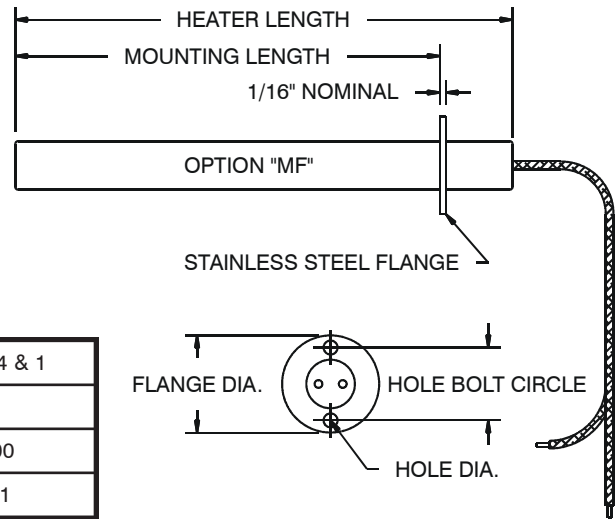


Round Cartridge Mounting Options

Option "MF" Mounting Flanges

These industry standard mounting flanges provide a means of securing the cartridge in a fixed position to prevent movement and creep due to conditions of mild vibration and thermal cycling. Standard flanges are often used to mount various external wiring devices including electrical boxes and plugs. Nonstandard flanges featuring special shapes, sizes and mounting hole configurations can be supplied when required. Standard flanges are manufactured from 300 series stainless steel and conform to the dimensions shown in the table below. Flanges must be located over an unheated area. To order, specify "MF" option and note the desired mounting location.

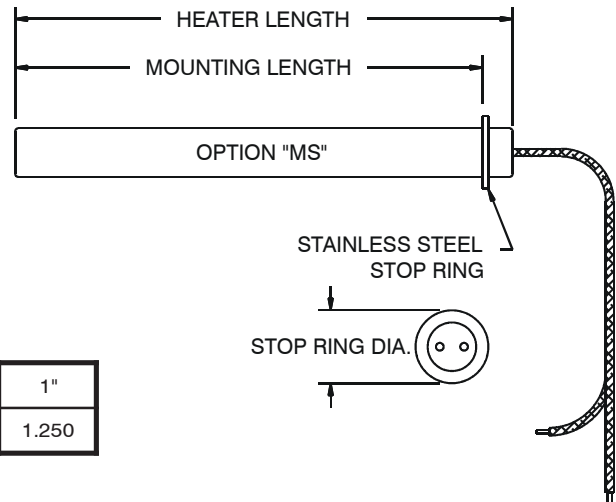
| | | | |
|------------------|----------------------|---------------------|--------------|
| Cartridge Dia. | 1/4, 5/16, 3/8 & 1/2 | 3/8, 1/2, 5/8 & 3/4 | 5/8, 3/4 & 1 |
| Flange Dia. | 1 | 1 1/2 | 2 |
| Hole Bolt Circle | .750 | 1.125 | 1.500 |
| Hole Dia. | .144 | .156 | .201 |



Option "MS" Stop Rings

The standard stainless steel stop ring provides a means of locating a cartridge at a specific and consistent location within a through drilled hole. By adding a drilled and tapped hole in close proximity to the heater, an appropriate screw can be used to capture the stop ring edge and secure the cartridge in position. Stop rings are manufactured from 300 series stainless steel and conform to the dimensions listed in the below table. Stop rings in special shapes and sizes can be supplied when required. Stop rings can be located at any position along the length of the cartridge, but must always be placed over a cold area. To order, specify "MS" option and include the desired mounting location in your order.

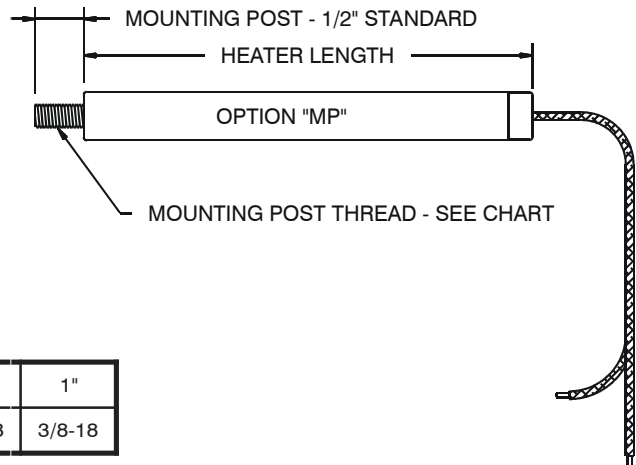
| | | | | | | | |
|----------------|------|-------|------|------|------|-------|-------|
| Cartridge Dia. | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" | 3/4" | 1" |
| Stop Ring Dia. | .500 | .562 | .625 | .750 | .875 | 1.000 | 1.250 |



Option "MP" Disc End Mounting Posts

The threaded disc end mounting post provides an alternative method of securing a cartridge heater in place in a heated block. The addition of an appropriate size washer with a nut to secure it in place will prevent the cartridge from backing out of the hole. This mounting method is often used in conjunction with a stop ring to secure a heater in position in applications where space restrictions prohibit the use of a mounting flange. The 1/2 inch long threaded post is securely attached to the heater and can also be used to assist in the removal of the cartridge for system maintenance. Standard mounting post thread specifications for various heater diameters are listed in the below table. To order, specify option "MP".

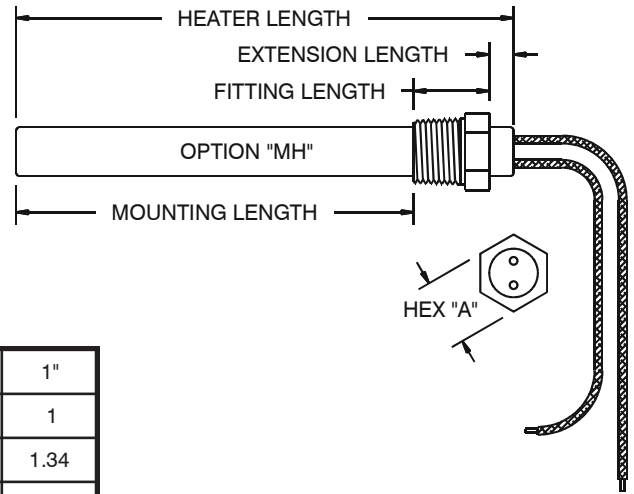
| | | | | | | | |
|------------------|------|-------|-------|--------|--------|--------|--------|
| Cartridge Dia. | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" | 3/4" | 1" |
| Mtg. Post Thread | 8-32 | 8-32 | 10-24 | 1/4-20 | 1/4-20 | 3/8-18 | 3/8-18 |



Round Cartridge Mounting Options

Option "MH" Hex Head Pipe Fittings

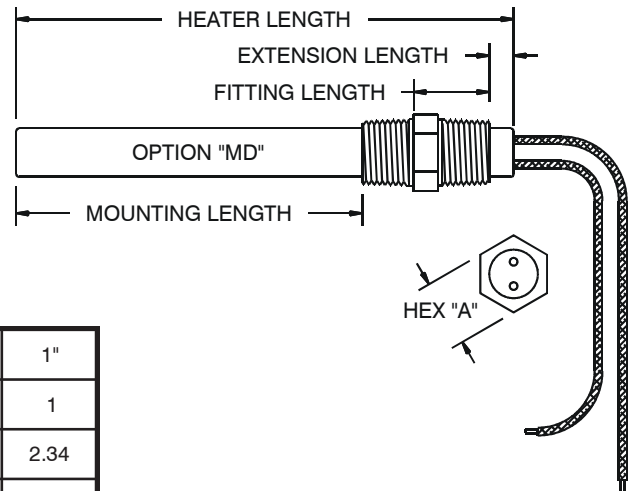
Standard hex head pipe fittings provide a leak resistant, cartridge mounting system for liquid filled container systems and piping. These fittings are also useful in securing heaters into non-immersion applications such as plattens and molds. Fittings can be located at any desired location but must always be located over unheated areas. Standard fitting location for straight lead styles is flush with the lead end of the heater, leaving no extension. Fitting location for 90 degree lead styles corresponds to the start of the standard lead extension. Fittings are available in brass, steel and stainless steel. Special fitting sizes and materials can be supplied when required. Please specify desired material and location when ordering.



| | | | | | | | |
|--------------------|------|-------|------|-------|------|--------|--------|
| Cartridge Dia. | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" | 3/4" | 1" |
| Fitting NPT Thread | 1/8 | 1/4 | 1/4 | 3/8 | 1/2 | 3/4 | 1 |
| Fitting Length | .56 | .75 | .75 | .78 | .97 | 1.15 | 1.34 |
| Hex "A" | 7/16 | 9/16 | 9/16 | 11/16 | 7/8 | 1 1/16 | 1 5/16 |

Option "MD" Double End Hex Head Pipe Fittings

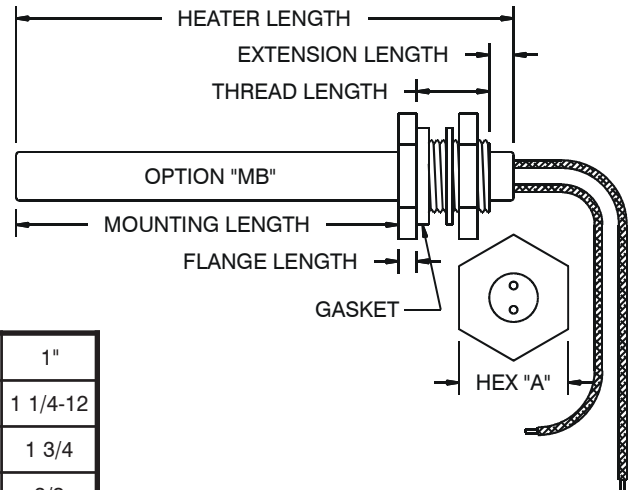
The double end pipe nipples provide a leak resistant, cartridge mounting system for liquid applications and provides for mounting of boxes for lead protection. Fittings can be located at any desired location but must always be located over unheated areas. Standard fitting location for straight lead styles is flush with the lead end of the heater, leaving no extension. In the case of 90 degree leads the standard fitting location corresponds to the start of the standard lead extension. Fittings are available in brass, steel and stainless steel. Special fitting sizes and materials can also be supplied when required. Please specify desired material and mounting location when ordering.



| | | | | | | | |
|--------------------|------|-------|------|-------|------|--------|--------|
| Cartridge Dia. | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" | 3/4" | 1" |
| Fitting NPT Thread | 1/8 | 1/4 | 1/4 | 3/8 | 1/2 | 3/4 | 1 |
| Fitting Length | 1.06 | 1.45 | 1.45 | 1.45 | 1.89 | 1.97 | 2.34 |
| Hex "A" | 7/16 | 9/16 | 9/16 | 11/16 | 7/8 | 1 1/16 | 1 5/16 |

Option "MB" Bulkhead Fittings

The bulkhead style fittings are useful in air and gas heating applications involving thin wall containers and can also be used to attach protective electrical boxes to the heater. Fittings can be positioned at any location but must be over an unheated zone. The standard fitting location for straight lead styles is flush with the lead end of the heater, leaving no extension. The 90 degree lead styles are not recommended due to difficulty of installation. Fittings are available in brass, steel and stainless steel and are supplied complete with gasket, washer and nut. Special fitting sizes and materials can also be supplied if required. Please specify desired material and bulkhead mounting location when ordering.



| | | | | | | | |
|---------------------|--------|--------|--------|--------|--------|-------|----------|
| Cartridge Dia. | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" | 3/4" | 1" |
| Fitting Thread Size | 1/2-20 | 1/2-20 | 1/2-20 | 5/8-18 | 3/4-16 | 1-12 | 1 1/4-12 |
| Thread Length | 3/4 | 3/4 | 3/4 | 1 | 1 | 1 1/4 | 1 3/4 |
| Flange Length | 3/16 | 3/16 | 3/16 | 1/4 | 1/4 | 3/8 | 3/8 |
| Hex "A" | 3/4 | 3/4 | 3/4 | 15/16 | 1 1/8 | 1 1/2 | 2 1/4 |