

**INSTALLATION HARDWARE REFERENCE GUIDE  
FOR INSERTION ELECTROMAGNETIC FLOW METERS**

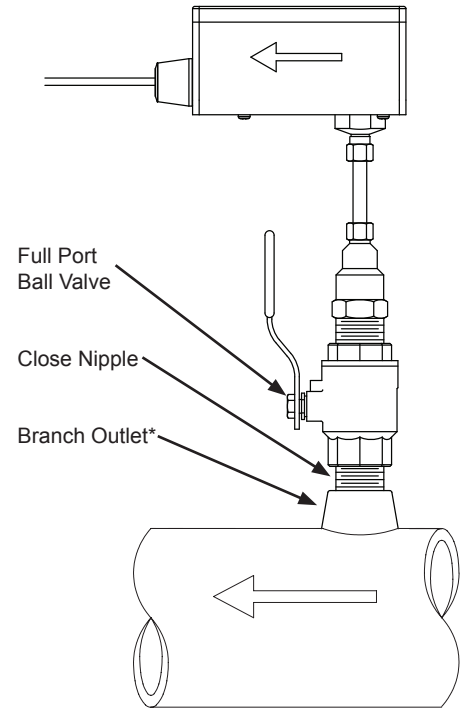


All ONICON insertion type meters can be installed and removed via a 1" or larger full port ball valve without system shutdown. The terms "Standard" and "Hot Tap" refer to the installation method of the isolation valve kit only.

**Standard Installation Hardware:** For new construction or scheduled shutdown. Once kit is installed, the flow meter can be installed or removed without system shutdown.

**Hot Tap Installation Hardware:** For applications which require the access hole in the pipe to be drilled through the valve using a wet tap drilling machine while the hydronic system is pressurized and operating.

The most commonly ordered installation kits are listed below. For a complete list of installation kits offered by ONICON refer to the next two pages.



\* Weld-on fitting, copper tee or saddle

Pipe Material	Kit Description	Items Included With Kit	Item Number
Carbon Steel/Black Iron	<b>Standard</b> flow meter installation kit for 3" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• 1" weld-on carbon steel branch outlet</li> </ul>	INSTL1
	<b>Hot tap</b> flow meter installation kit for 3" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• 1 1/4" weld-on carbon steel branch outlet</li> </ul>	INSTL2
	<b>Standard</b> flow meter installation kit for 3" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" copper street adapter with MNPT threads</li> <li>• Copper tee with 1" outlet</li> </ul>	INSTL4
	<b>Standard</b> flow meter installation kit for 4" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" copper street adapter with MNPT threads</li> <li>• 1" copper tee with 1" outlet</li> </ul>	INSTL9
	<b>Hot tap</b> flow meter installation kit for 3" to 6" copper tube	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• SS clamp-on saddle with 1 1/4" outlet</li> </ul>	INSTL22



## STANDARD INSTALLATION HARDWARE FOR INSERTION FLOW METERS

All ONICON insertion flow meters can be installed and removed via a 1" or larger full port ball valve without system shutdown. The terms "Standard" and "Hot Tap" refer to the installation kit types only.



### How to use this selection guide:

1. Select the type of installation hardware required, either Standard or Hot Tap.
2. Choose the pipe material.
3. Choose the Installation Kit based on material preference and/or pipe size.

- **Standard Installation Hardware:** For new construction or scheduled shutdown. Once the kit is installed, the flow meter can be installed or removed without stopping flow.
- **Hot Tap Installation Hardware:** For applications which require the access hole in the pipe to be drilled through the valve using a wet tap drilling machine while the hydronic system is pressurized and operating. \* Saddles may include a 1" bushing.

TYPE	PIPE MATERIAL	KIT DESCRIPTION	ITEMS INCLUDED IN KIT	ITEM NUMBER
STD	Carbon Steel/ Black Iron (welded pipe)	Installation kit for 3" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• 1" weld-on carbon steel branch outlet</li> </ul>	INSTL1
		Stainless steel installation kit for 3" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• 1" weld-on carbon steel branch outlet</li> </ul>	INSTL5
STD	Copper Tube	Installation kit for 3" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" copper street adapter with MNPT threads</li> <li>• Copper tee with 1" outlet</li> </ul>	INSTL4
		Installation kit for 4" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" copper street adapter with MNPT threads</li> <li>• Copper tee with 1" outlet</li> </ul>	INSTL9
STD	Cement-Lined Ductile Iron	Installation kit for 3" to 6" cement-lined ductile iron	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Clamp-on saddle with 1" outlet*</li> </ul>	INSTL10
		Installation kit for 8" to 16" cement-lined ductile iron	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Clamp-on saddle with 1" outlet*</li> </ul>	INSTL11
		Stainless steel installation kit for 3" to 16" cement-lined ductile iron	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• SS clamp-on saddle with 1" outlet*</li> </ul>	INSTL12
STD	PVC	Installation kit for 3" to 6" PVC pipe	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Bronze clamp-on saddle with 1" outlet*</li> </ul>	INSTL13
		Installation kit for 8" to 12" PVC pipe	<ul style="list-style-type: none"> <li>• 1" full port bronze ball valve</li> <li>• 1" brass close nipple</li> <li>• Bronze clamp-on saddle with 1" outlet*</li> </ul>	INSTL14
		Stainless steel/PVC installation kit for 3" and 4" PVC pipe (for process and industrial applications)	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• Sch. 80 PVC saddle with 1" outlet</li> </ul>	INSTL15
		Stainless steel/PVC installation kit for 6" PVC pipe (for process applications)	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• Sch. 80 PVC saddle with 1" outlet</li> </ul>	INSTL16
		Stainless steel installation kit for 8" to 12" PVC pipe	<ul style="list-style-type: none"> <li>• 1" full port SS ball valve</li> <li>• 1" SS close nipple</li> <li>• SS clamp-on saddle with 1" outlet*</li> </ul>	INSTL17
STD	Stainless Steel	Stainless steel installation kit for stainless steel pipe	<ul style="list-style-type: none"> <li>1" full port SS ball valve</li> <li>1" SS close nipple</li> <li>1" SS weld-on branch outlet</li> </ul>	INSTL18

# HOT TAP INSTALLATION HARDWARE FOR INSERTION FLOW METERS

All ONICON insertion flow meters can be installed and removed via a 1" or larger full port ball valve without system shutdown. The terms "Standard" and "Hot Tap" refer to the installation kit types only.



### How to use this selection guide:

1. Select the type of installation hardware required, either Standard or Hot Tap.
2. Choose the pipe material.
3. Choose the Installation Kit based on material preference and/or pipe size.

- **Standard Installation Hardware:** For new construction or scheduled shutdown. Once the kit is installed, the flow meter can be installed or removed without stopping flow.
- **Hot Tap Installation Hardware:** For applications which require the access hole in the pipe to be drilled through the valve using a wet tap drilling machine while the hydronic system is pressurized and operating. \* **Saddles may include a 1 1/4" bushing**

TYPE	PIPE MATERIAL	KIT DESCRIPTION	ITEMS INCLUDED IN KIT	ITEM NUMBER
HTAP	Carbon Steel/ Black Iron (welded pipe)	Hot tap installation kit for 3" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• 1 1/4" weld-on carbon steel branch outlet</li> </ul>	INSTL2
		Stainless steel hot tap installation kit for 3" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• 1 1/4" weld-on carbon steel branch outlet</li> </ul>	INSTL6
HTAP	Carbon Steel/ Black Iron (threaded pipe)	Hot tap installation kit for <u>threaded</u> steel pipe (3" and up)	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Bronze/ductile iron clamp-on saddle with 1 1/4" outlet</li> </ul>	INSTL19
		Stainless steel hot tap installation kit for <u>threaded</u> steel pipe (3" and up)	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• Bronze/ductile iron clamp-on saddle with 1 1/4" outlet</li> </ul>	INSTL20
HTAP	Copper Tube	Hot tap installation kit for 3" to 6" copper tube Items comply with NSF61	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• SS clamp-on saddle with 1 1/4" outlet*</li> </ul>	INSTL22
HTAP	Cement-Lined Ductile Iron	Hot tap installation kit for 3" to 6" cement-lined ductile iron	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Clamp-on saddle with 1 1/4" outlet*</li> </ul>	INSTL23
		Hot tap installation kit for 8" to 16" cement-lined ductile iron	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Clamp-on saddle with 1 1/4" outlet*</li> </ul>	INSTL24
		Stainless steel hot tap installation kit for 3" to 6" cement-lined ductile iron	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• SS clamp-on saddle with 1 1/4" outlet*</li> </ul>	INSTL25
		Stainless steel hot tap installation kit for 8" to 16" cement-lined ductile iron	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• SS clamp-on saddle with 1 1/4" outlet*</li> </ul>	INSTL26
HTAP	PVC	Hot tap installation kit for 3" to 6" PVC pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Bronze clamp-on saddle with 1 1/4" outlet*</li> </ul>	INSTL27
		Hot tap installation kit for 8" to 12" PVC pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port bronze ball valve</li> <li>• 1 1/4" brass close nipple</li> <li>• 1 1/4" x 1" brass reducing bushing</li> <li>• Bronze clamp-on saddle with 1 1/4" outlet*</li> </ul>	INSTL28
		Stainless steel hot tap installation kit for 3" to 6" PVC pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• SS clamp-on saddle with 1 1/4" outlet*</li> </ul>	INSTL29
		Stainless steel hot tap installation kit for 8" to 12" PVC pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• SS clamp-on saddle with 1 1/4" outlet*</li> </ul>	INSTL30
HTAP	Stainless Steel	Hot tap installation kit for stainless steel pipe	<ul style="list-style-type: none"> <li>• 1 1/4" full port SS ball valve</li> <li>• 1 1/4" SS close nipple</li> <li>• 1 1/4" x 1" SS reducing bushing</li> <li>• 1 1/4" weld-on SS branch outlet</li> </ul>	INSTL31