



Flame Rods

Observation Ports

Igniters

Electric Feedthroughs

Liquid Levels



AUBURN®

SINCE 1910

INDUSTRIAL PRODUCTS CATALOG

CUSTOMER SERVICE: 314-512-8231

www.federalmogul.com



The name for quality Industrial products

For over 100 years Auburn has designed and manufactured industrial Igniters, Flame rods, liquid level sensors, Feedthroughs and observation ports.

Our product specific key markets are:

Igniters / Flame Rods

Industrial furnaces boilers and ovens.

Liquid Level Sensors

Process vessels, steam boilers, water heaters and water treatment plants.

Electric Feedthroughs

Liquid filled transformers, switching gear, hermetic sealed motors and submersible pumps.

Sight Glass

Pressure vessels and boilers

We utilize our extensive experience in the industrial and automotive spark plug development to continuously improve the Auburn products range. Champion spark plug and Auburn engineering is located at the Plymouth Michigan technical center. Auburn products perform reliably for extended periods even in the most demanding environments. Over 180 unique parts are described in this catalogue. One of these may be right for your particular application. If not, we have the engineering and design capability to produce a custom product to meet your application. Auburn stocks a range of add on components like our protector boots to meet specific customer requirements.

The Vallejo Mexico manufacturing facility is ISO/TS 16949:2002 compliant. The Auburn production team work in close communication with sales and customer service to ensure customer specific requirements are met.

Auburn Industrial products are sold to original equipment manufacturers and distributors worldwide. Distributors are located in the U.S., Canada, Russia, Europe and Asia. Please contact customer service on (1) 314-512-8231 for further assistance.



Vallejo Mexico City manufacturing facility



Plymouth Michigan Research and Development center



Igniters



1

Flame Rods



2

Liquid Level Sensors



3

Electric Feedthroughs



4

Observation Ports/Additional Parts



5

1



Igniters

Auburn Igniters are the industry leading standard for combustion equipment since 1910. The Auburn range of igniters consists of over 88 unique part numbers. Auburn Igniters are used as original equipment by many of the worlds largest combustion equipment manufacturers. Auburn insulators are renowned for having excellent dielectric strength, high mechanical strength, high thermal conductivity and excellent resistance to heat shock.

Centre electrodes are fabricated from Auburn developed alloys. Designed to resist both sparking erosion and chemical corrosion under normal and extreme operating temperature conditions. Center wires are made from Nickel, Chromel, Inconel or Kanthal depending on the particular application.

The Hexagon provides contact for a socket wrench during installation and removal. A variety of Hex sizes and thread patterns are available in the Auburn range.

Auburn continue to develop new innovate products and unique products to meet specific customer needs.

Igniters



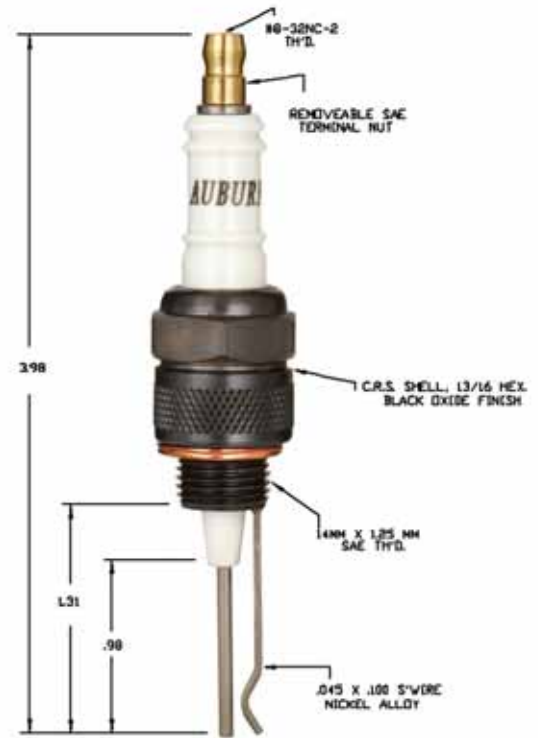
Auburn Sales Symbol	SKU	Thread	Center Electrode Material	HEX
I-2	12944	1/2-14 NPT	Nickel	7/8
I-2-1	12946	1/2-14 NPT	Nickel	7/8
I-2-2	12948	1/2-14 NPT	Nickel	7/8
I-2-EI-2	13137	1/2-14 NPT	Nickel	7/8
I-2 with 48-13/16" c/w	13881	1/2-14 NPT	Nickel	7/8
I-3	12987	14mm x 1.25mm	Nickel	13/16
I-5-99	13008	1/2-14 NPT	Nickel	15/16
I-5-99 with 48" c/w	13309	1/2-14 NPT	Nickel	15/16
I-6	12954	1/2-14 NPT	Nickel	7/8
I-6 SP with 24" c/w	13779	1/2-14 NPT	Nickel	7/8
I-6 with 45" c/w	13827	1/2-14 NPT	Nickel	7/8
IA-9	12967	13/16-24	Nickel	13/16
IA-9-C	13345	13/16-24	Nickel	13/16
IC-9-2	12965	7/8-18 NPT	Nickel	1.125
IC-9-4	13344	7/8-18 NPT	Inconel	1.125
I-10-25	12986	1/2"	Nickel	13/16
IC-10	12973	7/18-18	Nickel	1 1/8
IA-15-1	12978	13/16-24	Nickel	13/16
IC-15	12976	7/8-18 NPT	Nickel	1.125
IC-15-3B	12979	7/8-18 NPT	Nickel	1.125
IP-16	13004	1/2-14 NPT	Nickel	15/16
IP-16-EI	13124	1/2-14 NPT	Nickel	15/16
IP-17	13005	1/2-14 NPT	Nickel	15/16
I-18	12969	1/2 - 14NPT	Nickel	15/16
I-18-14	12970	13/16-24 NEF	Nickel	15/16
I-18-16	13218	N/A	Inconel	N/A
I-18K	12972	1/2-14 NPT	Kanthal	15/16
IP-19	13006	1/2-14 NPT	Nickel	15/16
OJ-21-1	13001	14MM X 1.25MM	Nickel	13/16
OJ-21-4	13002	14MM X 1.25MM	Nickel	13/16
OJ-21-5	13003	14MM X 1.25MM	Nickel	13/16
I-25	12951	1/2-14 NPT	Nickel	7/8
I-25-3	13206	1/2-14 NPT	Nickel	7/8
I-25 LNG (4.550)	13148	1/2-14 NPT	Nickel	7/8
I-28	12952	18mm x 1.5mm	Nickel	7/8
I-31	12989	14mm x 1.25mm	Nickel	13/16
I-31-1	12990	14mm x 1.25mm	Nickel	13/16
I-31-2	13238	14mm x 1.25mm	Nickel	13/16
I-31-3	12991	14mm x 1.25mm	Inconel	13/16
I-31-5-3.3	13122	14mm x 1.25mm	Nickel	13/16
I-31-6	13169	14mm x 1.25mm	Nickel	13/16
I-32	12992	14mm x 1.25mm	Nickel	13/16
I-33	12988	14mm x 1.25mm	Nickel	13/16
I-33 SP with 18" c/w	13781	14mm x 1.25mm	Nickel	13/16
I-33 SP with 6" c/w	13795	14mm x 1.25mm	Nickel	13/16
I-33 SP with 4.5" c/w	13776	14mm x 1.25mm	Nickel	13/16
I-63	12956	18MM X 1.5MM	Nickel	7/8

Auburn Sales Symbol	SKU	Thread	Center Electrode Material	HEX
I-64-1	12958	1/2-14 NPT	Nickel	7/8
I-64-3	12959	1/2-14 NPT	Nickel	7/8
I-64-4	12963	1/2-14 NPT	Nickel	7/8
I-67	12962	18MM X 1.5MM	304 SS	7/8
I-75-4	13332	1/4-20 NEF	Nickel	15/16
I-75-5	12949	1/4-20 NEF	Nickel	15/16
I-75-6	13211	3/4-20 NEF-2	Nickel	15/16
I-78	12998	7/8-18 NPT	Nickel	15/16
I-78-2	12995	7/8-14 NPT	Nickel	15/16
I-82	12960	No Thread	Kanthal	no HEX
I-90-3	13011	3/4-14 NPT	Nickel	1 1/8
I-90-6	13015	3/4-14 NPT	Nickel	1 1/8
I-90-7	13016	3/4-14 NPT	Nickel	1 1/8
I-90-8	13018	3/4-14 NPT	Nickel	1 1/8
I-96-1	13536	No Thread	Nickel	no HEX
I-96-3	13529	No Thread	Nickel	no HEX
I-101	12982	10mm x 1mm	Nickel	11/16
I-102	12983	10mm x 1mm - SAE	Nickel	11/16
I-143	12999	14mm x 1.25mm - SAE	Kanthal	13/16
I-144	13000	14mm x 1.25mm - SAE	Kanthal	13/16
I-147-2	14305	14mm x 1.25mm - SAE	Kanthal	13/18
I-181	12996	18mm x 1.5mm	Nickel	7/8
I-182	13270	18mm x 1.5mm	Nickel	7/8
I-182-1	12997	18mm x 1.5mm	Nickel	7/8

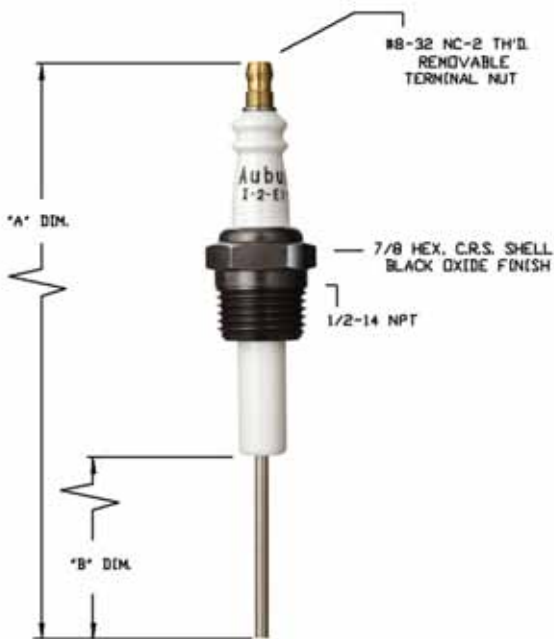
Shielded Igniters				
SI-140	13019	14MM X 1.25MM	Nickel	13/16
SI-140-1NM	13380	14MM X 1.25MM	Nickel	13/16
SI-141	13020	14MM X 1.25MM	Nickel	3/16
SI-180	13023	18MM X 1.5MM	Nickel	7/8
SI-183	13397	18MM X 1.5MM	Nickel	7/8
SI-185	13025	18MM X 1.5MM	Nickel	7/8
SI-186	13026	18MM X 1.5MM	Nickel	7/8
SI-187	13027	18MM X 1.5MM	Nickel	7/8
SI-188	13028	18MM X 1.5MM	Nickel	7/8
SI-230	13029	Special	Nickel	15/16
SI-322	13032	18MM X 1.5MM	Nickel	7/8
SI-323	13399	18MM X 1.5MM	Inconel	7/8
SI-324	13401	18MM X 1.5MM-SAE	Inconel	7/8
SI-328-2	13407	18MM X 1.5MM-SAE	Chromel	1"
SI-346	13022	14MM X 1.25MM	Nickel	13/16



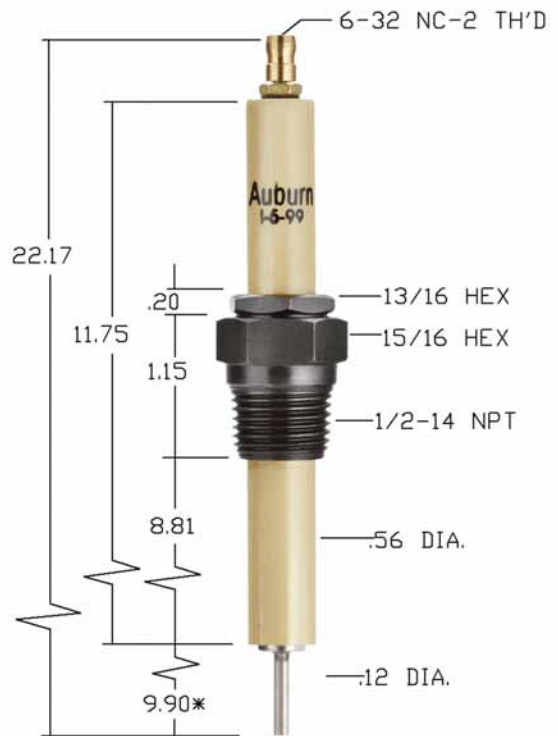
I-2



I-3



I-2-EI-2



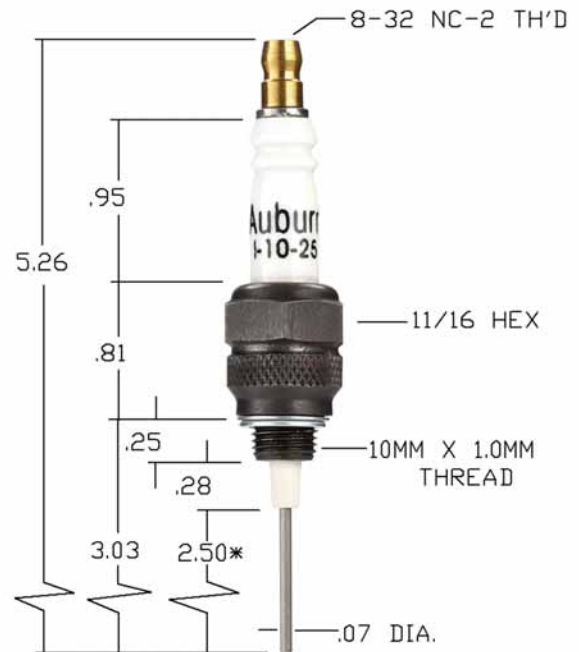
I-5-99

Igniters

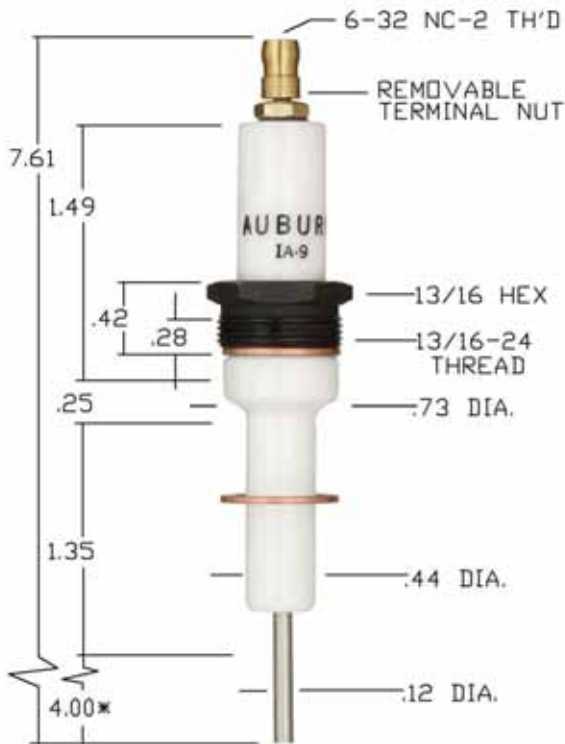


I-6	5 inch centerwire
I-6-24	24 inch centerwire
I-6-45	45 inch centerwire

I-6



I-10-25



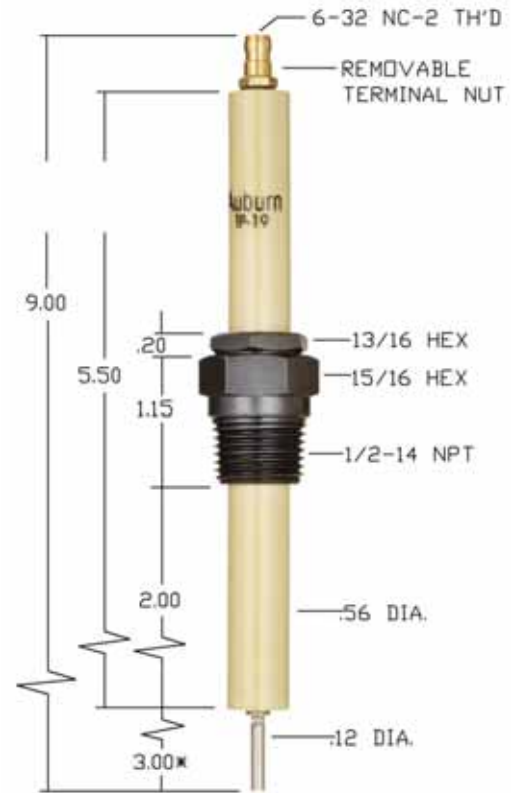
IA-9



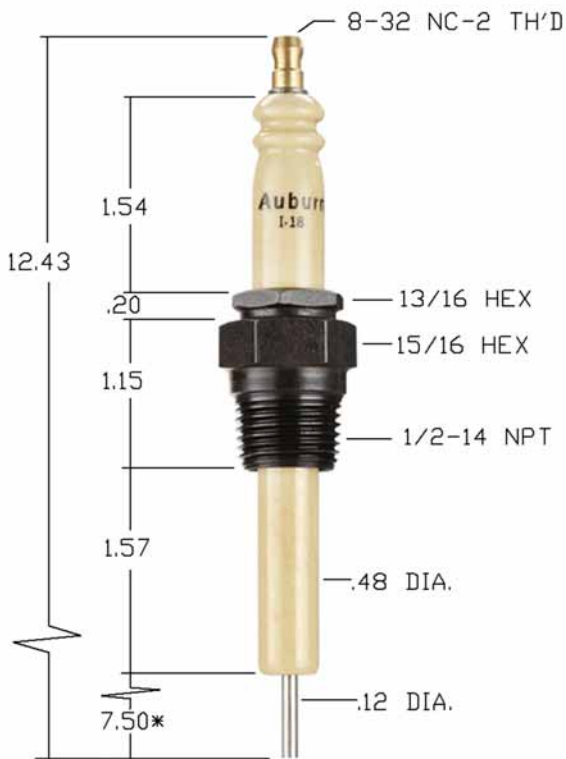
IA-15-1



IP-17



IP-19

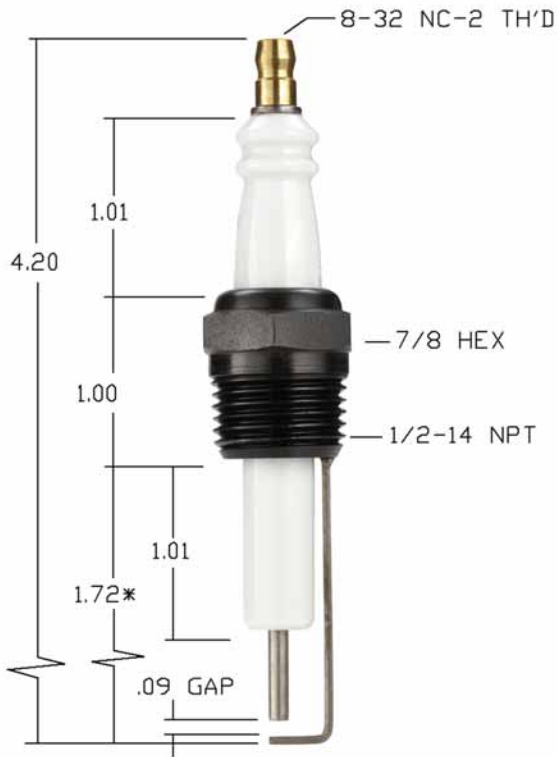


I-18

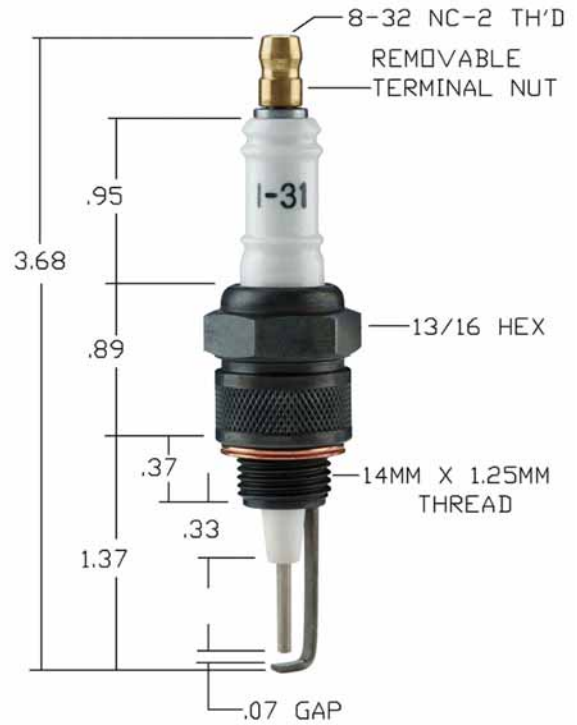


OJ-21-4

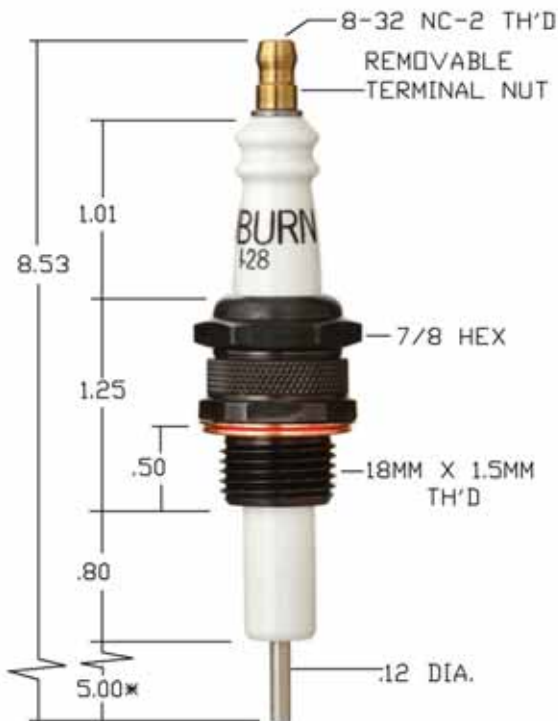
Igniters



I-25



I-31

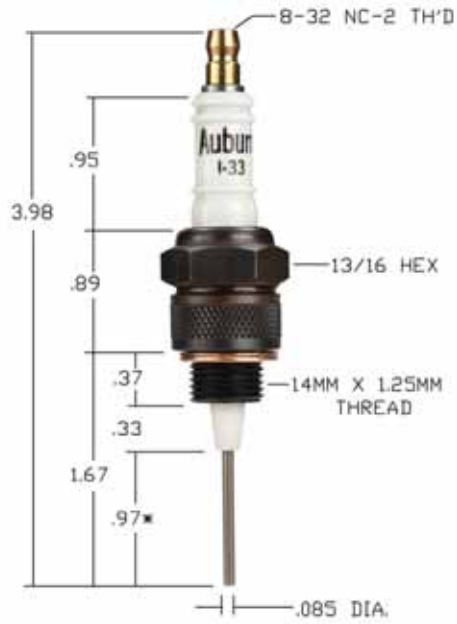


I-28



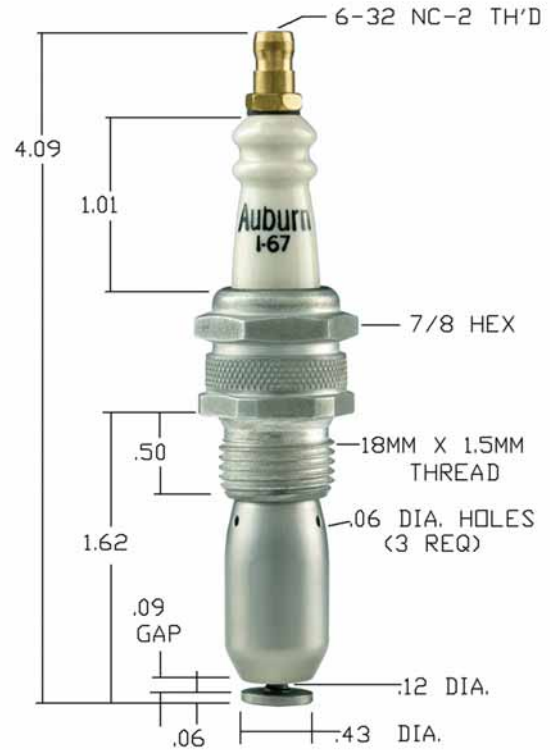
I-31-1	Nickel center wire 1.87 inches
I-31-2	Nickel center wire 2.50 inches
I-31-3	Inconel

I-31-1



I-33	1 inch centerwire
I-33-4.5"	4.5 inch centerwire
I-33-6"	6 inch centerwire
I-33-18"	18 inch centerwire

I-33

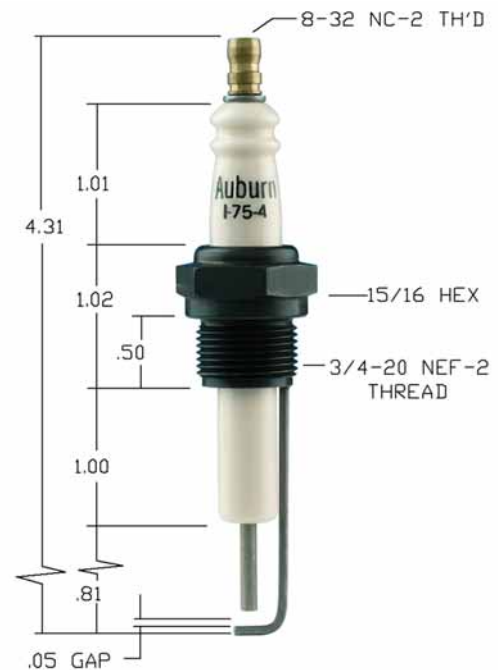


I-67



Product	Dimension B
I-64-1	1.72 inches
I-64-3	3.75 inches
I-64-4	1.12 inches

I-64-1



Product	Extension length
I-75-1	obsolete length 1.81 inches
I-75-4	1.81 inches
I-75-6	1.322 inches

I-75-4

Igniters



I-75-5



I-82

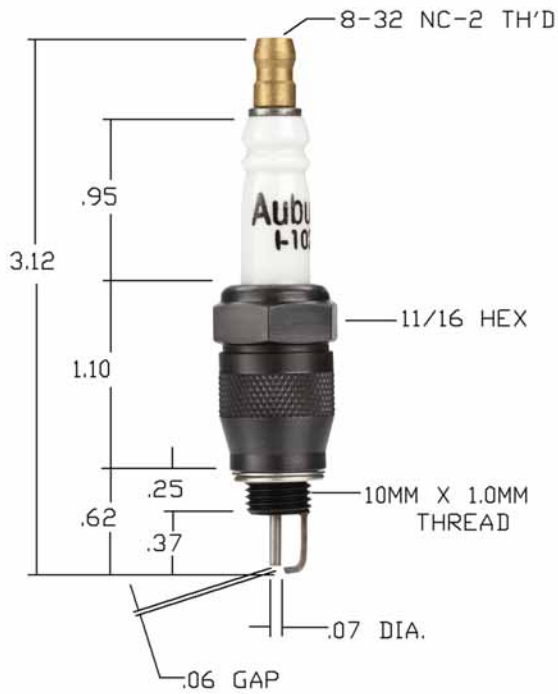


I-78-2

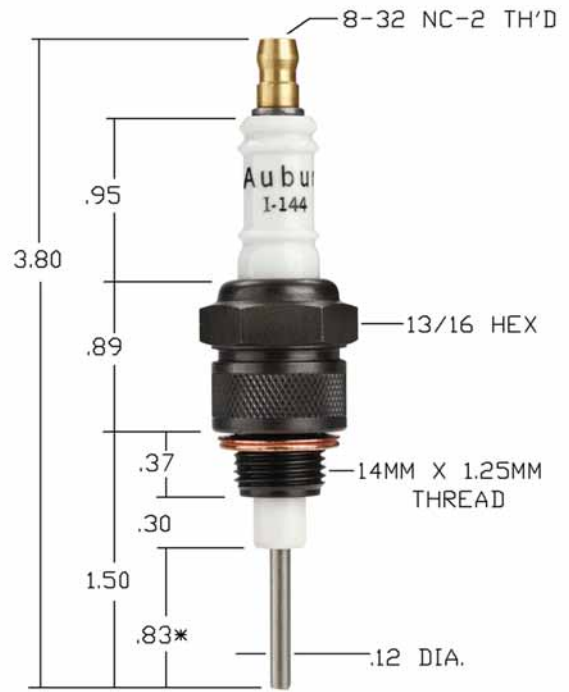


Product	A- Dimension
I-90-3	11.89
I90-6	15.015
I-90-7	12.89
I-90-8	18.64

I-90



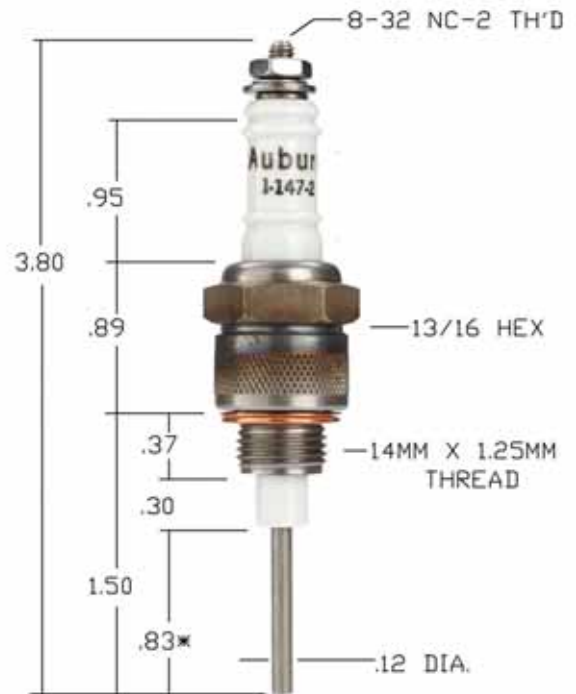
I-101



I-144

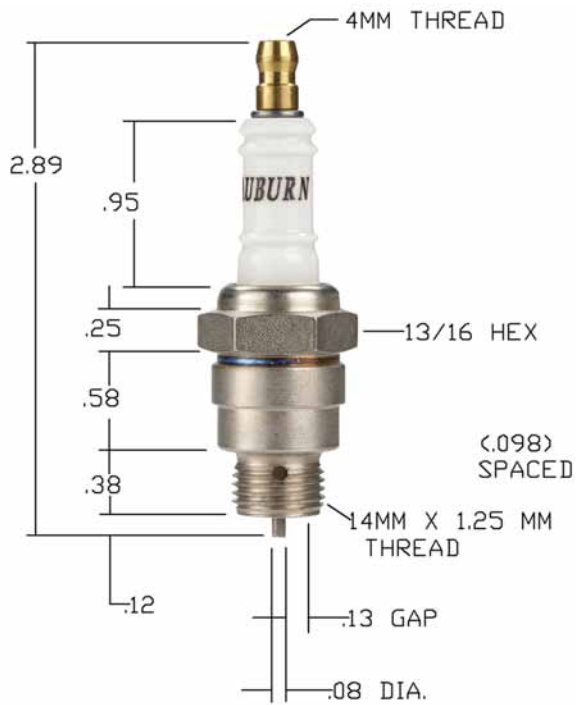


SI-140



I-147-2

Igniters



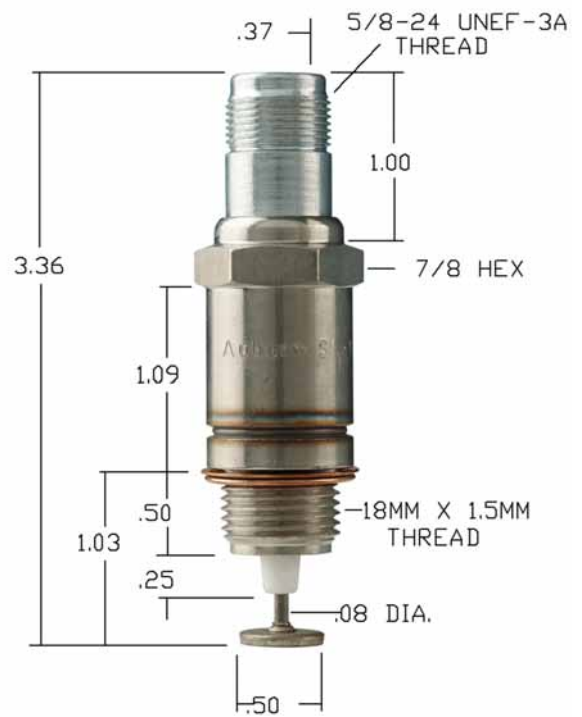
149T-1



I-181



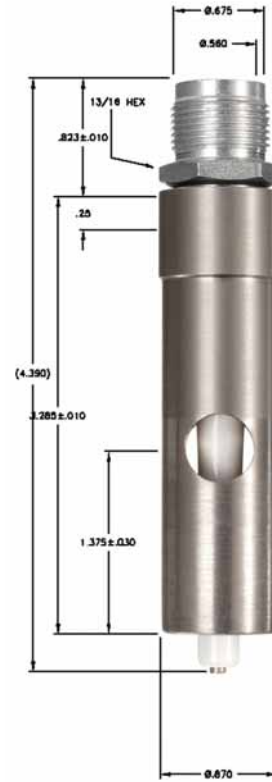
SI-180



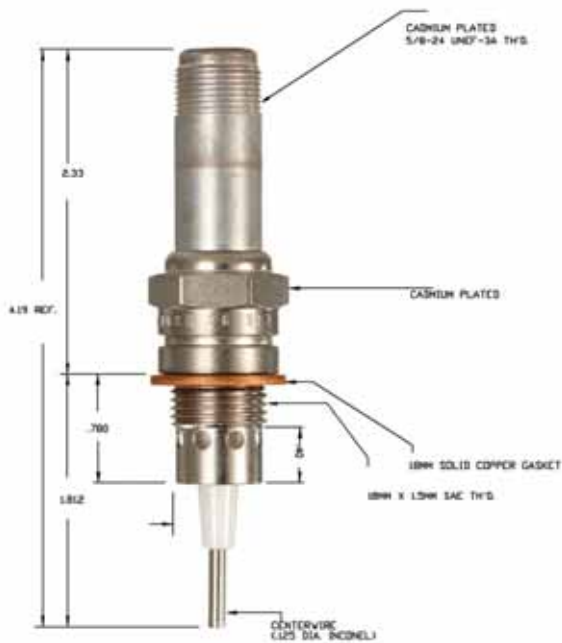
SI-185



SI-186



IG-4765



SI-323

2



Flame Rods

Manufacturers of industrial burners, boilers and ovens require flame probes (or rods) that are reliable throughout a long service life. Auburn designs and manufactures flame probes rugged enough to survive operating temperatures up to and including 2350°F. Probe or centerwire materials such as Kanthal or Nichrome are chosen for their excellent conductive and thermal properties. A ceramic insulator is used to insulate the centerwire from the mounting shell. Units will not crack or breakdown, at rated temperatures. Auburn flame probes give accurate readings over a wide range of temperatures, voltage and size applications.

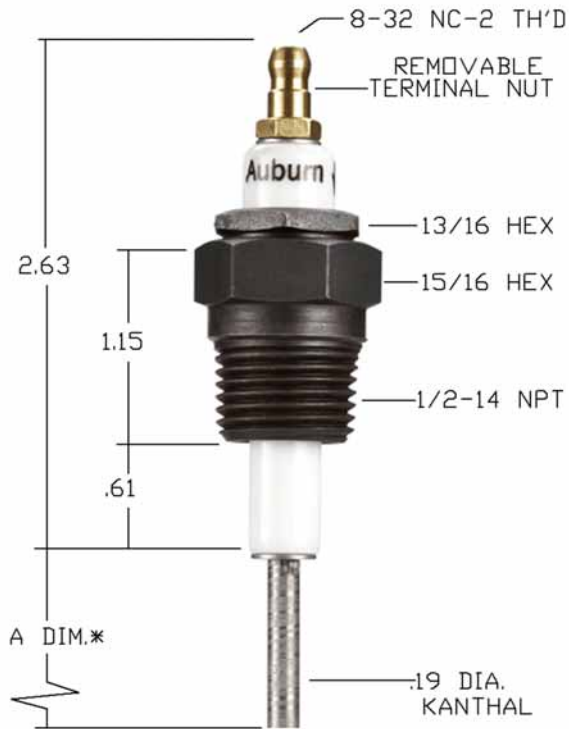
Operating principle -The rod conducts current to the flame-sensing system (controller) as long as the tip is in contact with the flame. Auburn manufacturers private label brands for OEM's and others. Custom design service is available to meet any unique flame-sensing requirements customers may have.

Every Auburn Industrial product is subjected to rigorous factory inspection. Tests include conductivity and dielectric (arc flash) for ceramic integrity.

Flame Rods



Auburn Sales Symbol	Probe Length "A" (inches)	SKU	Thread	Center Electrode Material	Operating Temperature
FRS-2-12	12	13035	1/2 NPT	Kanthal	2350 °F
FRS-2-18	18	13037	1/2 NPT	Kanthal	2350 °F
FRS-2-24	24	13038	1/2 NPT	Kanthal	2350 °F
FRS-2-6	6	13034	1/2 NPT	Kanthal	2350 °F
FRS-3	3	13044	1/2-14 NPT	Nichrome	2100 °F
FRS-4-12	12	13041	1/4-18 NPT	Kanthal	2350 °F
FRS-4-24	24	13043	1/4-18 NPT	Kanthal	2350 °F
FRS-4-4	4	13039	1/4-18 NPT	Kanthal	2350 °F
FRS-4-6	6	13040	1/4-18 NPT	Kanthal	2350 °F
FRS-4-7.5	8	13117	1/4-18 NPT	Kanthal	2350 °F
FRS-4 with 48" c/w	48	13848	1/4-18 NPT	Kanthal	2350 °F
FRS-5	28	13045	1/2 NPT	Kanthal	2350 °F
FRS-5 with 64" c/w	64	13313	1/2 NPT	Stainless Steel	1500 °F
FRS-9	9	13316	10mm x 1mm SAE	Stainless Steel	1500 °F



FRS-2

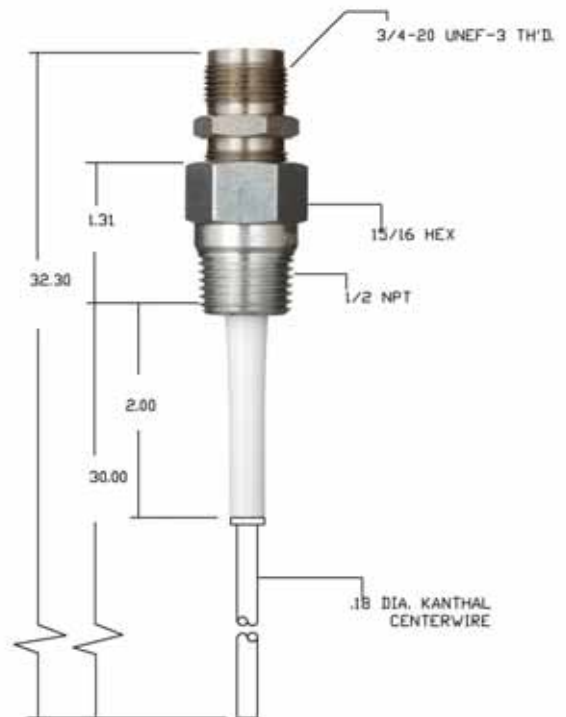


Product	A - Dimension
FRS-4-4	4 inch c/w
FRS-4-6	6 inch c/w
FRS-4-7.5	7.5 inch c/w
FRS-4-12	12 inch c/w
FRS-4-24	24 inch c/w
FRS-4-48	48 inch c/w

FRS-4

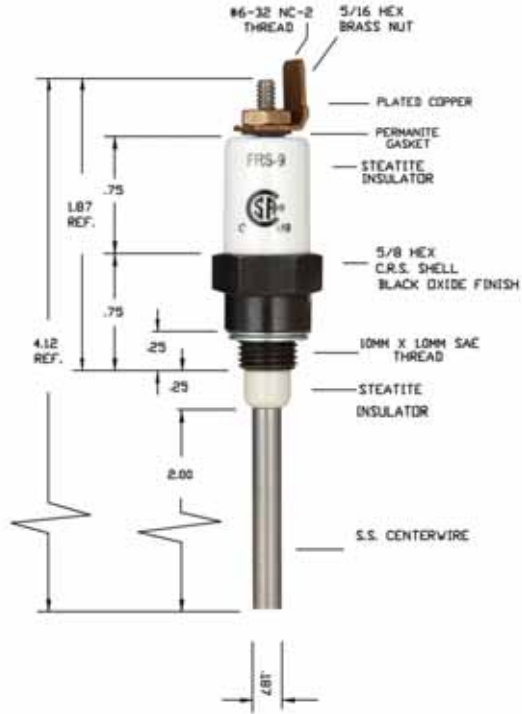


FRS-3



FRS-5

Flame Rods



Product	A - Dimension
FRS-9	2 inch c/w

FRS-9

3



Liquid Level Sensors

Auburn liquid level control electrodes are used in control systems that rely on the electrical conductivity of fluids. These products are ideal for controlling liquids and moisture levels in foods, dairy, drug and chemical processing. Additional applications include liquid level control in steam boilers, water heaters, supply tanks and sewage disposal systems.

Three series of Auburn liquid level control electrodes are offered to meet specific application requirements. The WCT series with Teflon insulation, the WCC series with ceramic insulation, and the WCC-KH series with Teflon protected ceramic and Kovar center wire. All metal components, unless stated otherwise are 303 and 304 stainless steel.

Liquid Level Sensors



Alumina Insulation WCC Series

Metal parts are 300 series non-magnetic stainless steel. Teflon insulation and seals are for applications up to 1,000 psi at 70Degrees F. and 400 deg F at 1 atmosphere, and will maintain their insulating properties when subjected to many corrosive chemicals.

Auburn Sales Symbol	SKU	HEX	Thread
WCC-12	13095	13/16	5/8-24 NEF
WCC-12-1	13099	13/16	5/8-24 NEF -3
WCC-1112	13097	7/8	1/2-14 NPT
WCC-1112-3	13583	7/8	1/2-14 NPT
WCC-1138	13096	13/16	3/8-18 PTF Short
WCC-1138-3	13100	7/8	3/8-18 PTF Short
WCC-1138L	14450	13/16	3/8-18 PTF Short

Alumina Insulation WCC (KH) Series

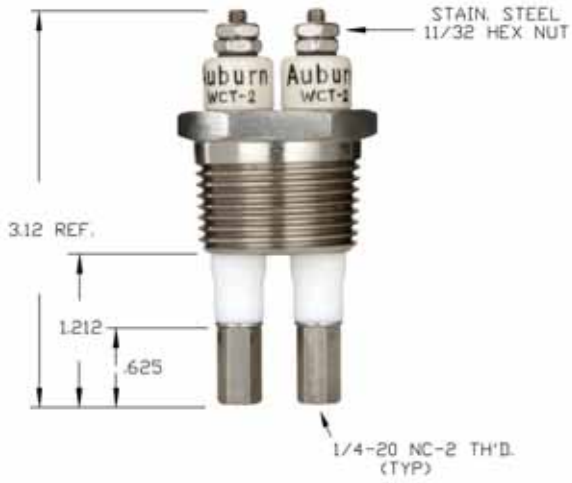
Metal parts are 300 series non-magnetic stainless steel. These control electrodes, with special insulator tip seals nad glass-sealed solid kovar center wire, are for applications up to 2500 PSI at 70°F and 450°F at 1 atmosphere.

Auburn Sales Symbol	SKU	HEX	Thread
WCC-12-1KH	13104	13/16	5/8-24 NEF -3
WCC-12KH	13101	13/16	5/8-24 NEF
WCC-12K UC	13369	13/16	5/8-24 NEF
WCC-1112KH	13103	7/8	1/2-14 NPT

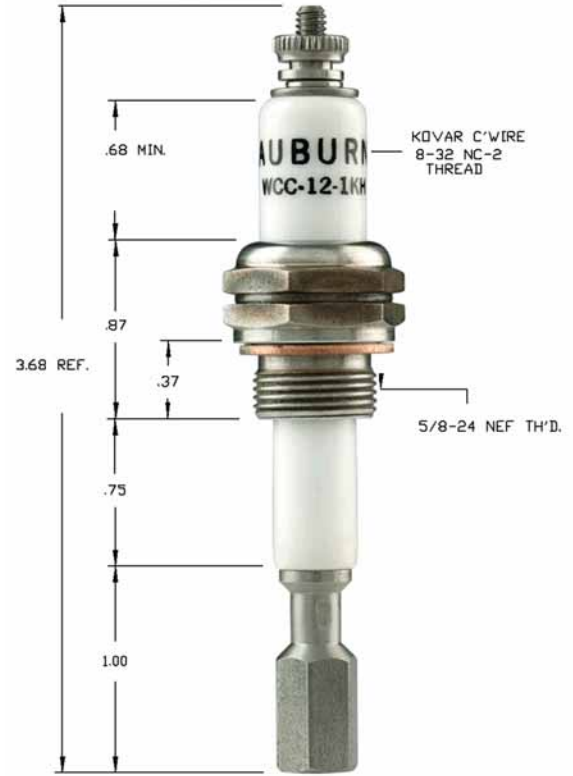
Teflon Insulation and seals WCT Series

WCT Series liquid level control electrodes are rated at 20 amperes at 250 volts, and can be used in steam applications up to 100 PSI at 337 deg F.

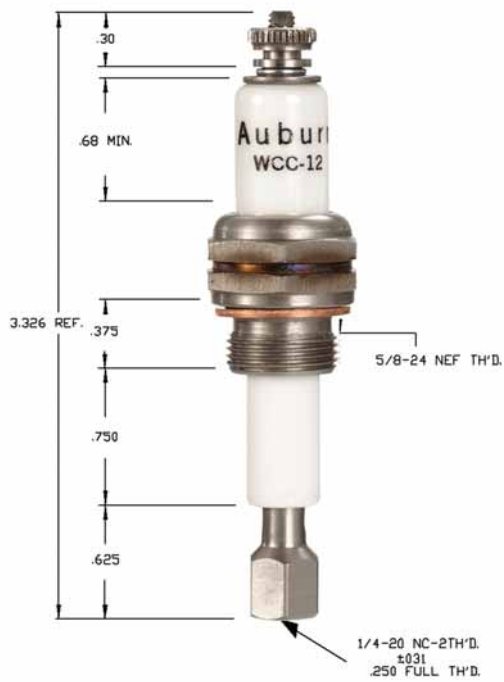
Auburn Sales Symbol	SKU	HEX	Thread
WCT-2	13092	13/16	1-11 1/2 PTF-SAE DHORT
WCT-90	13085	13/16	5/8-24 NEF-2
WCT-90-2	13089	13/16	5/8-24 NEF-2
WCT-912	13087	7/8	1/2-14 NPT
WCT-938	13086	13/16	3/8-18 PTF-SAE SHORT
WCTL-3814	13091	13/16	3/8-18 PTF-SAE SHORT
WCTL-38141S	13364	13/16	3/8-18 PTF Short



WCT-2

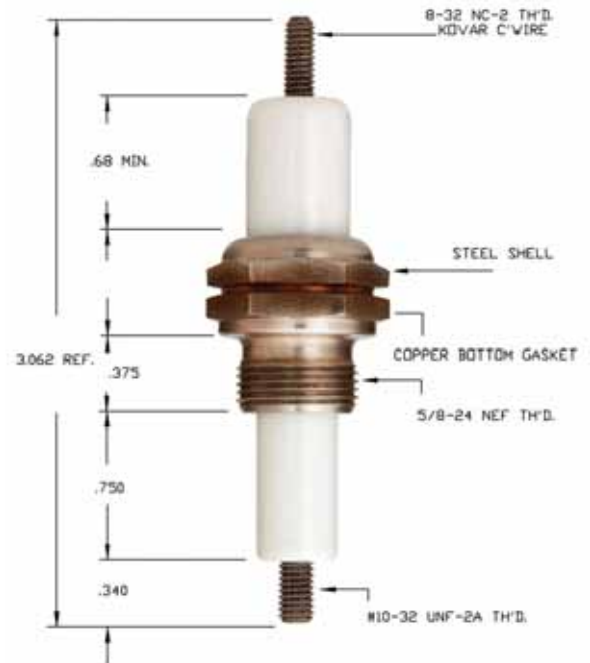


WCC-12-1KH



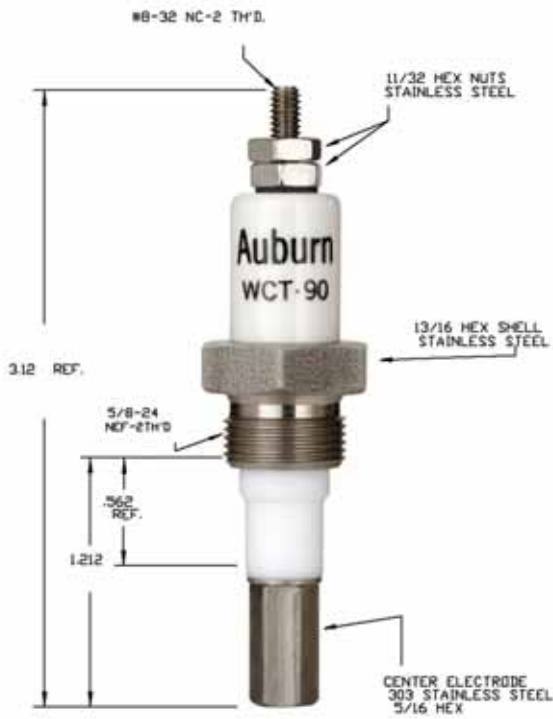
WCC-12	1/4-20 NC-2 thread
WCC-12-1	10-24NC-2 thread

WCC-12



WCC-12K-UC

Liquid Level Sensors

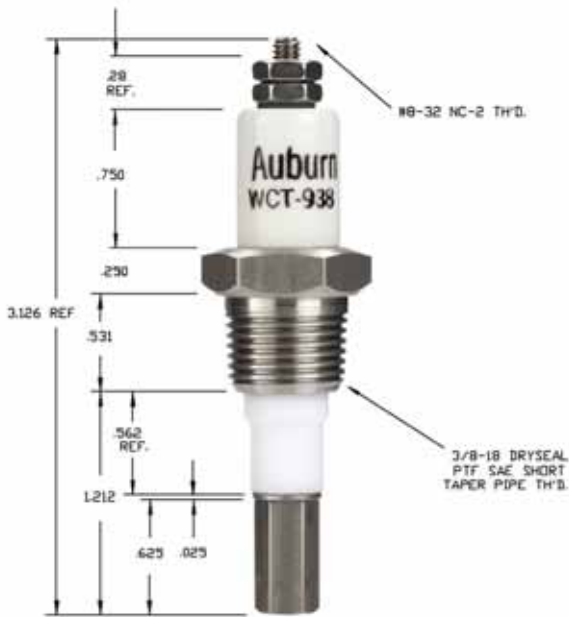


WCT-90

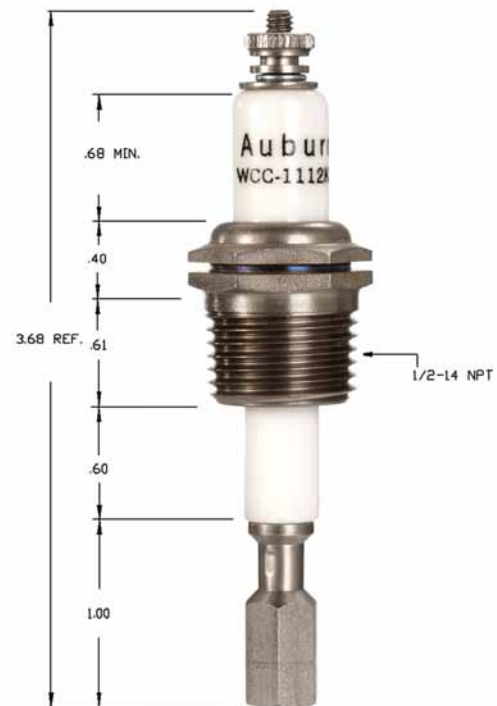


WCC-1112	1/4-20 NC-2 thread
WCC-1112-3	1/4-20 NC-2 thread with side connector

WCC-1112

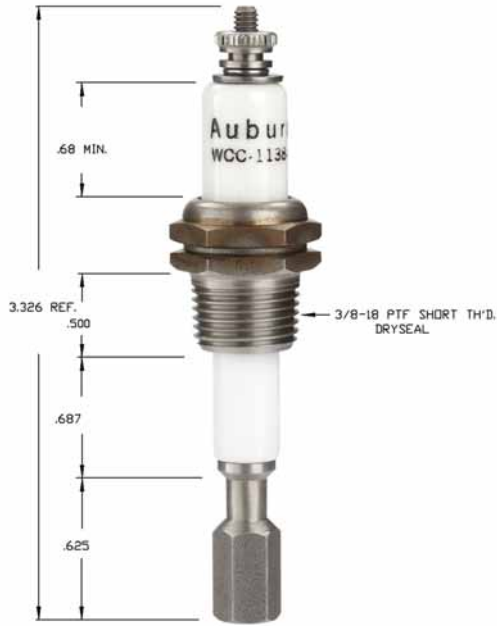


WCT-938



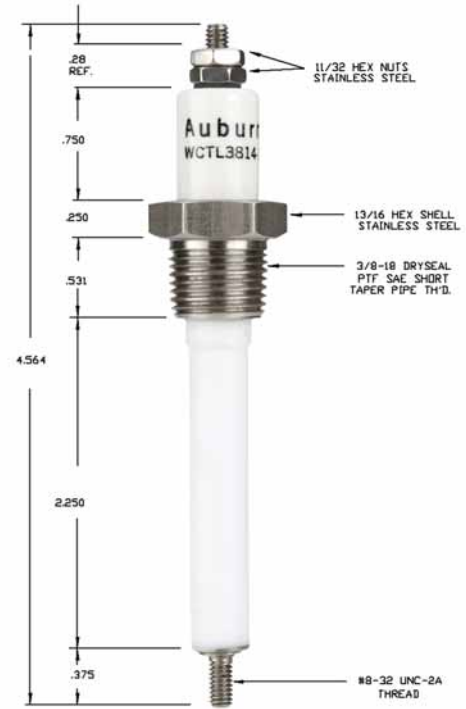
WCC-1112KH	10-24NC-2 thread
------------	------------------

WCC-1112KH



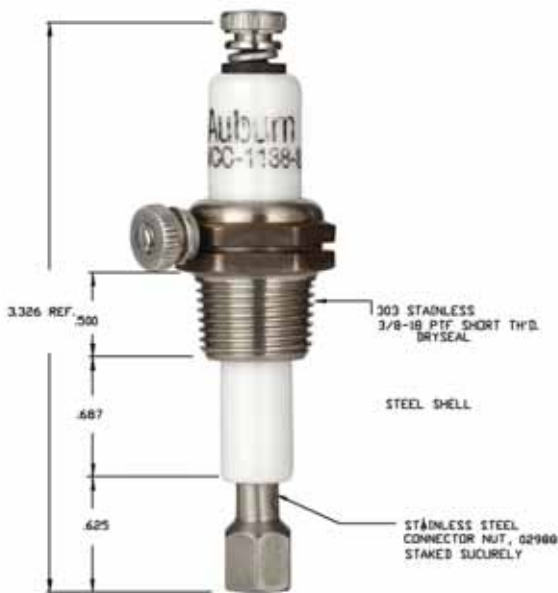
Product	Probe internal thread
WCC-1138	1/4-20NC - 2 THD
WCC-1138L	10-24 NC-2 THD

WCC-1138



WCTL 3814	solid centerwire
WCTL 3814IS	8-32 NC-2 Thread

WCC-3814-1



WCC-1138-3

4



Electric Feedthroughs

Auburn Feedthroughs are used in a wide variety of industrial applications, power transformers, switchgear, hermetically sealed compressors and motors.

Pressure Rating

Auburn electric feedthroughs are rated for pneumatic applications to 2500 psi at the temperature outlined for each specific product.

Maximum Operating Temperatures

No portion of the feedthrough may exceed the indicated temperature, regardless of the heat source. Higher temperatures may be permitted with application restrictions.

Current and Flash over ratings

Ratings listed are typical. Please contact customer service on for specific application information.

Installation Note

The use of two wrenches is recommended when connecting to our feedthroughs. Each has two brass nuts which should be tightened against each other. This eliminates possible damage to the seal.

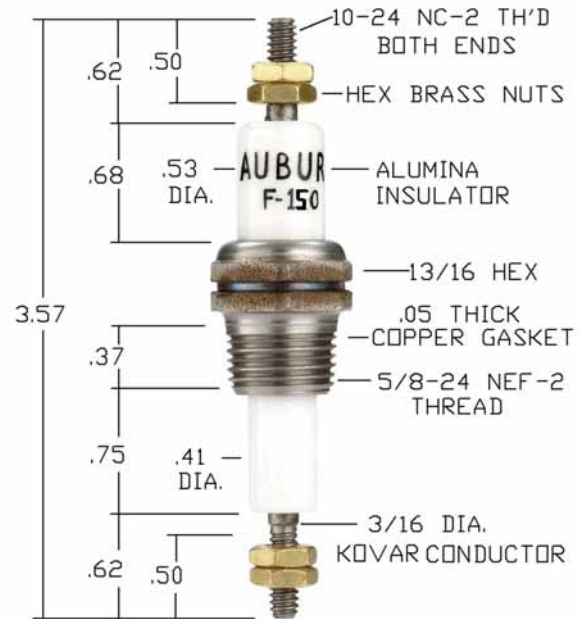
Electric Feedthroughs



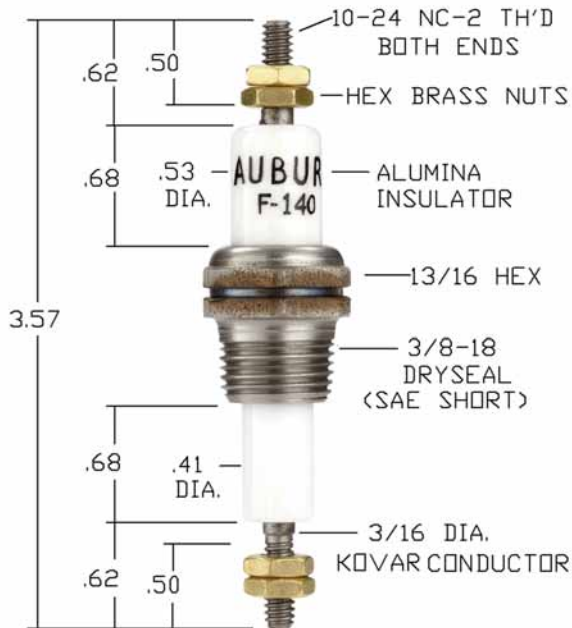
Auburn Sales Symbol	Conductor Material	Current Rating Amps	Flash-Over voltage (kV)	Max. Operating Temperature Deg (F)	Thread Mounting	Centerwire	HEX	Overall Length
F-68	Nickel	30	8	200	1/2 NPT	6-32 NC-2	7/8	4.28
F-140	Kovar	30	8	200	3/8-18 Dryseal	10-24 NC-2	13/16	3.57
F-150	Kovar	30	8	200	5/8-24 NEF-2	10-24 NC-2	13/16	3.57
F200-1	Brass	110	10	200	3/8-18 Dryseal	1/4-20 NC-2	13/16	4.45
F210-1H	Copper	175	8	200	3/8-18 Dryseal	1/4-20 NC-2	13/16	4.45
F220-1	Brass	105	8	200	5/8-18 NF-2	1/4-20 NC-2	13/16	4.45
F220-1B	Brass	105	8	200	5/8-18 NF-2	1/4-20 NC-2	13/16	4.20
F240LLH	Brass	105	14	200	1/2-14 NPT	1/4-20 NC-2	7/8	5.17
F250LLH	Copper	175	14	200	1/2-14 NPT	1/4-20 NC-2	7/8	5.17
F260LL	Brass	105	14	200	1/2-14 NPT	1/4-20 NC-2	7/8	5.71
F-310H	Copper	275	12	200	3/4-14 NPT	3/8-16 NC-2	1 1/8	5.23
F-351	Copper	275	12	200	7/8-14 UNF	3/8-16 NC-2	1 1/8	5.23
F-610	Copper	750	8	200	1-11-1/2 NPT	5/8-11 NC-2	1 3/8	5.91
F-630	Copper	750	10	200	1-11-1/2 NPT	5/8-11 NC-2	1 3/8	7.68
F-650-1	Copper	750	8	200	1 5/8	5/8-11 NC-2	1 5/16	6.56
F-670-1	Copper	750	10	200	1-11-1/2 NPT	5/8-11 NC-2	1 3/8	8.17
F-820	Copper	750	8	200	1 7/8-12 UN-2A	7/8-14 UNF-2A	2	8.37



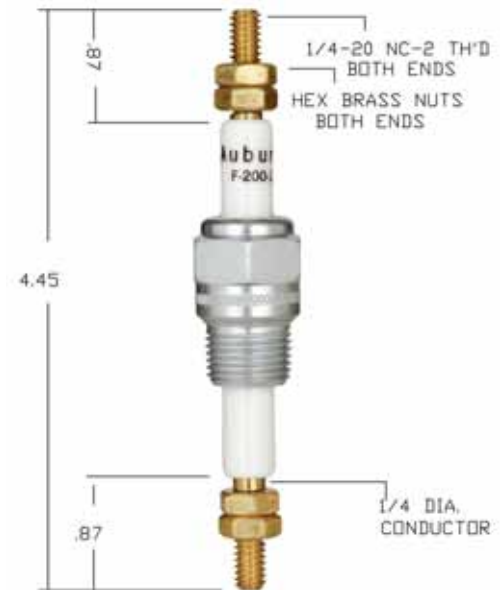
F-68



F150



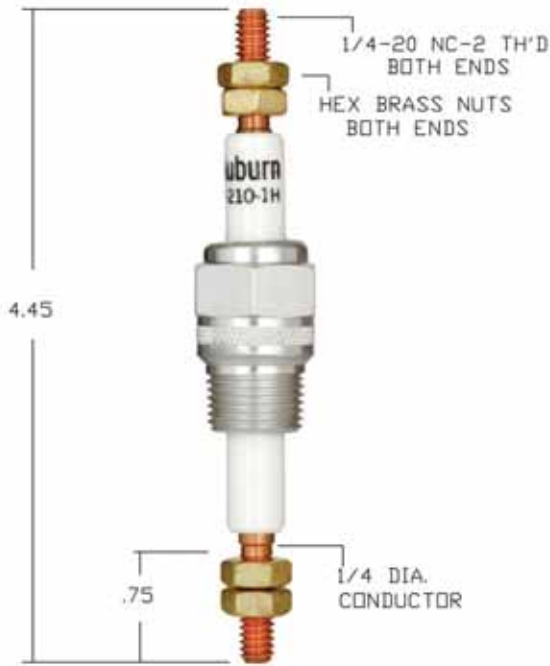
F140



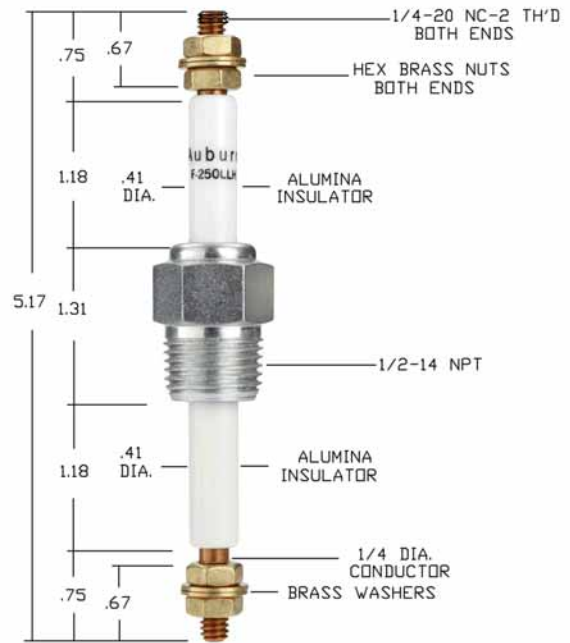
Product	Thread
F-200-1	3/3-18 dryseal
F220-1	5/8-18 NF-2
F-220-1B	5/8-18 NF-2

F-200-1

Electric Feedthroughs

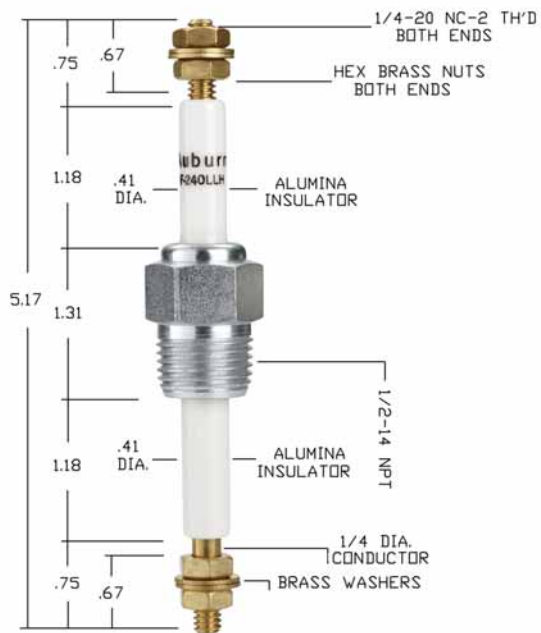


F-210-1H

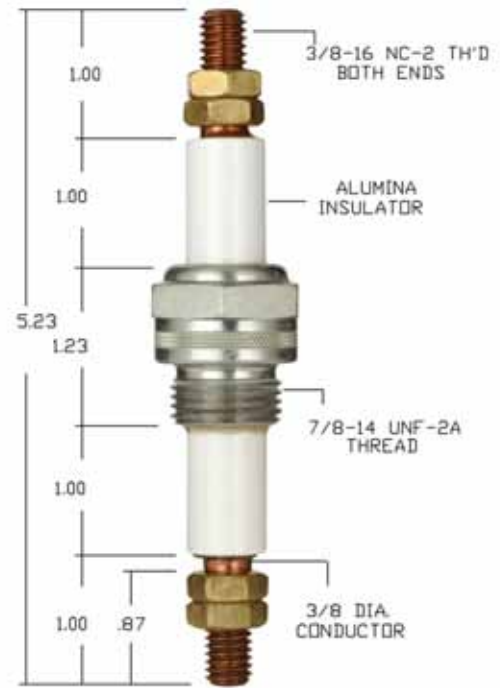


F-250LLH	Copper center wire
F-260 LL	Brass center wire

F-250LLH

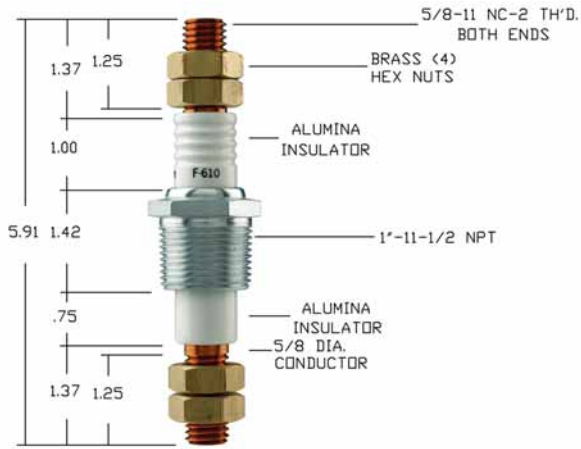


F240LLH

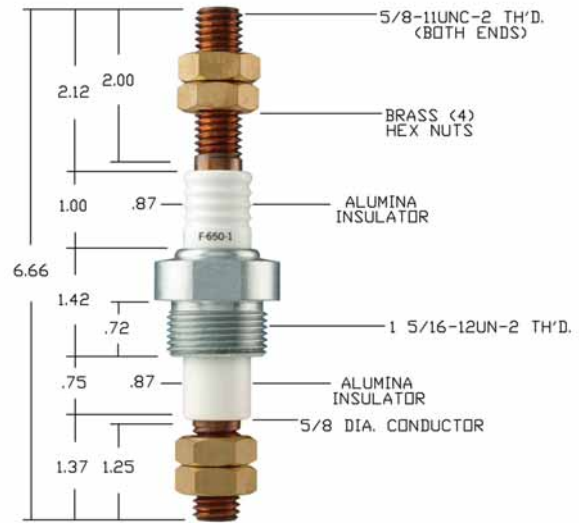


Product	Current rating	Thread
F-310H	275 Amps	3/4-14 NPT
F-351	275 Amps	7/8-14 UNF-2A

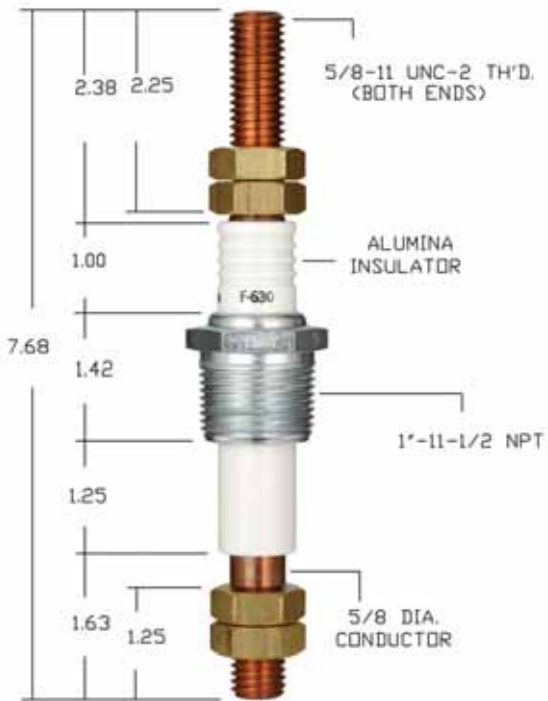
F-351



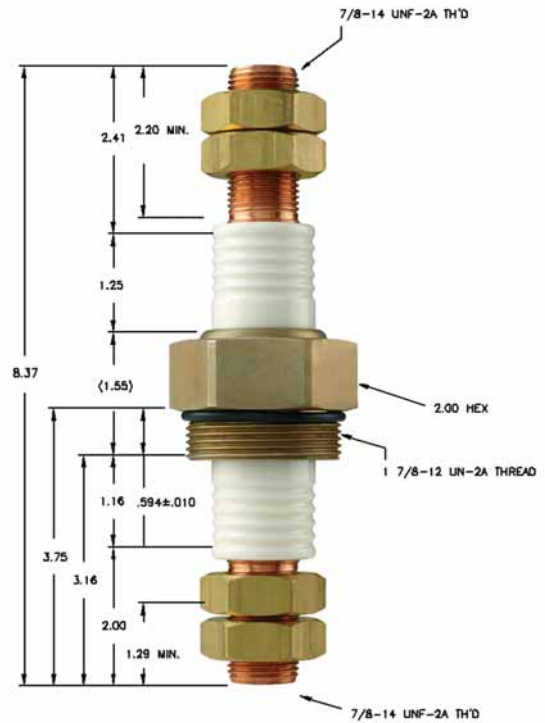
F610



F650-1



F-630



F-820

5



Observation Ports/ Additional Parts

Auburn observation ports remain leak proof under high pressure and at high temperatures because of unitized one-piece construction. Cico-weld eliminates the need for an organic gasket that can deteriorate under adverse pressure and temperature conditions. Pyrex viewing glass prevents cracking under rapidly changing operating temperatures.

Observation ports come in a wide range of viewing sizes and mounting threads for most standard OEM applications. Zinc plating is offered for application in corrosive environments.

Observation Ports/Additional Parts



Catalogue Number	"A" Thread Size	"B" HEX Size	"C" Diameter	Maximum Operating Pressure (PSI)	Maximum Operating Temperature
Sight Glass					
P-380	1/2-14 NPT	0.437	0.75	350	400° F
P-500	1/2-14 NPT	0.56	0.875	275	400° F
P-750	3/4-14 NPT	0.75	1.12	200	400° F
P-1000	1-11 1/2 NPT	0.9	1.375	150	400° F



P-380



P-750



P-500



P-1000

Observation Ports/Additional Parts



1099C



022046



021958



Auburn High Volt



Auburn High Volt Accessories



Rajah Clip 2



Liquid Level Sensor Nut



Rajah Clip 90 degree



© 2011 Federal-Mogul Corporation
Southfield, MI 48033
All Rights Reserved.