VALVE FITTING INSTALLATION

INSTALLING FITTINGS TO VALVE PORTS

AAA PRODUCTS VALVE PORTS:

All standard AAA Products International valve ports are NPTF threads. Fittings should be NPTF and installed properly with sealant. **Caution:** Over torquing of fittings can cause cracking in the valve body and preventing a leak-tight connection and proper valve operation.

THREAD DEFINITIONS:

NPTF threads for both fittings and ports are different from NPT threads. NPT threads are designed to screw together with no interference between the root and crest of the threads. In order for NPT connections to create a leak free joint, sealant is not only an option but a requirement. NPTF threads are designed to have interference between both the root and crest of each thread. This interference forces a crushing of the thread forms to create a seal. Because of this thread deformation, the removal or backing of the fitting will create a leak. Although in most applications a leak-tight seal can be created with only a lubricant, sealant is still recommended. Use of a sealant is recommended to reduce the required torque to create a seal, plus reduce the potential for galling of the joint. Although NPTF and NPT fittings differ in thread forms, they can be assembled together with a sealant to create a leak-tight seal.Teflon tape is not recommended for use in systems that have sealing requirements. Teflon tape can create long strands that interfere with valve sealing.

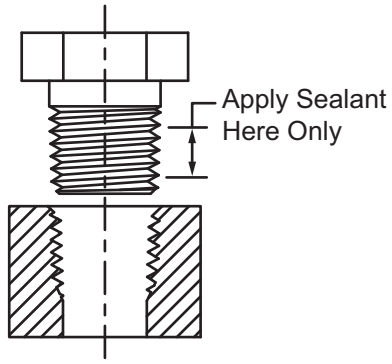
ASSEMBLY TECHNIQUES:

Method A: Torque Value

1. Inspect components for damage or contamination.
2. Apply compatible sealant to male threads.
3. Screw fitting into port until hand tight. For shape fittings, take note of the intended alignment of the mating connectors.
4. For straight fittings, tighten to recommended torque. For shape fittings, turns should be made to the desired orientation without exceeding the maximum torque.

Method B: Turns from Finger Tight

1. Inspect components for damage or contamination.
2. Apply compatible sealant to male threads.
3. Screw fitting into port until hand tight.
4. Use wrench to install fitting using the standard number of turns indicated in the table, not to exceed the maximum number of turns.



Pipe Size	Ft. Lbs.		Turns from Finger Tight	
	Rcmd.	Max.	Std. Turns	Max. Turns
1/8	10	12	3/4-1 3/4	2.5
1/4	20	25	3/4-1 3/4	2.5
3/8	32	40	3/4-1 3/4	2.5
1/2	43	54	1/2-1 1/2	2.0
3/4	62	78	1/2-1 1/2	2.0
1	90	112	1/2-1 1/2	2.0
1-1/2	170	211	1/2-1 1/2	2.0
2	240	300	1/2-1 1/2	2.0

Method C: By Feel

Most screwed fittings are tightened until it feels “right” and the fitting is pointing in the desired direction. What the experienced installer is often “feeling” is how the fitting is getting tight.Screw it into until it starts to seat. Then up the force a little by yanking. If each yank gives less movement, you probably have a sound joint. If the movement stops suddenly, you have probably bottomed out. The experienced installer knows when to stop before damaging the fitting or the port. **Caution:** excessive torque of tapered pipe fittings into a port can crack the port housing. This is especially true when using Teflon tape because the low friction of Teflon makes it easy to over-tighten. The use of Teflon tape is not recommended because the tape may enter the circuit and cause failure of downstream components (including the valve) to seal.

Note: Due to the variety of factors of installing pipe fittings into AAA Products International valves, these methods are only an approximation for creating a leak-tight seal. Installation should be completed **ONLY** by experienced personnel.Torque is not always practical with tapered pipe fittings because of the wide differences in friction (material, pipe dope, lubricant). Torque will sometimes get you in trouble.