Another consideration prior to flanging is the minimum straight length to the start of a 90° bend. Table T11 provides this information.

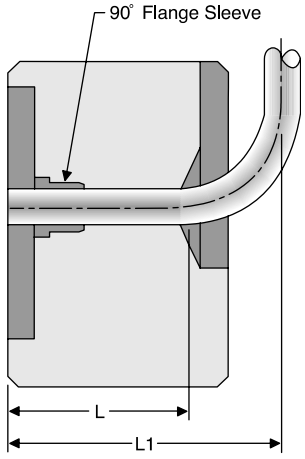

Fig. T18 – Minimum straight length to start of bend for 90° flanging

Tube O.D. Inch Sizes	Tube O.D. Metric Sizes	L* (in.)	L* (mm)	L1** (in.)	L1** (mm)
1/4”	6	1 5/16	35	3 1/8	79
5/16”	8	1 5/16	35	3 5/32	80
3/8”	10	1 5/16	40	3 3/16	81
1/2”	12	1 3/8	40	3 1/4	82
	15	1 3/8	40	3 5/16	84
5/8”	16	1 1/2	41	3 5/16	84
	18	1 5/8	42	3 11/32	85
3/4”	20	1 3/4	50	3 3/8	86
	22	1 7/8	50	3 7/16	87
	25	1 7/8	50	3 1/2	89
1”	28	1 7/8	50	3 9/16	90
	30	1 7/8	50	3 19/32	91
1 1/4”	32	1 7/8	50	3 5/8	92
	35	2	50	3 11/16	94
1 1/2”	38	2	50	3 3/4	95

Table T11 – Minimum straight length to start of bend for 90° flanging

Notes:

* L is the minimum straight length to the start of tube bend.

** L1 is the minimum centerline dimension necessary for 90° bent tube to clear the frame of the 1040 machine. In bending of the tubes, use radius blocks which will ensure that L1 dimensions are met or exceeded.

Flange Inspection

The flange should be inspected for proper diameter and sealing surface quality. Table T12 provides the flange diameters for the different sizes. The sleeve can also be used as a quick gauge of the flange diameter. Visually compare the flange diameter to the tapered surface located at the front end of the sleeve (right behind the flange). The large diameter and small diameters at each end of this surface serve as the maximum and minimum flange diameter limits, respectively.

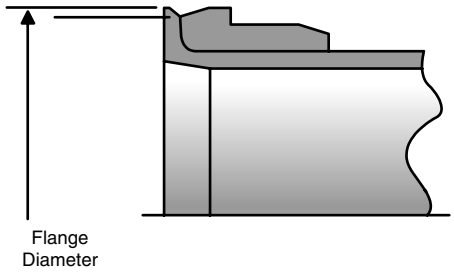

Fig. T19 — Flange diameter

Inch Tube O.D. (in.)	Metric Tube O.D. (mm)	Flange Diameter (in.)
1/4	6	.473 / .502
3/8	10	.584 / .620
1/2	12	.709 / .745
5/8	14, 15, 16	.875 / .923
3/4	18, 20	1.048 / 1.097
1	22, 25	1.298 / 1.347
1-1/4	28, 30, 32	1.549 / 1.597
1-1/2	38	1.861 / 1.910

Table T12 – Flange dimensions