



Torque Chart

Flare Connector Multi Angle (FCMA), Flare Connector Reducer Special, Swage Union (SWUN), Elbow Swage Union (ELSW), Union Straight (UNST), Union Reducer (UNRD), Elbow Union (ELUN)

All SmartLock Fittings do not require torque wrenches.

Fastening with a wrench until the nuts stop against the body (no gap between the nuts) will achieve the torque required for a metal-to-metal seal. However, if you prefer to use torque wrenches, the chart provided are the numbers you need to tighten the valvenut and the tube nut(s).

Follow the installation guide and substitute torque wrenches where we state wrenches.

Note: For Flare Connector Reducer Angle, Flare Body turns while tightening the nut.



Flare Connector Multi Angle (FCMA)

Model	Flare socket	Tube Side			
		Tube Outside diameter		Torque	
		mm	inch	kgf.cm	lbf.ft
FCMA1400		Ø6.35	0.25(1/4)	220	16.0
FCMA3800		Ø9.52	0.375 (3/8)	320	23.3
FCMA1200		Ø12.7	0.5(1/2)	400	29.1
FCMA5800		Ø15.88	0.625(5/8)	500	36.4
FCMA3400		Ø19.05	0.750 (3/4)	600	43.6

Flare Connector Reducer Special (FCRS)

Model	Flare socket	Torque Nut		Tube Side			
		Torque		Tube Outside diameter		Torque	
		kgf.cm	lbf.ft	mm	inch	kgf.cm	lbf.ft
FCRS1238		400	29.1	Ø9.52	0.375 (3/8)	320	23.3





Swage Union (SWUN)

Model	Swage Side				Tube Side			
	Swage Outside diameter		Torque		Tube Outside diameter		Torque	
	mm	inch	kgf.cm	lbf.ft	mm	inch	kgf.cm	lbf.ft
SWUN3800	Ø11.5	0.453	350	25.5	Ø9.52	0.375 (3/8)	320	23.3
SWUN5800	Ø18.2	0.717	530	38.5	Ø15.88	0.625(5/8)	500	36.4
SWUN3400	Ø21.1	0.831	640	46.5	Ø19.05	0.750 (3/4)	600	43.6
SWUN7800	Ø24.5	0.965	850	61.8	Ø22.225	0.875 (7/8)	800	58.2

Elbow Swage Union (ELSW)

Model	Swage Side				Tube Side			
	Swage Outside diameter		Torque		Tube Outside diameter		Torque	
	mm	inch	kgf.cm	lbf.ft	mm	inch	kgf.cm	lbf.ft
SWUN3800	Ø11.5	0.453	350	25.5	Ø9.52	0.375 (3/8)	320	23.3
SWUN5800	Ø18.2	0.717	530	38.5	Ø15.88	0.625(5/8)	500	36.4
SWUN3400	Ø21.1	0.831	640	46.5	Ø19.05	0.750 (3/4)	600	43.6
SWUN7800	Ø24.5	0.965	850	61.8	Ø22.225	0.875 (7/8)	800	58.2



Union Straight (UNST)

Model	Tubel Side				Tube2 Side			
	Tube Outside diameter		Torque		Tube Outside diameter		Torque	
	mm	inch	kgf.cm	lbf.ft	mm	inch	kgf.cm	lbf.ft
UNST1400	Ø6.35	0.25(1/4)	220	16.0	Ø6.35	0.25(1/4)	220	16.0
UNST3800	Ø9.52	0.375 (3/8)	320	23.3	Ø9.52	0.375 (3/8)	320	23.3
UNST1200	Ø12.7	0.5(1/2)	400	29.1	Ø12.7	0.5(1/2)	400	29.1
UNST5800	Ø15.88	0.625(5/8)	500	36.4	Ø15.88	0.625(5/8)	500	36.4
UNST3400	Ø19.05	0.750 (3/4)	600	43.6	Ø19.05	0.750 (3/4)	600	43.6
UNST7800	Ø22.225	0.875 (7/8)	800	58.2	Ø22.225	0.875 (7/8)	800	58.2

Union Reducer (UNRD)

Model	Big Tube Side				Small Tube Side			
	Tube Outside diameter		Torque		Tube Outside diameter		Torque	
	mm	inch	kgf.cm	lbf.ft	mm	inch	kgf.cm	lbf.ft
UNRD3814	Ø9.52	0.375 (3/8)	320	23.3	Ø6.35	0.25(1/4)	220	16.0
UNRD1238	Ø12.7	0.5(1/2)	400	29.1	Ø9.52	0.375 (3/8)	320	23.3
UNRD5812	Ø15.88	0.625(5/8)	500	36.4	Ø12.7	0.5(1/2)	400	29.1
UNRD3458	Ø19.05	0.750 (3/4)	600	43.6	Ø15.88	0.625(5/8)	500	36.4
UNRD7834	Ø22.225	0.875 (7/8)	800	58.2	Ø19.05	0.750 (3/4)	600	43.6





Elbow Union (ELUN)

Model	Tubel Side				Tube2 Side			
	Tube Outside diameter		Torque		Tube Outside diameter		Torque	
	mm	inch	kgf.cm	lbf.ft	mm	inch	kgf.cm	lbf.ft
UNST1200	Ø12.7	0.5(1/2)	400	29.1	Ø12.7	0.5(1/2)	400	29.1
UNST5800	Ø15.88	0.625(5/8)	500	36.4	Ø15.88	0.625(5/8)	500	36.4
UNST3400	Ø19.05	0.750 (3/4)	600	43.6	Ø19.05	0.750 (3/4)	600	43.6
UNST7800	Ø22.225	0.875 (7/8)	800	58.2	Ø22.225	0.875 (7/8)	800	58.2

