



## UL, CSA, and ETL Certifications

### Knowing your Options

Standard Neptronic heaters are approved and certified by UL, CSA, and ETL. Certain components required by UL are not obligatory by CSA, or vice versa. Our heater selection software is programmed according to the certification being used. Based on your selection, the software will automatically add the necessary components, as per UL or CSA standards, and it will advise you with a pop up window.

Knowing the codes;

#### Electric Options

<u>Code</u>	<u>Option</u>	<u>Code</u>	<u>Option</u>
FC	Full break contactor	LP	Pilot light power
RT	Thermal relay	LH	Pilot light heating
CA	Magnetic contactor	LN	Pilot light no air flow
CS	Silent relay	LS	Pilot light stage on
CM	Mercury contactor	LO	Pilot light Over heat
LF	Load fuse	FR	Fan relay
SF	Stage fuse	SMA	Starter motor for fan Automatic (value HP)
DS	Disconnect switch	PSO	Pneumatic/Electric Switch Norm. Open
TS	Toggle switch	PSC	Pneumatic/Electric Switch Norm. Close
AC	Automatic thermal cut-out	PCD	Pneumatic/Electric Controller Direct acting (Fon/Foff)
MC	Manual thermal cut-out	PCR	Pneumatic/Electric Controller Reverse acting (Fon/Foff)
TR	Transformer	CGA	Coil Grade A
CF	Control fuse	EF	Extended Flange 1.5"
PDN	Pressure differential switch - non adjustable	PH	Process Heater (temp °C)
PDA	Pressure differential switch - adjustable	N12	Control Panel NEMA 12
HEC	Neptronic controller	N4	Control Panel NEMA 4
EAS	Electronic Airflow Sensors	N4X	Control Panel NEMA 4X
SSR	Solid state relay	RP	Remote Panel
AUX	Auxiliary Switch		

#### Mechanical Options

<u>Code</u>	<u>Option</u>	<u>Code</u>	<u>Option</u>	<u>Code</u>	<u>Option</u>
SB	Stainless Control box	BCE	Control box with Bottom ext.	CT	Cold spot on Top
SBF	Stainless Control box & Frame	BLE	Control box with Left ext.	CB	Cold spot on Bottom
IB	Insulated Control box	BRE	Control box with Right ext.	TF	Transformer Fuse (primary)
BT	Control box on Top	VAV	Control box adapted to VAV	ISP	Nep controller(internal set point)
BB	Control box on Bottom	CC	Cold spot on Control box side	BFT	Control box Flush Bottom
BCC	Control box Centered	CE	Cold spot on End side	BFB	Control box Flush Top
BBE	Control box with Top ext.				

The obvious differences between the American (UL) and Canadian (CSA) selection is;

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- Power: Maximum kW/sq.ft
- Automatic thermal cut out temperature rating
- Manual thermal cut out temperature rating

Heating elements maximum kW per square foot (with flanged type)

Heating Element Type	UL (kW / sq.ft)	CSA (kW / sq.ft)
Open coil	24	40
Tubular	12	13
Finned tubular	13	15

Automatic thermal cut out temperature

Heating Element Type	UL (°F)	UL (°C)	CSA (°F)	CSA (°C)
Open coil	110	43	110	43
Tubular	125	52	167	75
Finned tubular	110	43	167	75

Manual thermal cut out temperature

Heating Element Type	UL (°F)	UL (°C)	CSA (°F)	CSA (°C)
Open coil	135	57	175	79
Tubular	175	79	200	93
Finned tubular	175	79	200	93

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