FITTING ASSEMBLY GUIDELINES

Understanding the proper preparation and assembly of high pressure fittings and components is critical to the safe operation and longevity of your tools and equipment.

TAPERED PIPE THREADS

Tapered pipe threads (NPT) seal by contact of threads. A paste type anti-seize compound such as Parker Thread-Mate™ along with thread sealing tape works most effectively with NPT threads.

- Use anti-seize compound on male thread, then 2–3 wraps of Teflon® tape (if larger than 3/4 NPT, use 3–4 wraps).
- Prepared fittings should engage about 2 turns by hand and at least 5–6 turns before reaching the recommended torque. Failure to reach minimum engagement usually indicates poorly formed or damaged threads.

Thread Size	Recommended Torque	
1/16 NPT	4–5 Nm	3–4 ft-lb
1/8 NPT	20–23 Nm	15–17 ft-lb
1/4 NPT	24–29 Nm	18–21 ft-lb
3/8 NPT	27–34 Nm	20–25 ft-lb
1/2 NPT	54–61 Nm	40–45 ft-lb
3/4 NPT	88–102 Nm	65–75 ft-lb
1 NPT	129–163 Nm	95–120 ft-lb
1-1/4 NPT	176–203 Nm	130–150 ft-lb

BSPP THREADS

British Standard Parallel Pipe threads (BSPP) seal with the use of a bonded or metal seal that is crushed between the male and female thread at either the face or the shoulder, they do not seal on the threads. A paste type anti-seize compound such as Swagelok Blue Goop® works most effectively with BSPP threads.

- Use anti-seize compound on male thread.
- Prepared fittings should engage fully by hand.

Thread Size	Recommended Torque	
1/8 BSPP	20–22 Nm	15–16 ft-lb
1/4 BSPP	30–35 Nm	22–26 ft-lb
3/8 BSPP	40–50 Nm	30–37 ft-lb
1/2 BSPP	55–65 Nm	41–50 ft-lb
3/4 BSPP	90–100 Nm	66–74 ft-lb
1 BSPP	135–160 Nm	100–118 ft-lb
1-1/4 BSPP	200–230 Nm	150–170 ft-lb

METRIC THREADS

Metric threads with cone seal (M36, M24, M7) seal with the use of an angled male and female conical surface, they do not seal on the threads. A paste type anti-seize compound such as Swagelok Blue Goop® works most effectively with metric cone seal threads.

- Use anti-seize compound on male thread.
- Prepared fittings should engage fully by hand.

Thread Size	Recommended Torque	
M7	18–20 Nm	13–15 ft-lb
M24	90–105 Nm	66–77 ft-lb
M36	190–220 Nm	140–162 ft-lb

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TYPE M SWIVEL

Type M swivel nut threads (TM12, AF 060-XX, AF 061-XX, AF 062-XX, AF 063-XX) seal with the use of an angled male and female cone, they do not seal on the threads. Designed for fast, simple connections of waterblast hoses and waterblast equipment. A paste type anti-seize compound such as Swagelok Blue Goop® works most effectively with metric cone seal threads.

- Use anti-seize compound on male thread.
- Prepared fittings should engage fully by hand.

Thread Size	Recommended Torque	
9/16	46–52 Nm	34–38 ft-lb
3/4	75–81 Nm	55–60 ft-lb
7/8	102–109 Nm	75–80 ft-lb
1	122–135 Nm	90–100 ft-lb
1-5/16	176–203 Nm	130–150 ft-lb

SAPPHIRE NOZZLES

Sapphire Nozzle threads (OS4, OS6, OS7) seal with the use of an angled male and female seat, they do not seal on the threads. A paste type anti-seize compound such as Swagelok Blue Goop® works most effectively with seat seal threads.

- Use anti-seize compound on male thread.
- Prepared fittings should engage fully by hand.

Thread Size	Recommended Torque	
1/4-28 OS4	6–7.5 Nm	4.5–5.5 ft-lb
3/8-24 OS6	19–22 Nm	14–16 ft-lb
7/16-20 OS7	34–37 Nm	25–27 ft-lb

SAPPHIRE/M3 NOZZLES

Sapphire and M3 Nozzle threads (OS2, OD3M) seal with the use of a thread sealing compound. Loctite® 680 is applied to the male thread. This type of thread needs to have a curing time of 24 hours before water pressure is applied.

- Use thread sealing compound on male thread.
- Prepared fittings should engage fully by hand.

Thread Size	Recommended Torque	
M3 Drilled Nozzle	6–7.5 Nm	4.5–5.5 ft-lb
6-40 UNF Sapphire Nozzle	19–22 Nm	14–16 ft-lb