



ELECTRIC OPEN COIL DUCT HEATERS

HEATER TYPE

This print covers the following heater types:

QUA Open Coil Standard, Slip-In	XUB Open Coil Custom, Slip-In
QUZ Open Coil Standard, Flanged	ZUB Open Coil Custom, Flanged
860U Standard Remote Panel	830U Custom Remote Panel

AboveAir duct heaters utilize the finest construction principles and techniques. 80% nickel, 20% chromium coils are supported by ceramic bushings mounted in corrosion-resistant steel brackets, using a patented floating design that prevents breakage due to thermal expansion. The coils are machine crimped into stainless steel terminals which are insulated with high temperature ceramic bushings. The heater frame is constructed of heavy gauge corrosion-resistant steel and is provided with generous flanges for structural rigidity. All heaters, except QUZ, are suitable for installation in ducts with up to one inch of interior lining.

All heaters include both automatic and manual reset thermal cutouts (not heat limiters or fusible links). All controls are factory-wired to clearly marked terminal blocks for field connections. Properly sized knockouts are provided. All heaters are supplied complete with wiring diagrams and installation instructions, and all are given a dielectric test at a minimum of 1200 volts before shipment.

UNDERWRITERS LISTING AND NATIONAL ELECTRIC CODE

AboveAir duct heaters and panels with a "U" in the type designation are listed by UL under reference E23192 and E53412. As such, they are suitable for installation with zero clearance to combustible surfaces and for use with heat pumps and central air conditioners. They are also supplied with all necessary provisions for installation in full accordance with the National Electric Code.

INSTALLATION

AboveAir slip-in duct heaters are installed by inserting through a rectangular opening cut in the side of the ductwork and are secured to the duct with sheet metal screws. To install AboveAir flanged duct heaters, flanges must be provided on the duct to match the heater flanges, both on the entering and leaving air sides. The heater is secured to the ductwork by sheet metal screws or bolts through the mating flanges.

When the duct heater is being used in conjunction with an air conditioning or heat pump unit, it must be installed at least 48" from that unit. Per NEC requirements, a minimum of 3-1/2 feet of accessible working space clearance must be provided on the terminal box side of the heater. Care should be taken to follow all instructions found in the Installation, Operating and Maintenance instruction sheet supplied with each heater.

CONTROL OPTIONS

The following table indicates the basic control components which are supplied with each of the standard control options.

STANDARD CONTROL OPTIONS

Option	G Basic	J Pneumatic	K SCR
Thermal Cutouts	X	X	X
Airflow Switch	X	X	X
Control Transformers	X	O	O
Fuses (for heaters over 48 amps)	X	X	X
Disconnect Switch	X	X	X
Contactors (de-energizing)	X	O	O
PE Switches		X	
SCR Controller			X
Thermostat	O		O

X Standard O Provide as necessary

SPECIAL FEATURES

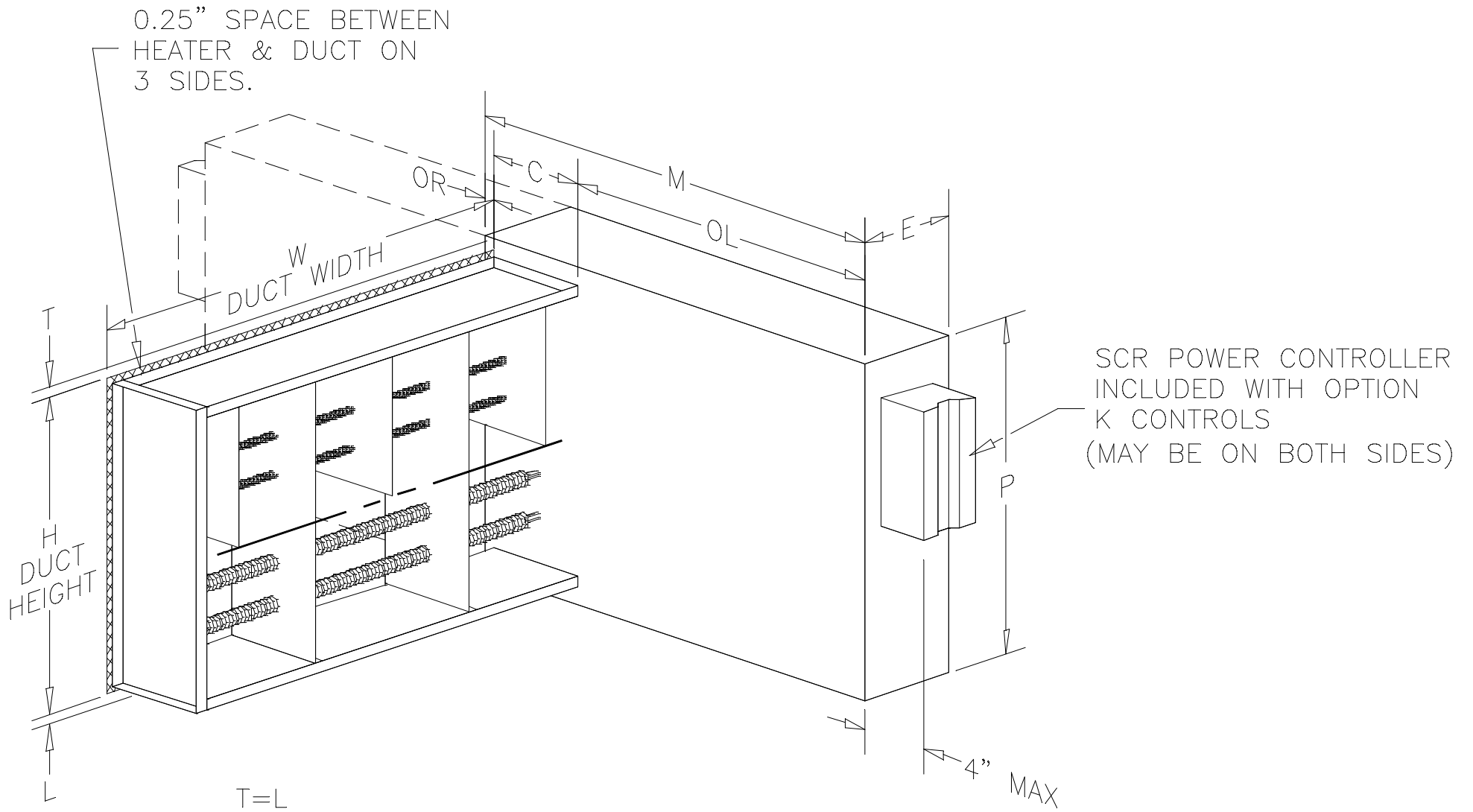
AboveAir heaters are available with a wide variety of special features and constructions. Your quotation or certified print includes a column for special feature codes. The codes in this column, as defined by the table below, describes details of both the standard control options, as well as any special features on the heater in question.

SPECIAL FEATURE CODE DEFINITIONS

A60, A62	PE Switch-Close on Rise	H1	Aluminized Steel Frame & Terminal Box
		H2	Stainless Steel Frame & Terminal Box
		H3	Stainless Steel Elements
B	Terminal Box-Bottom		
B1	Terminal Box-Side Cover		
B2	Terminal Box-Insulated	L3 to L6	Terminal Box Overhang (See Figs. 10 & 11)
B3	Enclosure-Weatherproof NEMA 4 Type	L7	No Overhang, C=M (See Fig. 7)
B4	Enclosure-Dust-Tight-NEMA 12 Type		
B5	Panelboard-Required for Heater Control	M to M7	Manual Thermal Cutout
B7	Enclosure-Dustproof	M8	Remote Manual Reset Rod
B8	Enclosure-Outdoor-3R Type		
B9	Enclosure-Stainless Steel Weatherproof Nema 4X Type	N(000)	Fan Relay (000 is control voltage)
		P1	Pilot Light Each Stage On
C, C4, C8	Contactors-Magnetic De-energizing	P2	Pilot Light Insufficient Air
C1, C5, C9	Contactors-Magnetic Disconnecting	P3	Pilot Light Heater On
C2, C6, C10	Contactors-Mercury De-energizing	P4	Pilot Light-Overtemperature
C3, C7, C11	Contactors-Mercury Disconnecting		
		Q, Q1	Disconnect Switch-Power
D3	Derated Coils-25 Watts per Square Inch	Q2	Pilot Switch-Control Circuit
D4	Derated Coils-35 Watts per Square Inch	Q3, Q4	Airflow Switch Positive
		Q5, Q6	Airflow Switch Negative
		Q8	Disconnect Switch-Control Circuit
		Q10	Disc. Switch-Control Circuit Fan Relay
E20 to E22	SCR Controller		SOLITECH STEP CONTROLLER
E30	SCR input-2200 Ohms		2200 Ohm input-Deadband
E31	SCR input-135 Ohms	S5	135 Ohm input-Proportional
E32	SCR input-with transducer	S16	4-20mA input-Proportional
E33	SCR input-slave for vernier	S18	with Transducer-Proportional
E34	SCR input-4-20mA	S19	0-10VDC input-Proportional
E35	SCR input-0-10VDC	S20	Step Controller-0-10VDC Thermostat
E36	SCR input-0-10VDC Thermostat Controlling Master SCR	S21	
E37	SCR input-Pulse Thermostat Controlling Slave SCR		
		T1, T5	Control Circuit Transformer, Fused Primary
F	Fuses-Minimum NEC		
F1	Fuses-Per Circuit	T2 to T4	Control Circuit Transformer
F3	Circuit Breaker-Minimum NEC		
F5	Circuit Breaker-Per Circuit	U3 to U9	Airflow Direction (See Figs. 10 & 11)
F6	Time Delay Fusing		
		V	Protective Screens-Both Sides
G1	Slip-and-Drive Connection	V1	Pressure Plate-Inlet Side
G2	Extended Cold Section	V2	Protective Screens-One Side
G3	Recessed Terminal Box		
GG2	Insulated Duct Construction (extended cold section)	Z to Z5	Automatic Thermal Cutout
GG3	Insulated Duct Construction (recessed terminal box)		



REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



NOTE: SEE FIGURE 10 FOR AIRFLOW AND OVERHANG NOMENCLATURE.

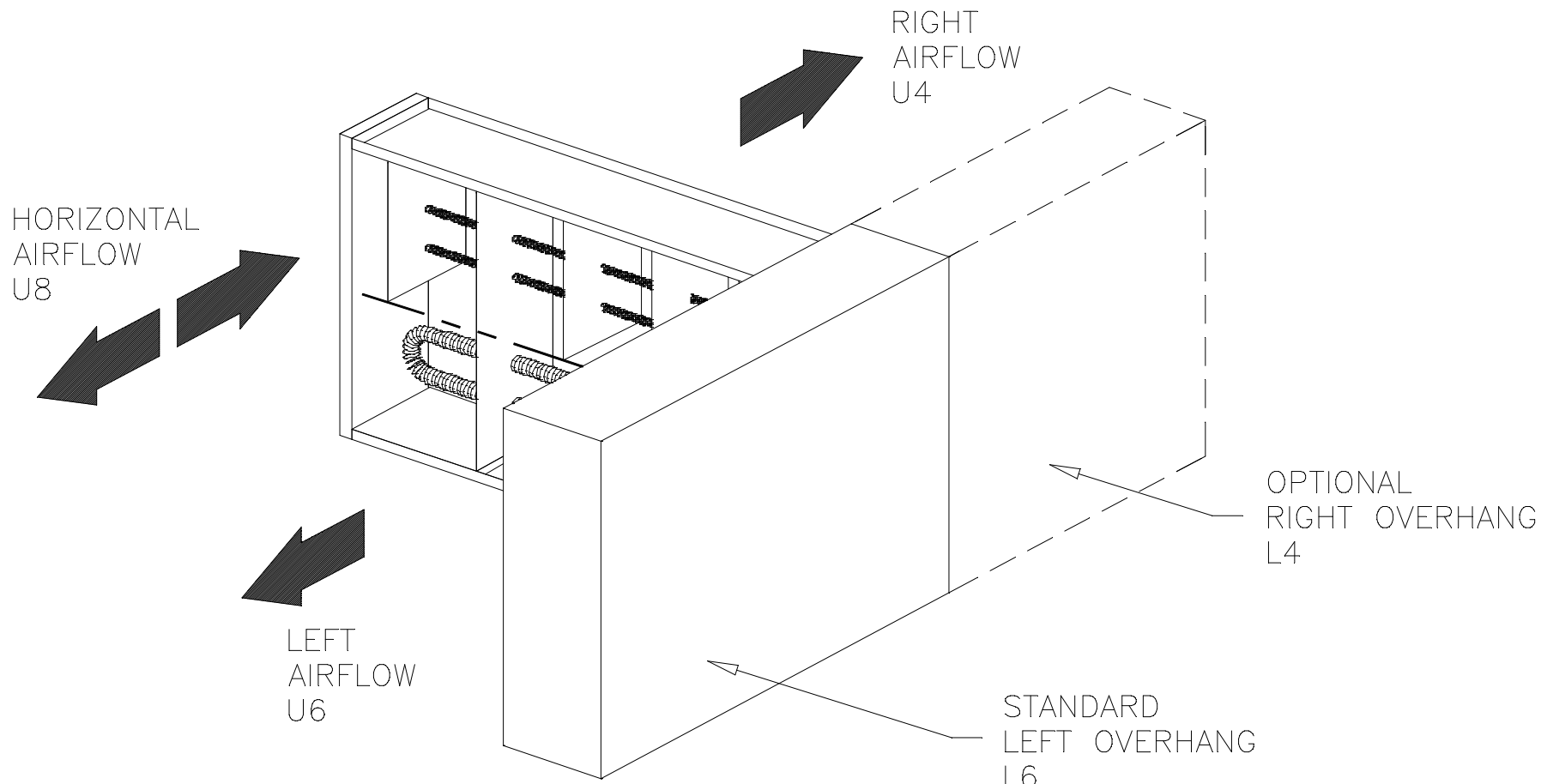


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TITLE: SLIP-IN HEATER
 for HORIZONTAL AIRFLOW

DWC NO. FIGURE 1			
SIZE A	SCALE: NONE	SHEET 1 of 1	REV. 0

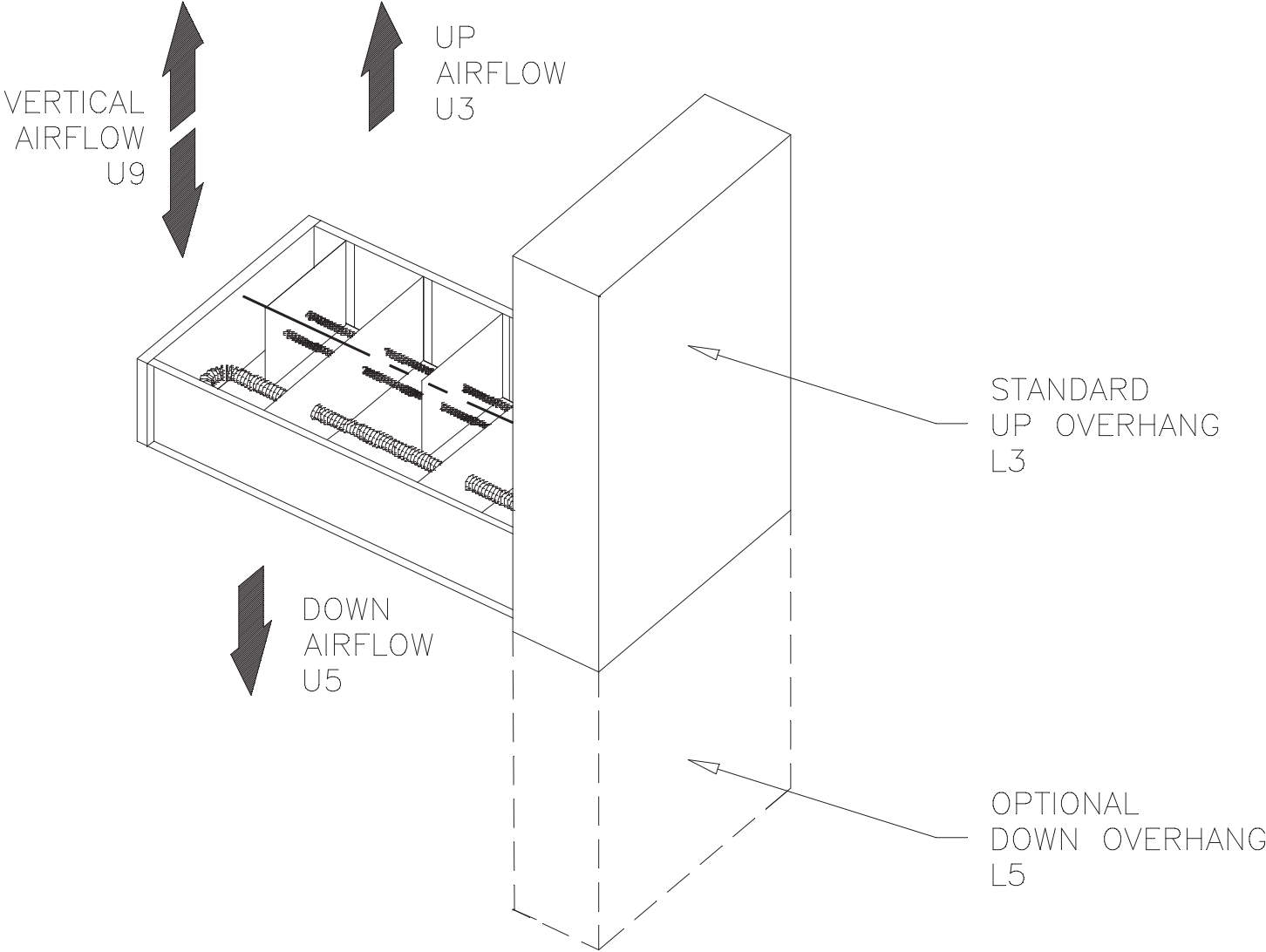
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REV	DESCRIPTION	DATE	APPROVED



NOTE: EXACT AIRFLOW DIRECTION MUST BE USED FOR FINNED TUBULAR HEATERS (RIGHT OR LEFT).

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TITLE: HORIZONTAL AIRFLOW AND TBOX OVERHANG NOMENCLATURE		DWG NO. FIGURE 10	
SIZE A	SCALE: NONE	SHEET 1 of 1	REV. 0

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TITLE: VERTICAL AIRFLOW AND
 TBOX OVERHANG NOMENCLATURE

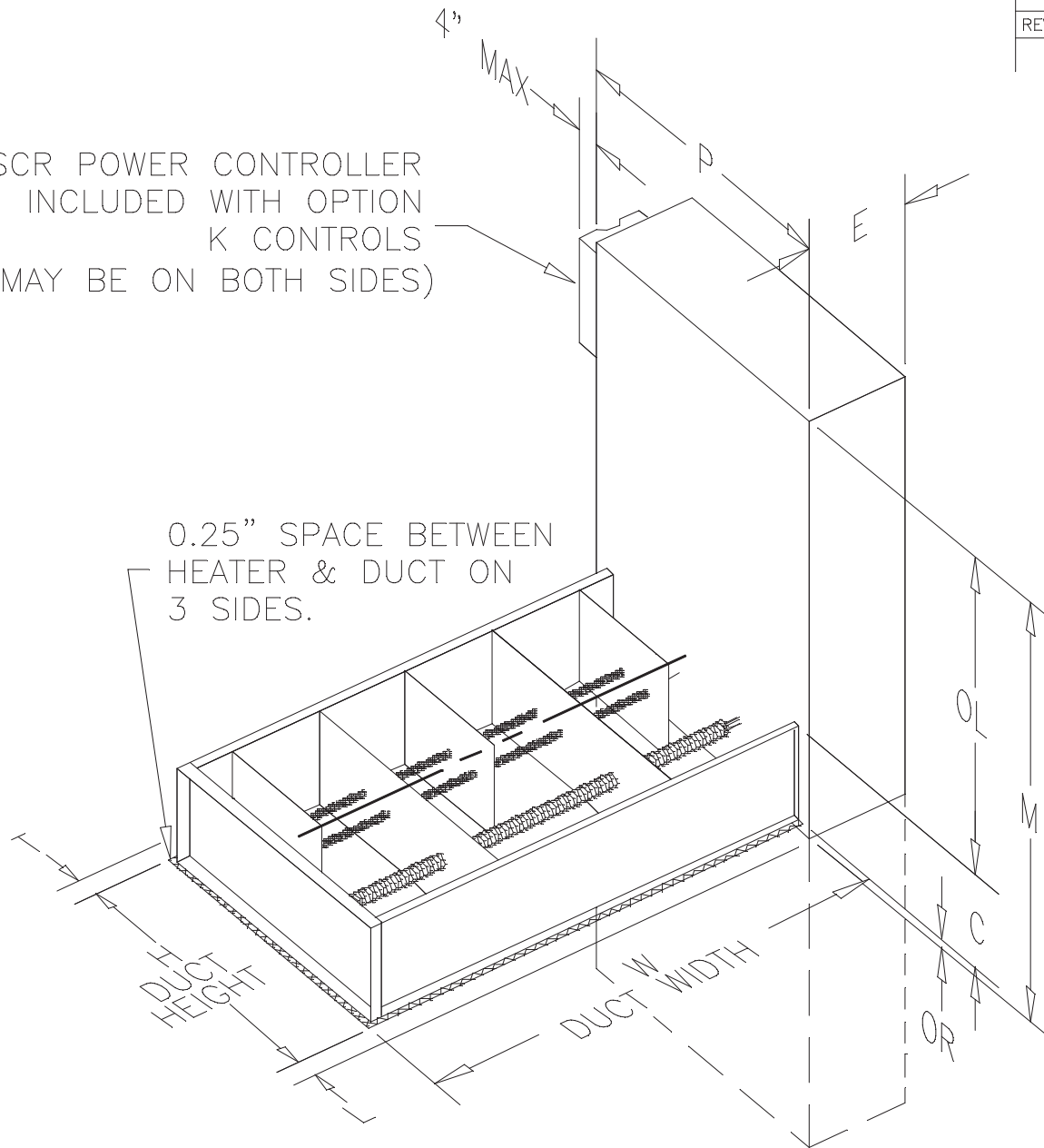
DWG NO. FIGURE 11			
SIZE A	SCALE: NONE	SHEET 1 of 1	REV. 0

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SCR POWER CONTROLLER INCLUDED WITH OPTION K CONTROLS (MAY BE ON BOTH SIDES)

0.25" SPACE BETWEEN HEATER & DUCT ON 3 SIDES.



T=L

NOTE: SEE FIGURE 11 FOR AIRFLOW AND OVERHANG NOMENCLATURE.



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TITLE:

SLIP-IN HEATER
 for VERTICAL AIRFLOW

DWG NO.

FIGURE 2

SIZE	SCALE:	SHEET	REV.
A	NONE	1 of 1	0