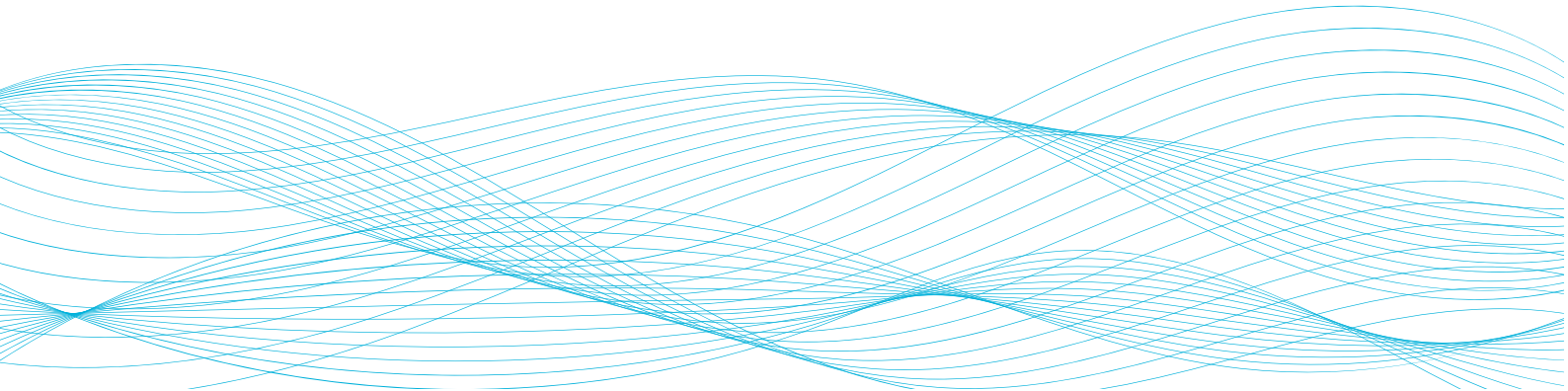
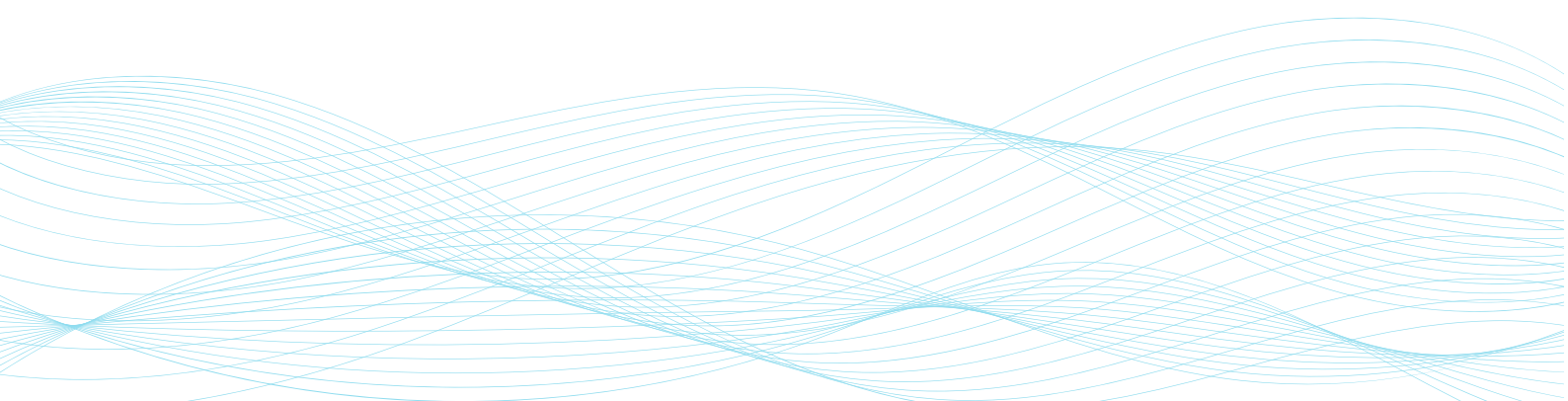


TEES-CROSSES



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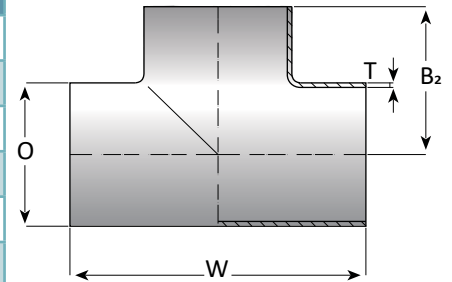
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TEES

Short Equal Tee, No Tangent

Nominal Size In.	O		W		B ₂		T		Ordering Code
	in.	mm	in.	mm	in.	mm	in.	mm	
1.0"	1.000"	25.4	2.252"	57.2	1.126"	28.6	0.065"	1.65	025000-400-A* **
1½"	1.500"	38.1	3.315"	84.2	1.657"	42.1	0.065"	1.65	038000-400-A* **
2.0"	2.000"	50.8	4.126"	104.8	2.063"	52.4	0.065"	1.65	051000-400-A* **
2½"	2.500"	63.5	4.685"	119.0	2.343"	59.5	0.065"	1.65	063000-400-A* **
3.0"	3.000"	76.2	5.189"	131.8	2.594"	65.9	0.065"	1.65	076000-400-A* **
4.0"	4.000"	101.6	6.874"	174.6	3.437"	87.3	0.065"	2.11	100000-400-A* **



* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Ordering Example

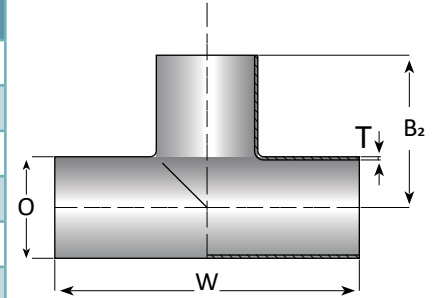
Description	Nominal Size In.	Ordering Code
Type 400	1.0"	025000-400-A54*

*Material and Surface are including to the ordering code

TEES

Long Equal Tee with Tangent

Nominal Size In.	O		W		B ₂		T		Ordering Code
	in.	mm	in.	mm	in.	mm	in.	mm	
1.0"	1.000"	25.4	3.748"	95.2	1.874"	47.6	0.065"	1.65	025000-450-A* **
1½"	1.500"	38.1	4.500"	114.3	2.252"	57.2	0.065"	1.65	038000-450-A* **
2.0"	2.000"	50.8	6.000"	152.4	3.000"	76.2	0.065"	1.65	051000-450-A* **
2½"	2.500"	63.5	6.000"	152.4	3.000"	76.2	0.065"	1.65	063000-450-A* **
3.0"	3.000"	76.2	6.504"	165.2	3.252"	82.6	0.065"	1.65	076000-450-A* **
4.0"	4.000"	101.6	7.748"	196.8	3.874"	98.4	0.083"	2.11	100000-450-A* **



* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Ordering Example

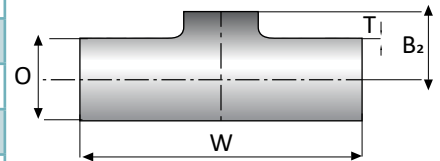
Description	Nominal Size In.	Ordering Code
Type 450	1.0"	025000-450-A54*

*Material and Surface are including to the ordering code

TEES

Equal Without
Straight End

Nominal Size In.	O		W		B ₂		T		Ordering Code
	in.	mm	in.	mm	in.	mm	in.	mm	
1.0"	1.000"	25.4	3.748"	95.2	0.591"	15	0.065"	1.65	025000-458-A* **
1½"	1.500"	38.1	4.500"	114.3	0.866"	22	0.065"	1.65	038000-458-A* **
2.0"	2.000"	50.8	6.000"	152.4	1.102"	28	0.065"	1.65	051000-458-A* **
2½"	2.500"	63.5	6.000"	152.4	1.417"	36	0.065"	1.65	063000-458-A* **
3.0"	3.000"	76.2	6.504"	165.2	1.693"	43	0.065"	1.65	076000-458-A* **
4.0"	4.000"	101.6	7.748"	196.8	2.126"	54	0.083"	2.11	100000-458-A* **



* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Ordering Example

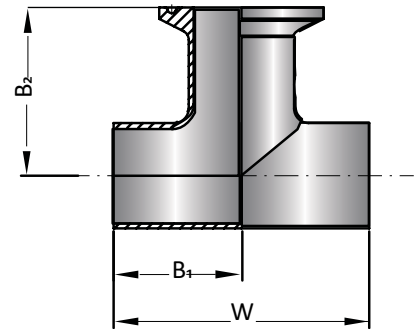
Description	Nominal Size In.	Ordering Code
Type 458	1.0"	025000-458-A54*

*Material and Surface are including to the ordering code

TEES

Weld X Clamp Outlet Tee

Nominal Size In.	Type	B ₁		B ₂		W		Ordering Code
		in.	mm	in.	mm	in.	mm	
1.0"	A	1.125"	28.6	1.625"	41.3	2.250"	57.1	025000-430-A* **
1½"	A	1.656"	42.1	2.156"	54.8	3.312"	84.1	038000-430-A* **
2.0"	A	2.063"	52.4	2.563"	65.1	4.125"	104.8	051000-430-A* **
2½"	B	2.344"	59.5	2.844"	72.2	4.688"	119.1	063000-430-A* **
3.0"	B	2.594"	65.9	3.094"	78.6	5.188"	131.8	076000-430-A* **
4.0"	B	3.438"	87.3	4.063"	103.2	6.875"	174.6	100000-430-A* **



* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Ordering Example

Description	Nominal Size In.	Type	Ordering Code
Type 430	1.0"	A	025000-430-A54*

*Material and Surface are including to the ordering code

TEES

Clamp Equal Tee

Nominal Size In.	W		D		B ₂		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	4.75"	120.6	1.99"	50.5	2.37"	60.3	025000-415-A* **
1½"	5.50"	139.8	1.99"	50.5	2.75"	69.9	038000-415-A* **
2.0"	7.00"	177.8	2.52"	64.0	3.50"	88.9	051000-415-A* **
2½"	7.00"	177.8	3.05"	77.5	3.50"	88.9	063000-415-A* **
3.0"	7.50"	190.6	3.58"	91.0	3.75"	95.3	076000-415-A* **
4.0"	8.99"	228.4	4.69"	119.0	4.50"	114.2	100000-415-A* **

* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

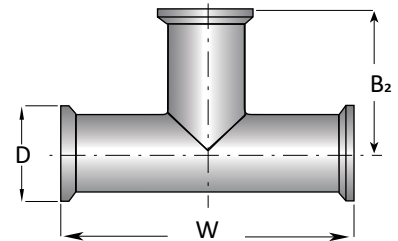


Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Ordering Example

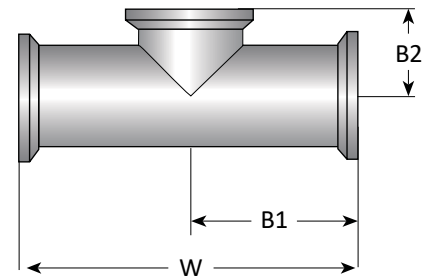
Description	Nominal Size In.	Ordering Code
Type 415	1.0"	025000-415-A54*

*Material and Surface are including to the ordering code

TEES

Clamp Ends Short Outlet Tee

Nominal Size In.	B ₁		B ₂		W		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	2.375"	60.3	1.125"	28.6	4.75"	120.6	025000-457-A* **
1½"	2.750"	69.8	1.375"	34.9	5.50"	139.7	038000-457-A* **
2.0"	3.500"	88.9	1.625"	41.3	7.00"	177.8	051000-457-A* **
2½"	3.500"	88.9	1.875"	47.6	7.00"	177.8	063000-457-A* **
3.0"	3.750"	95.2	2.125"	54.0	7.50"	190.5	076000-457-A* **
4.0"	4.500"	114.3	2.750"	69.9	9.00"	228.6	100000-457-A* **



* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

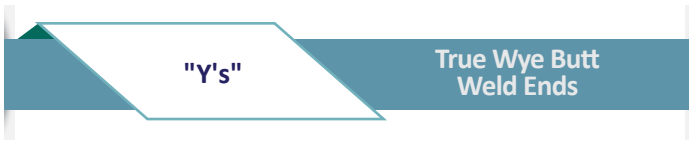
Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

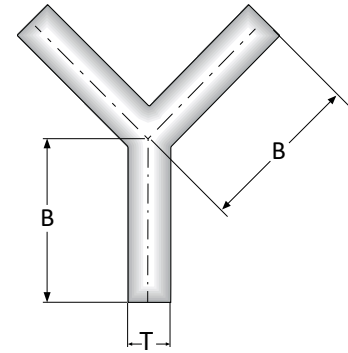
Ordering Example

Description	Nominal Size In.	Ordering Code
Type 457	1.0"	025000-457-A54*

*Material and Surface are including to the ordering code



Nominal Size In.	B		T		Ordering Code
	in.	mm	in.	mm	
1.0"	3.000"	76.2	0.065"	1.65	025000-Y10-A* **
1½"	3.000"	76.2	0.065"	1.65	038000-Y10-A* **
2.0"	4.000"	101.6	0.065"	1.65	051000-Y10-A* **
2½"	5.000"	127.0	0.065"	1.65	063000-Y10-A* **
3.0"	6.000"	152.4	0.065"	1.65	076000-Y10-A* **
4.0"	8.000"	203.2	0.083"	2.11	100000-Y10-A* **



* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

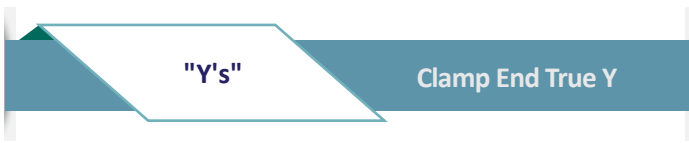
Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

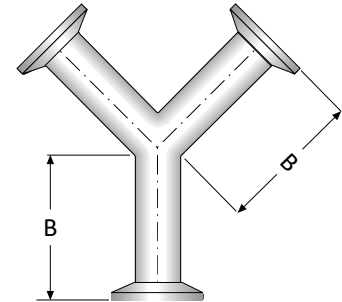
Ordering Example

Description	Nominal Size In.	Ordering Code
Type Y10	1.0"	025000-Y10-A54*

*Material and Surface are including to the ordering code



Nominal Size In.	B		Ordering Code
	in.	mm	
1/2"	2.500"	63.5	015000-Y13-A* **
3/4"	2.500"	63.5	020000-Y13-A* **
1.0"	3.500"	88.9	025000-Y13-A* **
1½"	3.500"	88.9	038000-Y13-A* **
2.0"	4.500"	114.3	051000-Y13-A* **
2½"	5.500"	139.7	063000-Y13-A* **
3.0"	6.500"	165.1	076000-Y13-A* **
4.0"	8.625"	219.1	100000-Y13-A* **
6.0"	8.750"	222.2	150000-Y13-A* **



* The first digit refers to material guide, according to Table 1
 ** The last digit refers to surface quality, according to Table 2

Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Ordering Example

Description	Nominal Size In.	Ordering Code
Type Y13	1/2"	015000-Y13-A54*

*Material and Surface are including to the ordering code

"Y's"

45° Butt Weld Lateral
Wye

Nominal Size In.	B2		B		t		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	1.000"	25.4	5.000"	127.0	0.065"	1.65	025000-Y20-A* **
1½"	1.188"	30.2	6.188"	157.2	0.065"	1.65	038000-Y20-A* **
2.0"	1.625"	41.3	7.125"	181.0	0.065"	1.65	051000-Y20-A* **
2½"	1.500"	38.1	8.500"	215.9	0.065"	1.65	063000-Y20-A* **
3.0"	1.875"	47.6	8.875"	225.4	0.065"	1.65	076000-Y20-A* **
4.0"	2.015"	51.2	10.750"	273.0	0.083"	2.11	100000-Y20-A* **

* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

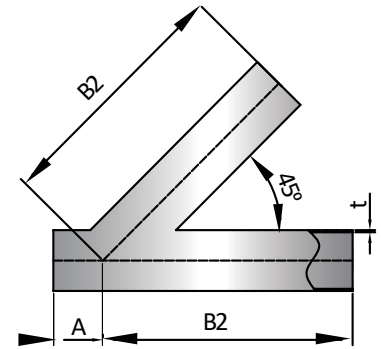


Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Table 2

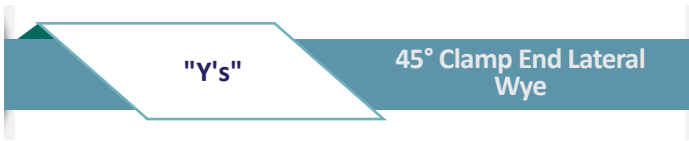
Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Ordering Example

Description	Nominal Size In.	Ordering Code
Type Y20	1.0"	025000-Y20-A54*

*Material and Surface are including to the ordering code



Nominal Size In.	W		B		Ordering Code
	in.	mm	in.	mm	
1/2"	1.500"	38.1	5.500"	38.1	015000-Y23-A* **
3/4"	1.500"	38.1	5.500"	38.1	020000-Y23-A* **
1.0"	1.500"	38.1	5.500"	38.1	025000-Y23-A* **
1½"	1.687"	42.8	6.688"	42.8	038000-Y23-A* **
2.0"	2.125"	54.0	7.625"	54.0	051000-Y23-A* **
2½"	2.000"	50.8	9.000"	50.8	063000-Y23-A* **
3.0"	2.375"	60.3	9.375"	60.3	076000-Y23-A* **
4.0"	2.687"	68.2	11.375"	68.2	100000-Y23-A* **
6.0"	4.375"	111.1	13.250"	111.1	150000-Y23-A* **

* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

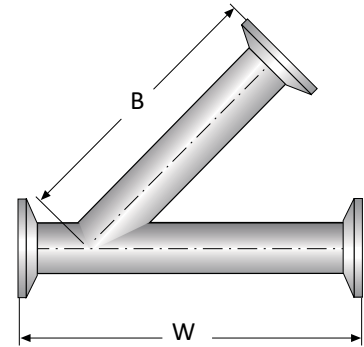


Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Ordering Example

Description	Nominal Size In.	Ordering Code
Type Y23	1/2"	015000-Y23-A54*

*Material and Surface are including to the ordering code

REDUCING TEES

Short Reducing Tee

Nominal Size In.	O1		O2		W		T		T ₂		Ordering Code
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	
1½" x 1.0"	1.656"	42.1	1.375"	34.9	3.312"	84.1	0.065"	1.65	0.065"	1.65	038025-411-A* **
2.0" x 1.0"	2.062"	52.4	1.625"	41.3	4.125"	104.8	0.065"	1.65	0.065"	1.65	051025-411-A* **
2.0" x 1½"	2.062"	52.4	1.905"	48.4	4.125"	104.8	0.065"	1.65	0.065"	1.65	051038-411-A* **
2½" x 1½"	2.344"	59.5	2.156"	54.8	4.688"	119.1	0.065"	1.65	0.065"	1.65	063038-411-A* **
2½" x 2.0"	2.344"	59.5	2.312"	58.7	4.688"	119.1	0.065"	1.65	0.065"	1.65	063051-411-A* **
3.0" x 1½"	2.594"	65.9	2.406"	61.1	5.188"	131.8	0.065"	1.65	0.065"	1.65	076038-411-A* **
3.0" x 2.0"	2.594"	65.9	2.562"	65.1	5.188"	131.8	0.065"	1.65	0.065"	1.65	076051-411-A* **
3.0" x 2½"	2.594"	65.9	2.594"	65.9	5.188"	131.8	0.065"	1.65	0.065"	1.65	076063-411-A* **
4.0" x 2.0"	3.438"	87.3	3.062"	77.8	6.875"	174.6	0.083"	2.11	0.083"	2.11	100051-411-A* **
4.0" x 2½"	3.438"	87.3	3.094"	78.6	6.875"	174.6	0.083"	2.11	0.083"	2.11	100063-411-A* **
4.0" x 3.0"	3.438"	87.3	3.094"	78.6	6.875"	174.6	0.083"	2.11	0.083"	2.11	100076-411-A* **
6.0" x 3.0"	5.625"	142.9	4.875"	123.8	11.25"	285.7	0.109"	2.77	0.109"	2.77	150076-411-A* **
6.0" x 4.0"	5.625"	142.9	5.125"	130.2	11.25"	285.7	0.109"	2.77	0.109"	2.77	150100-411-A* **
8.0" x 4.0"	7.000"	177.8	6.125"	155.6	14.00"	355.6	0.109"	2.77	0.109"	2.77	200100-411-A* **
8.0" x 6.0"	7.000"	177.8	6.125"	168.3	14.00"	355.6	0.109"	2.77	0.109"	2.77	200150-411-A* **

* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

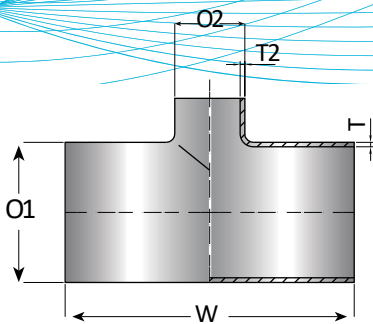


Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Ordering Example

Description	Nominal Size In.	Ordering Code
Type 411	4.0" x 3.0"	100076-411-A54*

*Material and Surface are including to the ordering code

REDUCING TEES

Long Reducing Tee

Nominal Size In.	O1		O2		W		B ₂		T		T ₂		Ordering Code
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	
1½" x 1.0"	1.500"	38.1	1.000"	25.4	4.500"	114.3	2.125"	54.0	0.065"	1.65	0.065"	1.65	038025-420-A* **
2.0" x 1.0"	2.000"	50.8	1.000"	25.4	6.000"	152.4	2.740"	60.3	0.065"	1.65	0.065"	1.65	051025-420-A* **
2.0" x 1½"	2.000"	50.8	1.500"	38.1	6.000"	152.4	2.500"	63.5	0.065"	1.65	0.065"	1.65	051038-420-A* **
2½" x 1½"	2.500"	63.5	1.500"	38.1	6.000"	152.4	2.750"	69.8	0.065"	1.65	0.065"	1.65	063038-420-A* **
2½" x 2.0"	2.500"	63.5	2.000"	50.8	6.000"	152.4	3.250"	82.5	0.065"	1.65	0.065"	1.65	063051-420-A* **
3.0" x 1½"	3.000"	76.2	1.500"	38.1	6.500"	165.1	3.000"	76.2	0.065"	1.65	0.065"	1.65	076038-420-A* **
3.0" x 2.0"	3.000"	76.2	2.000"	50.8	6.500"	165.1	3.500"	88.9	0.065"	1.65	0.065"	1.65	076051-420-A* **
3.0" x 2½"	3.000"	76.2	2.500"	63.5	6.500"	165.1	3.250"	82.5	0.065"	1.65	0.065"	1.65	076063-420-A* **
4.0" x 2.0"	4.000"	101.6	2.000"	50.8	7.750"	196.8	4.000"	101.6	0.083"	2.11	0.065"	1.65	100051-420-A* **
4.0" x 2½"	4.000"	101.6	2.500"	63.5	7.750"	196.8	3.750"	95.2	0.083"	2.11	0.065"	1.65	100063-420-A* **
4.0" x 3.0"	4.000"	101.6	3.000"	76.2	7.750"	196.8	3.750"	95.2	0.083"	2.11	0.065"	1.65	100076-420-A* **

* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

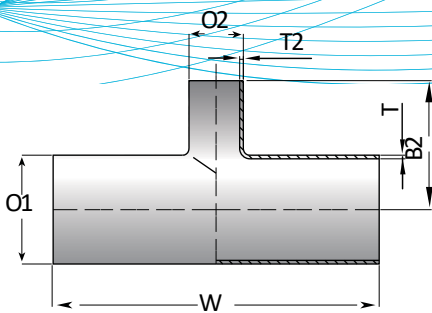


Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Ordering Example

Description	Nominal Size In.	Ordering Code
Type 420	2.0" x 1.0"	051025-420-A54*

*Material and Surface are including to the ordering code

REDUCING TEES

Reducing Tee Without Straight End

Nominal Size In.	O1		O2		W		B ₂		T ₁		T ₂		Ordering Code
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	
1½" x 1.0"	1.500"	38.1	1.000"	25.4	4.500"	114.3	0.866"	22	0.065"	1.65	0.065"	1.65	038025-424-A* **
2.0" x 1.0"	2.000"	50.8	1.000"	25.4	6.000"	152.4	1.102"	28	0.065"	1.65	0.065"	1.65	051025-424-A* **
2.0" x 1½"	2.000"	50.8	1.500"	38.1	6.000"	152.4	1.102"	28	0.065"	1.65	0.065"	1.65	051038-424-A* **
2½" x 1½"	2.500"	63.5	1.500"	38.1	6.000"	152.4	1.417"	36	0.065"	1.65	0.065"	1.65	063038-424-A* **
2½" x 2.0"	2.500"	63.5	2.000"	50.8	6.000"	152.4	1.417"	36	0.065"	1.65	0.065"	1.65	063051-424-A* **
3.0" x 1½"	3.000"	76.2	1.500"	38.1	6.500"	165.1	1.692"	43	0.065"	1.65	0.065"	1.65	076038-424-A* **
3.0" x 2.0"	3.000"	76.2	2.000"	50.8	6.500"	165.1	1.692"	43	0.065"	1.65	0.065"	1.65	076051-424-A* **
3.0" x 2½"	3.000"	76.2	2.500"	63.5	6.500"	165.1	1.692"	43	0.065"	1.65	0.065"	1.65	076063-424-A* **
4.0" x 2.0"	4.000"	101.6	2.000"	50.8	7.750"	196.8	2.125"	54	0.083"	2.11	0.065"	1.65	100051-424-A* **
4.0" x 2½"	4.000"	101.6	2.500"	63.5	7.750"	196.8	2.125"	54	0.083"	2.11	0.065"	1.65	100063-424-A* **
4.0" x 3.0"	4.000"	101.6	3.000"	76.2	7.750"	196.8	2.125"	54	0.083"	2.11	0.065"	1.65	100076-424-A* **

* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

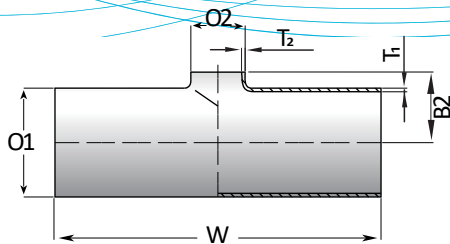


Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Ordering Example

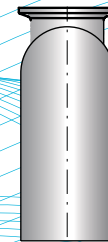
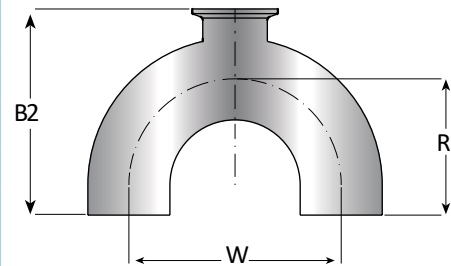
Description	Nominal Size In.	Ordering Code
Type 424	2.0" x 1.0"	051025-424-A54*

*Material and Surface are including to the ordering code

USE POINTS

180° Bottom Outlet Use Point Fitting

Nominal Size In.	R		W		B ₂		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0" x 1/2"	3.75"	95.25	4.5"	114.3	5.00"	127.0	025015-U11-A* **
1.0" x 3/4"	3.75"	95.25	4.5"	114.3	5.00"	127.0	025020-U11-A* **
1½" x 1/2"	4.50"	114.3	6.0"	152.4	6.00"	152.4	038015-U11-A* **
1½" x 3/4"	4.50"	114.3	6.0"	152.4	6.00"	152.4	038020-U11-A* **
1½" x 1.0"	4.50"	114.3	6.0"	152.4	6.13"	155.7	038025-U11-A* **
2.0" x 1/2"	5.00"	127.0	6.0"	152.4	6.75"	171.5	051015-U11-A* **
2.0" x 3/4"	5.00"	127.0	6.0"	152.4	6.75"	171.5	051020-U11-A* **
2.0" x 1.0"	5.00"	127.0	6.0"	152.4	7.00"	177.8	051025-U11-A* **
2.0" x 1½"	5.75"	127.0	6.0"	152.4	6.75"	171.5	051038-U11-A* **
2½" x 1/2"	5.75"	146.05	7.5"	190.5	7.75"	196.9	063015-U11-A* **
2½" x 3/4"	5.75"	146.05	7.5"	190.5	7.75"	196.9	063020-U11-A* **
2½" x 1.0"	5.75"	146.05	7.5"	190.5	7.94"	201.7	063038-U11-A* **
2½" x 1½"	5.75"	146.05	7.5"	190.5	7.75"	196.9	063015-U11-A* **
2½" x 2.0"	5.75"	146.05	7.5"	190.5	8.13"	206.5	063051-U11-A* **
3.0" x 1/2"	6.50"	165.1	9.0"	228.6	8.75"	222.3	076015-U11-A* **
3.0" x 3/4"	6.50"	165.1	9.0"	228.6	8.75"	222.3	076020-U11-A* **
3.0" x 1.0"	6.50"	165.1	9.0"	228.6	9.00"	228.6	076025-U11-A* **
3.0" x 1½"	6.50"	165.1	9.0"	228.6	8.81"	223.8	076038-U11-A* **
3.0" x 2.0"	6.50"	165.1	9.0"	228.6	8.75"	222.3	076051-U11-A* **
3.0" x 2½"	6.50"	165.1	9.0"	228.6	9.13"	231.9	076063-U11-A* **
4.0" x 1/2"	8.50"	215.9	12.0"	304.8	11.25"	285.8	100015-U11-A* **
4.0" x 3/4"	8.50"	215.9	12.0"	304.8	11.25"	285.8	100020-U11-A* **
4.0" x 1.0"	8.50"	215.9	12.0"	304.8	11.56"	293.6	100025-U11-A* **
4.0" x 1½"	8.50"	215.9	12.0"	304.8	11.44"	290.6	100038-U11-A* **
4.0" x 2.0"	8.50"	215.9	12.0"	304.8	11.25"	285.8	100051-U11-A* **
4.0" x 2½"	8.50"	215.9	12.0"	304.8	11.63"	295.4	100063-U11-A* **
4.0" x 3.0"	8.50"	215.9	12.0"	304.8	11.63"	295.4	100076-U11-A* **



* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

Ordering Example

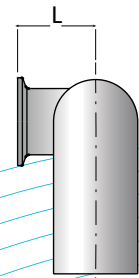
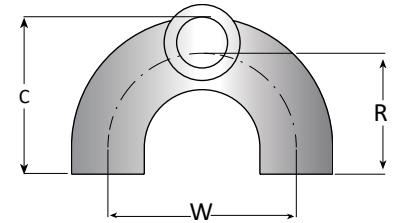
Description	Nominal Size In.	Ordering Code
Type U11	1.0" x 1/2"	025015-U11-A54*

*Material and Surface are including to the ordering code

USE POINTS

180° Side Outlet Use Point Fitting

Nominal Size In.	R		W		C		L		Ordering Code
	in.	mm	in.	mm	in.	mm	in.	mm	
1.0"x3/4"	3.75"	95.25	4.5"	114.3	3.88"	98.60	1.25"	31.8	025020-U21-A* **
1½"x 3/4"	4.50"	114.3	6.0"	152.4	4.88"	124.0	1.75"	44.5	038020-U21-A* **
1½"x 1.0"	4.50"	114.3	6.0"	152.4	4.75"	120.7	1.75"	44.5	038025-U21-A* **
2.0"x 3/4"	5.00"	127.0	6.0"	152.4	5.63"	143.0	1.75"	44.5	051020-U21-A* **
2.0"x 1.0"	5.00"	127.0	6.0"	152.4	5.50"	139.7	1.75"	44.5	051025-U21-A* **
2.0" x 1½"	5.00"	127.0	6.0"	152.4	5.25"	133.4	1.75"	44.5	051038-U21-A* **
2½"x 1.0"	5.75"	146.0	7.5"	190.5	6.50"	165.1	1.75"	44.5	051025-U21-A* **
2½" x 1½"	5.75"	146.0	7.5"	190.5	6.25"	158.8	1.75"	44.5	063038-U21-A* **
2½"x 2.0"	5.75"	146.0	7.5"	190.5	6.00"	152.4	2.25"	57.2	063051-U21-A* **
3.0"x 1.0"	6.50"	165.1	9.0"	228.6	7.50"	190.5	2.25"	57.2	076025-U21-A* **
3.0"x 1½"	6.50"	165.1	9.0"	228.6	7.25"	184.2	2.25"	57.2	076038-U21-A* **
2.0"x 2.0"	6.50"	165.1	9.0"	228.6	7.00"	177.8	2.25"	57.2	076051-U21-A* **
3.0" x 2½"	6.50"	165.1	9.0"	228.6	6.75"	171.5	2.25"	57.2	076063-U21-A* **
4.0"x 1.0"	8.50"	215.9	12.0"	304.8	10.00"	254.0	-	-	100025-U21-A* **
4.0"x 1½"	8.50"	215.9	12.0"	304.8	9.75"	247.7	-	-	100038-U21-A* **
4.0"x 2.0"	8.50"	215.9	12.0"	304.8	9.50"	241.3	-	-	100051-U21-A* **
4.0"x 2½"	8.50"	215.9	12.0"	304.8	9.25"	235.0	-	-	100063-U21-A* **
4.0"x 3.0"	8.50"	215.9	12.0"	304.8	9.00"	228.6	-	-	100076-U21-A* **



* The first digit refers to material guide, according to Table 1
 ** The last digit refers to surface quality, according to Table 2

Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Ordering Example

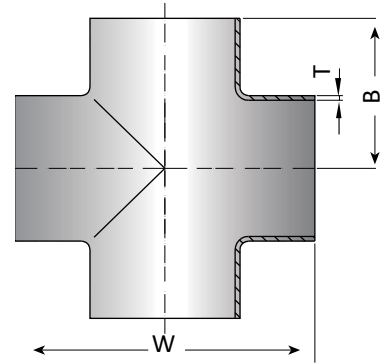
Description	Nominal Size In.	Ordering Code
Type U21	1.0"x 3/4"	025020-U21-A54*

*Material and Surface are including to the ordering code

CROSSES

Short Equal Cross

Nominal Size In.	W		B		T		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	2.250"	57.2	1.126"	28.6	0.065"	1.65	025000-510-A* **
1½"	3.312"	84.2	1.657"	42.1	0.065"	1.65	038000-510-A* **
2.0"	4.125"	104.6	2.063"	52.4	0.065"	1.65	051000-510-A* **
2½"	4.687"	119.0	2.343"	59.5	0.065"	1.65	063000-510-A* **
3.0"	5.187"	131.8	2.594"	65.9	0.065"	1.65	076000-510-A* **
4.0"	6.875"	174.6	3.437"	87.3	0.083"	2.11	100000-510-A* **



* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Ordering Example

Description	Nominal Size In.	Ordering Code
Type 510	1.0"	025000-510-A54*

*Material and Surface are including to the ordering code

CROSSES

Long Equal Cross

Nominal Size In.	W		B		T		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	1.875"	47.6	3.75"	95.20	0.065"	1.65	025000-520-A* **
1½"	2.250"	57.1	4.50"	114.3	0.065"	1.65	038000-520-A* **
2.0"	3.000"	76.2	6.00"	152.4	0.065"	1.65	051000-520-A* **
2½"	3.000"	76.2	6.00"	152.4	0.065"	1.65	063000-520-A* **
3.0"	3.250"	82.5	6.50"	165.1	0.065"	1.65	076000-520-A* **
4.0"	3.875"	98.4	7.75"	196.8	0.083"	2.11	100000-520-A* **

* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

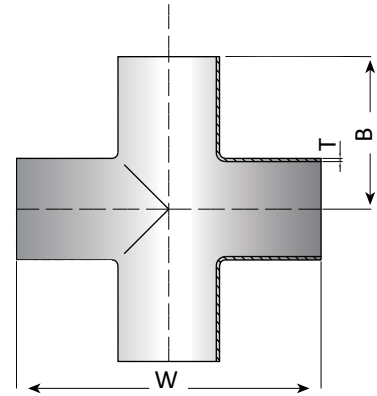


Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Ordering Example

Description	Nominal Size In.	Ordering Code
Type 520	1.0"	025000-520-A54*

*Material and Surface are including to the ordering code

CROSSES

Clamp Equal Cross

Nominal Size In.	W		B		Ordering Code
	in.	mm	in.	mm	
1.0"	4.748"	120.6	1.988"	50.5	025000-521-A* **
1½"	5.504"	139.8	1.988"	50.5	038000-521-A* **
2.0"	7.000"	177.8	2.520"	64.0	051000-521-A* **
2½"	7.000"	177.8	3.051"	77.5	063000-521-A* **
3.0"	7.504"	190.6	3.583"	91.0	076000-521-A* **
4.0"	8.992"	228.4	4.685"	119.0	100000-521-A* **

* The first digit refers to material guide, according to Table 1

** The last digit refers to surface quality, according to Table 2

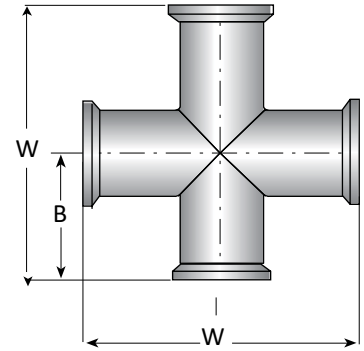


Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	Unpolished/Mill Finish	0
180 grid/0.8 µm Ra/30 µ-in	180 grid/0.8 µm Ra/30 µ-in	1
240 grid/0.51 µm Ra/20 µ-in	180 grid/0.8 µm Ra/30 µ-in	4
320 grid/0.4 µm/12 µ-in	180 grid/0.8 µm Ra/30 µ-in	7
400 grid/0.25 µm Ra/10 µ-in	180 grid/0.8 µm Ra/30 µ-in	8
Mirror Polished	Mirror Polished	9

*Mechanically Polished

Table 1

304 (1.4301)	304L (1.4307)	316L (1.4404)
1	2	5

Ordering Example

Description	Nominal Size In.	Ordering Code
Type 521	1.0"	025000-521-A54*

*Material and Surface are including to the ordering code

