

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

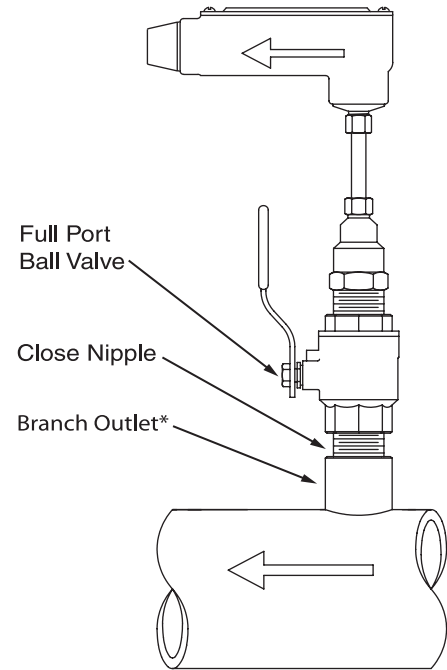


All ONICON insertion type meters can be installed and removed via a 1" or larger full port ball valve without system shutdown. The terms "Standard" and "Hot Tap" refer to the installation method of the isolation valve kit only.

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	Standard flow meter installation kit for 1¼" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" brass close nipple • 1" weld-on carbon steel branch outlet 	INSTL1
	Standard flow meter installation kit for 1¼" to 2½" <u>threaded</u> steel pipe	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" brass close nipple • (pipe dia x 12" long) threaded nipple with 1" NPT outlet 	INSTL7
	Hot tap flow meter installation kit for 1¼" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> • 1¼" full port bronze ball valve • 1¼" brass close nipple • 1¼" x 1" brass reducing bushing • 1¼" weld-on carbon steel branch outlet 	INSTL2
Copper Tube (priced by size)	Standard flow meter installation kit for 1" to 2" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" copper street adapter with MNPT threads • Copper tee with 1" outlet *1" kit includes tee with 1¼" outlet and bushing 	INSTL3
	Standard flow meter installation kit for 2½" to 3" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" copper street adapter with MNPT threads • Copper tee with 1" outlet 	INSTL4
	Standard flow meter installation kit for 4" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" copper street adapter with MNPT threads • 1" copper tee with 1" outlet 	INSTL9
	Hot tap flow meter installation kit for 2½" to 6" copper tube	<ul style="list-style-type: none"> • 1¼" full port bronze ball valve • 1¼" brass close nipple • 1¼" x 1" brass reducing bushing • SS clamp-on saddle with 1¼" outlet 	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 1¼" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" brass close nipple • 1" weld-on carbon steel branch outlet 	INSTL1
		Stainless steel installation kit for 1¼" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> • 1" full port SS ball valve • 1" SS close nipple • 1" weld-on carbon steel branch outlet 	INSTL5
STD	Carbon Steel/ Black Iron (threaded pipe)	Installation kit for 1¼" - 2½" <u>threaded</u> steel pipe	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" brass close nipple • (pipe dia. x 12" long) threaded nipple 1" NPT outlet 	INSTL7
		Stainless steel installation kit for 1¼" to 2½" <u>threaded</u> steel pipe	<ul style="list-style-type: none"> • 1" full port SS ball valve • 1" SS close nipple • (pipe dia. x 12" long) threaded nipple 1" NPT outlet 	INSTL8
STD	Copper Tube	Installation kit for 1" to 2" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" copper street adapter with MNPT threads • Copper tee with 1" outlet *1" kit includes tee with ¼" outlet and bushing 	INSTL3
		Installation kit for 2½" to 3" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" copper street adapter with MNPT threads • Copper tee with 1" outlet 	INSTL4
		Installation kit for 4" copper tube Items comply with NSF61.	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" copper street adapter with MNPT threads • Copper tee with 1" outlet 	INSTL9
STD	Cement-Lined Ductile Iron	Installation kit for 3" to 6" cement-lined ductile iron	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" brass close nipple • Clamp-on saddle with 1" outlet* 	INSTL10
		Installation kit for 8" to 16" cement-lined ductile iron	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" brass close nipple • Clamp-on saddle with 1" outlet* 	INSTL11
		Stainless steel installation kit for 3" to 16" cement-lined ductile iron	<ul style="list-style-type: none"> • 1" full port SS ball valve • 1" SS close nipple • SS clamp-on saddle with 1" outlet* 	INSTL12
STD	PVC	Installation kit for 1½" to 6" PVC pipe	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" brass close nipple • Bronze clamp-on saddle with 1" outlet* 	INSTL13
		Installation kit for 8" to 12" PVC pipe	<ul style="list-style-type: none"> • 1" full port bronze ball valve • 1" brass close nipple • Bronze clamp-on saddle with 1" outlet* 	INSTL14
		Stainless steel/PVC installation kit for 2" to 4" PVC pipe (for process and industrial applications)	<ul style="list-style-type: none"> • 1" full port SS ball valve • 1" SS close nipple • Sch. 80 PVC saddle with 1" outlet 	INSTL15
		Stainless steel/PVC installation kit for 6" PVC pipe (for process applications)	<ul style="list-style-type: none"> • 1" full port SS ball valve • 1" SS close nipple • Sch. 80 PVC saddle with 1" outlet 	INSTL16
		Stainless steel installation kit for 8" to 12" PVC pipe	<ul style="list-style-type: none"> • 1" full port SS ball valve • 1" SS close nipple • SS clamp-on saddle with 1" outlet* 	INSTL17
STD	Stainless Steel	Stainless steel installation kit for stainless steel pipe	<ul style="list-style-type: none"> 1" full port SS ball valve 1" SS close nipple 1" SS weld-on branch outlet 	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 1 1/4" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> • 1 1/4" full port bronze ball valve • 1 1/4" brass close nipple • 1 1/4" x 1" brass reducing bushing • 1 1/4" weld-on carbon steel branch outlet 	INSTL2
		Stainless steel hot tap installation kit for 1 1/4" and larger <u>welded</u> steel pipe	<ul style="list-style-type: none"> • 1 1/4" full port SS ball valve • 1 1/4" SS close nipple • 1 1/4" x 1" SS reducing bushing • 1 1/4" weld-on carbon steel branch outlet 	INSTL6
HTAP	Carbon Steel/ Black Iron (threaded pipe)	Hot tap installation kit for <u>threaded</u> steel pipe (1 1/2" and up)	<ul style="list-style-type: none"> • 1 1/4" full port bronze ball valve • 1 1/4" brass close nipple • 1 1/4" x 1" brass reducing bushing • Bronze/ductile iron clamp-on saddle with 1 1/4" outlet 	INSTL19
		Stainless steel hot tap installation kit for <u>threaded</u> steel pipe (1 1/2" and up)	<ul style="list-style-type: none"> • 1 1/4" full port SS ball valve • 1 1/4" SS close nipple • 1 1/4" x 1" SS reducing bushing • Bronze/ductile iron clamp-on saddle with 1 1/4" outlet 	INSTL20
HTAP	Copper Tube	Hot tap installation kit for 2" copper tube Items comply with NSF61	<ul style="list-style-type: none"> • 1 1/4" full port bronze ball valve • 1 1/4" SS close nipple • 1 1/4" x 1" SS reducing bushing • Ductile iron or SS clamp-on saddle with 1 1/4" outlet 	INSTL21
		Hot tap installation kit for 2 1/2" to 6" copper tube Items comply with NSF61	<ul style="list-style-type: none"> • 1 1/4" full port bronze ball valve • 1 1/4" SS close nipple • 1 1/4" x 1" SS reducing bushing • SS clamp-on saddle with 1 1/4" outlet* 	INSTL22
HTAP	Cement-Lined Ductile Iron	Hot tap installation kit for 3" to 6" cement-lined ductile iron	<ul style="list-style-type: none"> • 1 1/4" full port bronze ball valve • 1 1/4" brass close nipple • 1 1/4" x 1" brass reducing bushing • Clamp-on saddle with 1 1/4" outlet* 	INSTL23
		Hot tap installation kit for 8" to 16" cement-lined ductile iron	<ul style="list-style-type: none"> • 1 1/4" full port bronze ball valve • 1 1/4" brass close nipple • 1 1/4" x 1" brass reducing bushing • Clamp-on saddle with 1 1/4" outlet* 	INSTL24
		Stainless steel hot tap installation kit for 3" to 6" cement-lined ductile iron	<ul style="list-style-type: none"> • 1 1/4" full port SS ball valve • 1 1/4" SS close nipple • 1 1/4" x 1" SS reducing bushing • SS clamp-on saddle with 1 1/4" outlet* 	INSTL25
		Stainless steel hot tap installation kit for 8" to 16" cement-lined ductile iron	<ul style="list-style-type: none"> • 1 1/4" full port SS ball valve • 1 1/4" SS close nipple • 1 1/4" x 1" SS reducing bushing • SS clamp-on saddle with 1 1/4" outlet* 	INSTL26
HTAP	PVC	Hot tap installation kit for 1 1/2" to 6" PVC pipe	<ul style="list-style-type: none"> • 1 1/4" full port bronze ball valve • 1 1/4" brass close nipple • 1 1/4" x 1" brass reducing bushing • Bronze clamp-on saddle with 1 1/4" outlet* 	INSTL27
		Hot tap installation kit for 8" to 12" PVC pipe	<ul style="list-style-type: none"> • 1 1/4" full port bronze ball valve • 1 1/4" brass close nipple • 1 1/4" x 1" brass reducing bushing • Bronze clamp-on saddle with 1 1/4" outlet* 	INSTL28
		Stainless steel hot tap installation kit for 2" to 6" PVC pipe	<ul style="list-style-type: none"> • 1 1/4" full port SS ball valve • 1 1/4" SS close nipple • 1 1/4" x 1" SS reducing bushing • SS clamp-on saddle with 1 1/4" outlet* 	INSTL29
		Stainless steel hot tap installation kit for 8" to 12" PVC pipe	<ul style="list-style-type: none"> • 1 1/4" full port SS ball valve • 1 1/4" SS close nipple • 1 1/4" x 1" SS reducing bushing • SS clamp-on saddle with 1 1/4" outlet* 	INSTL30
HTAP	Stainless Steel	Hot tap installation kit for stainless steel pipe	<ul style="list-style-type: none"> • 1 1/4" full port SS ball valve • 1 1/4" SS close nipple • 1 1/4" x 1" SS reducing bushing • 1 1/4" weld-on SS branch outlet 	INSTL31