE FCG-7500 FERRITE GRINDING MACHINE.

RECOMMENDED USE OF DIAMONDS AND HEADS

FERRITE	DIAMOND	HEAD OR RING	SIDE
<b>POT CORES:</b>			
7X9	D-0704 [a]	H-7MM [d]	VERTICAL
9X5	D-0914 [a]	H-9MM [d]	" " "
11X17	D-0914 [a]	H-11MM [d]	" " "
14X08	D-0914 [a]	H-14MM [d]	" " "
18X11	D-1823 [b]	H-18MM [d]	" " "
22X13	D-1823 [b]	H-22MM [d]	" " "
23X11	D-1823 [b]	H-23MM [d]	" " "
26X16	D-2630 [d]	H-26MM [d]	" " "
30X19	D-2630 [d]	H-30MM [d]	" " "
36X22	[d] D-3645/D-100T [e]	H-36MM/R-35MM [d]	VERT/HRZ.
42X29	[d] D-3645/D-100T [e]	H-42MM/R-42MM [d]	VERT/HRZ.
<b>E-CORES</b>			
E-187	D-1823 [b]	H-20MM [d]	VERTICAL
E-250	D-1823 [b]	H-26MM [d]	" " "
E-375	D-3645 [d]	H-36MM [d]	" " "
E-21	[d] D-3645/D-1000T [f]	R-45MM [c]	HRZ.
E-625	[d] D-3645/D-1000T [f]	R-55MM [c]	" "
E-75	[d] D-3645/D-1000T [f]	R-60MM [c]	" "
<b>RM CORES</b>			
RM5	D-0914 [a]	H-15MM [d]	VERTICAL
RM6	D-1823 [b]	H-18MM [d]	" " "
RM8	D-1823 [b]	H-23MM [d]	" " "
RM10	[d] D-2630/D-100T [e]	H-30MM/R-30MM [d/c]	VERT/HRZ.
RM12	[d] D-3645/D-100T [e]	H-36MM/R-36MM [d/c]	VERT/HRZ.
RM14	[d] D-3645/D-100T [e]	R-45MM [c]	HRZ.
<b>PQ CORES</b>			
PQ2016	D-1823 [b]	H-26MM [d]	VERTICAL
PQ2020	D-1823 [b]	H-26MM [d]	" " "
PQ2620	D-2630 [d]	H-33MM [d]	" " "
PQ2625	D-2630 [d]	H-33MM [d]	" " "
PQ3220	[d] D-3645/D-100T [e]	H-38MM/R-38MM [c]	VERT/HRZ.
PQ3230	[d] D-3645/D-100T [e]	H-38MM/R-38MM [c]	" " "
PQ3535	[d] D-3645/D-100T [e]	H-45MM/R-45MM [c]	" " "
PQ4040	[d] D-3645/D-1000T [f]	H-55MM/R-55MM [c]	" " "
<b>EC-CORES</b>			
EC-35	[d] D-2630/D-100T [e]	H-36MM/R-36MM [d/c]	VERT/HRZ.
EC-41	[d] D-3545/D-100T [e]	H-42MM/R-42MM [d/c]	" " "
EC-52	[d] D-3645/D-1000T [f]	H-55MM/R-55MM [c]	" " "
EC-70	D-1000TURBO [f]	NO HEAD REQ.	HRZ.

NOTE: ON SOME CORES REQUIRING DEEPER CUT, THE DIAMOND D-100T SHOULD BE USED ON THE HORIZONTAL SIDE OF GRINDER, BUT CARE SHOULD BE SHOWN IN THAT THE CUTTING SURFACE DOES NOT OVERLAP THE SIDES OF THE CORE BEING GAPPED. ON LARGER E-CORES (E-21 TO E-75) THE OPTIONAL WIDER GRINDING MANDREL D-1000TURBO SHOULD BE USED WITH THE OPTIONAL RINGS.

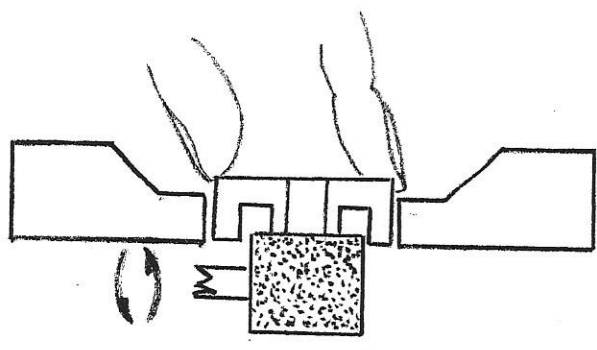
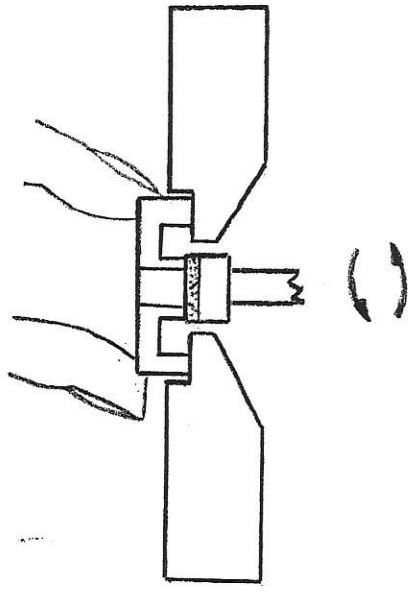
PRICES: [a] \$50 [b] \$65 [c] \$70 [d] \$75 [e] \$100 [f] \$150



Part No.	A	J	Approx. Gap	$A_L$ mH/ 1000 Turns ±3%	$\mu_e$ (Ref.)
1408PA 60-3C8	.551	.328	.027	60	37
1408PA100-3C8	.551	.328	.013	100	63
1408PA200-3C8	.551	.328	.005	200	126
1408PA250-3C8	.551	.328	.004	250	156
1408PA315-3C8	.551	.328	.003	315	198
1811PA 75-3C8	.705	.416	.037	75	35
1811PA130-3C8	.705	.416	.018	130	62
1811PA250-3C8	.705	.416	.008	250	119
1811PA315-3C8	.705	.416	.006	315	150
1811PA400-3C8	.705	.416	.004	400	190
2213PA 85-3C8	.846	.528	.050	85	33
2213PA145-3C8	.846	.528	.025	145	57
2213PA315-3C8	.846	.528	.009	315	123
2213PA400-3C8	.846	.528	.007	400	157
2213PA500-3C8	.846	.528	.005	500	196
2616PA100-3C8	1.004	.634	.064	100	31
2616PA170-3C8	1.004	.634	.032	170	53
2616PA400-3C8	1.004	.634	.009	400	125
2616PA500-3C8	1.004	.634	.007	500	156
2616PA630-3C8	1.004	.634	.005	630	197
3019PA125-3C8	1.181	.740	.070	125	32
3019PA210-3C8	1.181	.740	.035	210	54
3019PA500-3C8	1.181	.740	.011	500	129
3019PA630-3C8	1.181	.740	.008	630	163
3019PA800-3C8	1.181	.740	.007	800	206
3622PA160-3C8	1.398	.855	.079	160	33
3622PA275-3C8	1.398	.855	.040	275	57
3622PA630-3C8	1.398	.855	.016	630	131
3622PA800-3C8	1.398	.855	.012	800	166
3622PA1000-3C8	1.398	.855	.008	1000	208
4229PA160-3C8	1.669	1.164	.103	160	33
4229PA275-3C8	1.669	1.164	.051	275	56
4229PA630-3C8	1.669	1.164	.020	630	128
4229PA800-3C8	1.669	1.164	.015	800	162
4229PA1000-3C8	1.669	1.164	.011	1000	202

Nominal dimensions in inches.





# PUMP PRIMING INSTRUCTIONS

> DISCONNECT PUMP AT BASE  
ROCK UNIT AT WATER LEVEL  
SMALL AMOUNTS OF WATER  
WILL ENTER PUMP DISPELLING  
SMALL AIR BUBBLES AND THEN  
A STREAM OF WATER. RE-CONNECT  
PLUMBING.

NOTE: IT IS NOT NECESSARY  
TO REMOVE PUMP FOR  
THIS PROCEDURE.

