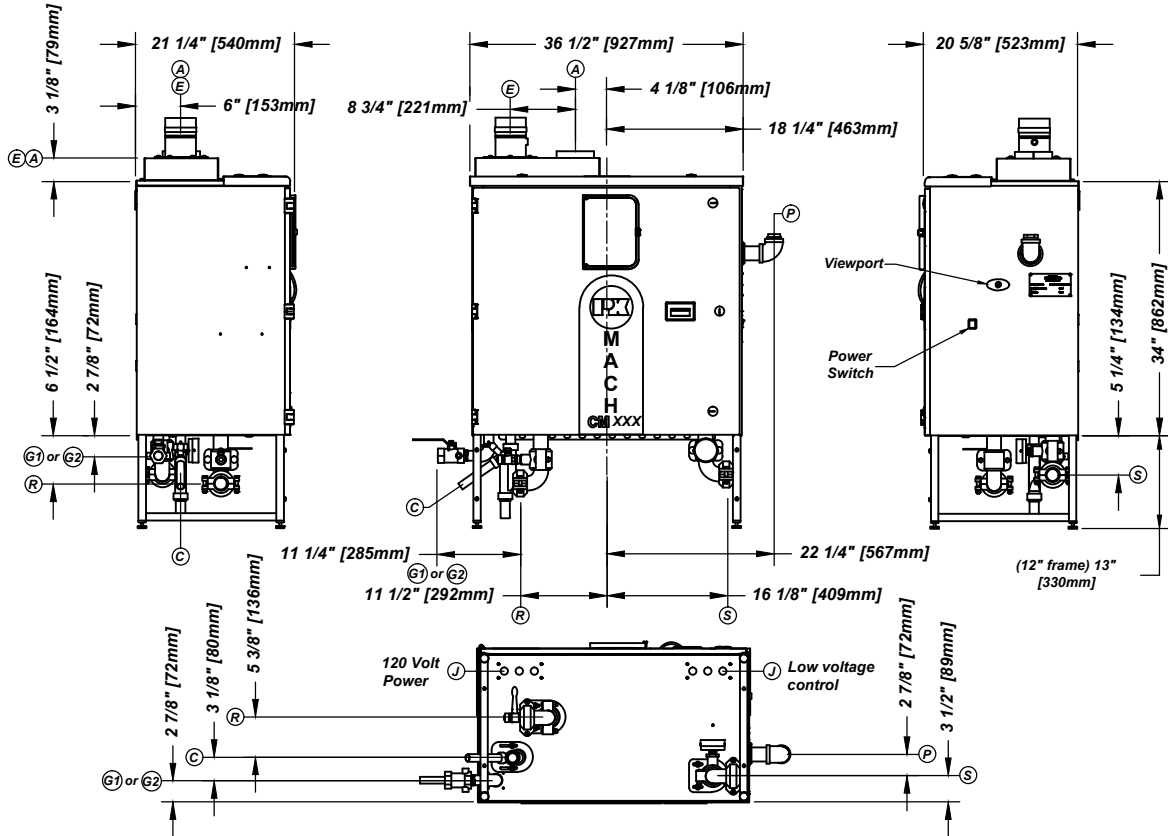


Rep Name \_\_\_\_\_  
 Phone Number \_\_\_\_\_  
 Email \_\_\_\_\_  
 Date \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

# P-K MACH<sup>®</sup> Models CM-399 & CM-500

Natural Gas or Liquid Propane with NURO<sup>®</sup> Control



This MACH Boiler requires Category IV venting (condensing-positive pressure) or Category II venting\* (condensing-negative pressure) as defined in ANSI Z223.1/NFPA 54/CSA -B.149 Latest Edition

\*Category II Venting must include optional combustion air damper

BOILER CONNECTIONS	
(A) Combustion Air Inlet	5" dia stub
(C) Condensate Drain	3/4" hose
(E) Exhaust Vent	4"
(G1) Liquid Propane Gas Connection	1" NPT-F
(G2) Natural Gas Connection	1" NPT-F
(J) Wiring Junction Boxes	inside cabinet
(P) Pressure Relief Valve	see list for selection
(R) Boiler Water Return, Victaulic <sup>®</sup> clamp	1 1/2" pipe, grooved
(S) Boiler Water Supply, Victaulic <sup>®</sup> clamp	1 1/2" pipe, grooved

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BOILER CONTROLS: ASME CSD-1 is standard. Complies with GE GAP (IRI) guidelines GAP.4.1.0 and GAP.4.1.3. Complies with FM Global 6-4 Section 1.0	
Main Gas Train with Dual Shut-Off	
Integrated Boiler Control, NURO <sup>®</sup> Series	
Operating Thermostat, 42°-195°F (5.6°-91°C)	
High Limit Thermostat, Manual Reset, 100-197°F (38°-92°C)	
High Exhaust Pressure Switch	
LWCO, Probe Type, Manual Reset	
Combustion Air Proving Switch, Differential Pressure Type	
Combustion Blower, Variable Speed 300 Watt	

A.S.M.E. Section IV Design Data	CM-399	CM-500
Max Pressure	80 PSIG	
Max Allowable Temperature	250°F	
Max Operating Temperature	194°F	
Heated Wet Surface Area:	15.72 sq.ft.	
Flow rate @ 20°F ΔT	37 GPM	46 GPM
Flow rate @ 40°F ΔT	18 GPM	23 GPM

MODEL SELECTION	○ CM-399		○ CM-500	
	○ NG	○ LP	○ NG	○ LP
Min Inlet Gas Pressure	3.5"w.c.	7.0"w.c.	6"w.c. or 3.5"w.c.	7.0"w.c.
Max Inlet Gas Pressure	14.0"w.c.			
Input, BTU/hr	399,000		500,000	
Output, BTU/hr	371,000		456,000	
Boiler HP	11.0		13.7	
Operating Weight	313 lbs.		313 lbs.	
Water Content	1.58 gallons			
Shipping Dimensions	58"x38"x63" (LxWxH)			
Estimated Shipping Weight	445 lbs.			
Power Supply	120V 1ph 60Hz			
Operating Current	< 5 Amps			
Recommended Minimum Circuit Capacity	10 Amps			

\*3.5"w.c. ONLY Applies for Low Gas Pressure Option

Pressure Relief Valve/Press-Temp Gauge		
Shipped Loose for Field Installation		
○	30 PSIG 3/4"x 1"	0-100psi/30-240°F
○	50 PSIG 3/4"x 1"	0-100psi/30-240°F
○	60 PSIG 3/4"x 1"	0-100psi/30-240°F
○	75 PSIG 3/4"x 1"	0-240psi/30-240°F
○	80 PSIG 3/4"x 1"	0-240psi/30-240°F

Recommended Clearance for Service Access			
Front - 36"	Rear - 0"	Top - 24"	Left Side - 2"
			Right Side - 24"

**HARSCO**  
**INDUSTRIAL**  
 Patterson-Kelley