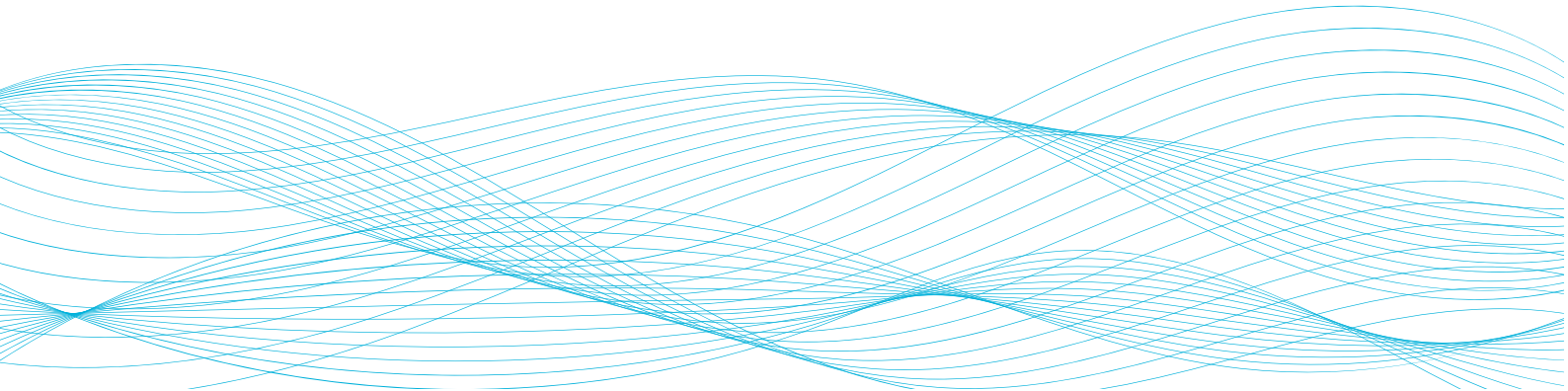


ELBOWS



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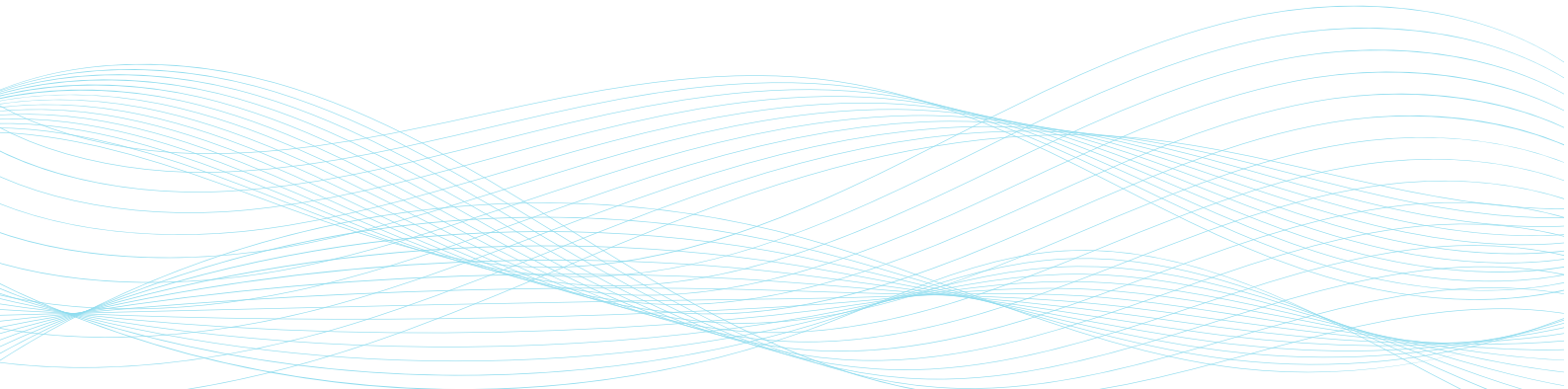
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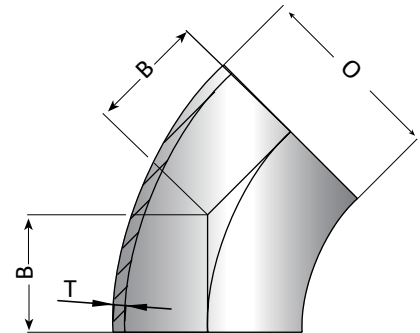
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ELBOWS

Bend 45°, No Tangent

Nominal Size In.	O		B		T		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	1.000"	25.4	0.625"	15.8	0.065"	1.65	025000-300-A* **
1½"	1.500"	38.1	0.937"	23.8	0.065"	1.65	038000-300-A* **
2.0"	2.000"	50.8	1.250"	31.7	0.065"	1.65	051000-300-A* **
2½"	2.500"	63.5	1.562"	39.6	0.065"	1.65	063000-300-A* **
3.0"	3.000"	76.2	1.875"	47.6	0.065"	1.65	076000-300-A* **
4.0"	4.000"	101.6	2.500"	63.5	0.083"	2.11	100000-300-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	No finish requirement	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

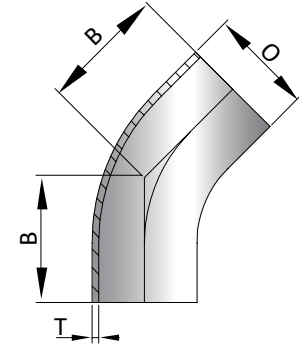
Description	Nominal Size In.	Ordering Code
Type 300	1.0"	025000-300-A54*

*Material and Surface are including to the ordering code

ELBOWS

Long Elbow 45°

Nominal Size In.	O		B		T		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	1.000"	25.4	1.189"	30.2	0.065"	1.65	025000-350-A* **
1.5"	1.500"	38.1	1.626"	41.3	0.065"	1.65	038000-350-A* **
2.0"	2.000"	50.8	2.311"	58.7	0.065"	1.65	051000-350-A* **
2.5"	2.500"	63.5	3.000"	76.2	0.065"	1.65	063000-350-A* **
3.0"	3.000"	76.2	3.689"	93.7	0.065"	1.65	076000-350-A* **
4.0"	4.000"	101.6	4.811"	122.2	0.083"	2.11	100000-350-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	No finish requirement	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 360	1.0"	025000-360-A54*

*Material and Surface are including to the ordering code

ELBOWS

Long Elbow 45° WW With Tangent

Nominal Size In.	Type	O		B		Ordering Code
		in.	mm	in.	mm	
1.0"	A	1.000"	25.4	2.063"	52.4	025000-360-A* **
1.5"	A	1.500"	38.1	2.937"	74.6	038000-360-A* **
2.0"	A	2.000"	50.8	4.063"	103.2	051000-360-A* **
2.5"	B	2.500"	63.5	5.189"	131.8	063000-360-A* **
3.0"	B	3.000"	76.2	6.311"	160.3	076000-360-A* **
4.0"	B	4.000"	101.6	8.311"	211.1	100000-360-A* **

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

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

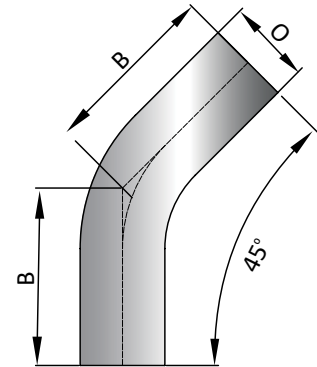


Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	No finish requirement	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

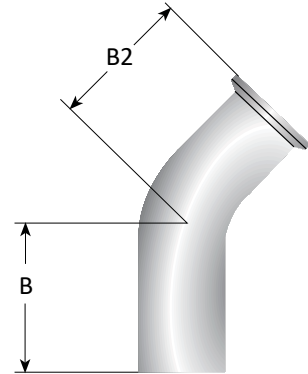
Description	Nominal Size In.	Type	Ordering Code
Type 350	1.0"	A	025000-350-A54*

*Material and Surface are including to the ordering code

ELBOWS

Long Elbow 45° WC With Tangent

Nominal Size In.	D		B		B2		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	1.12"	28.50	2.25"	57.2	1.12"	27.9	025000-361-A* **
1.5"	1.44"	36.50	2.50"	63.5	1.43"	35.6	038000-361-A* **
2.0"	1.75"	44.45	3.00"	76.2	1.75"	45.7	051000-361-A* **
2.5"	2.06"	52.30	3.37"	85.7	2.06"	53.3	063000-361-A* **
3.0"	2.37"	60.30	3.62"	92.1	2.37"	58.4	076000-361-A* **
4.0"	3.12"	79.40	4.50"	114.3	3.12"	78.7	100000-361-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	No finish requirement	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 361	1.0"	025000-361-A54*

*Material and Surface are including to the ordering code

ELBOWS

45° Clamp Elbow CC

Nominal Size In.	B		D		Ordering Code
	in.	mm	in.	mm	
1.0"	1.12"	28.50	1.99"	50.5	025000-362-A* **
1.5"	1.44"	36.50	1.99"	50.5	038000-362-A* **
2.0"	1.75"	44.45	2.52"	64.0	051000-362-A* **
2.5"	2.06"	52.30	3.05"	77.5	063000-362-A* **
3.0"	2.37"	60.30	3.58"	91.0	076000-362-A* **
4.0"	3.12"	79.40	4.69"	119.0	100000-362-A* **

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

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

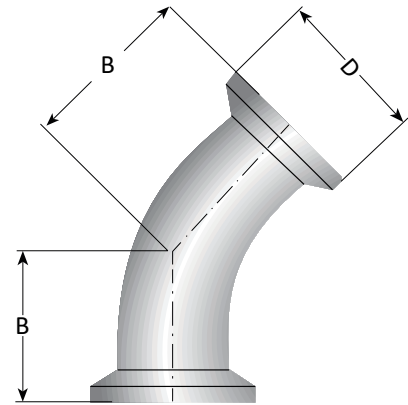


Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	No finish requirement	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

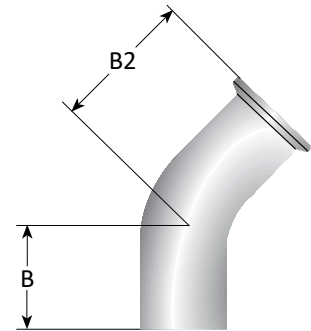
Description	Nominal Size In.	Ordering Code
Type 362	1.0"	025000-362-A54*

*Material and Surface are including to the ordering code

ELBOWS

45° Clamp Elbow WC

Nominal Size In.	D		B		B2		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	1.12"	28.50	1.19"	30.2	1.69"	42.9	025000-311-A* **
1.5"	1.44"	36.50	1.62"	41.3	2.13"	54.0	038000-311-A* **
2.0"	1.75"	44.45	2.31"	58.7	2.81"	71.4	051000-311-A* **
2.5"	2.06"	52.30	3.00"	76.2	3.50"	88.9	063000-311-A* **
3.0"	2.37"	60.30	3.69"	93.7	4.19"	106.4	076000-311-A* **
4.0"	3.12"	79.40	4.81"	122.2	5.44"	138.1	100000-311-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	No finish requirement	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 311	1.0"	025000-311-A54*

*Material and Surface are including to the ordering code

ELBOWS

90° No Tangent WW

Nominal Size In.	O		B		T		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	1.000"	25.4	1.500"	38.1	0.065"	1.65	025000-200-A* **
1.5"	1.500"	38.1	2.252"	57.2	0.065"	1.65	038000-200-A* **
2.0"	2.000"	50.8	3.000"	76.2	0.065"	1.65	051000-200-A* **
2.5"	2.500"	63.5	3.750"	95.25	0.065"	1.65	063000-200-A* **
3.0"	3.000"	76.2	4.500"	114.3	0.065"	1.65	076000-200-A* **
4.0"	4.000"	101.6	6.000"	152.4	0.038"	2.11	100000-200-A* **

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

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

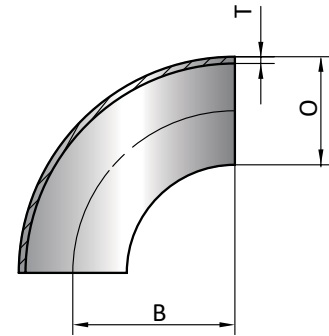


Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	No finish requirement	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

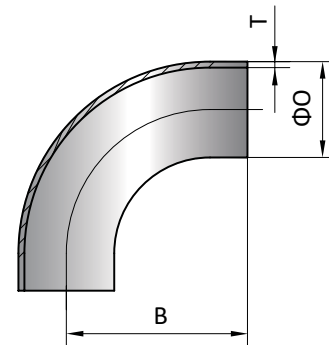
Description	Nominal Size In.	Ordering Code
Type 200	1.0"	025000-200-A54*

*Material and Surface are including to the ordering code

ELBOWS

Long Elbow 90° WW With Tangent

Nominal Size In.	O		B		T		Ordering Code
	in.	mm	in.	mm	in.	mm	
1.0"	1.000"	25.4	2.063"	52.4	0.065"	1.65	025000-249-A* **
1.5"	1.500"	38.1	2.937"	74.6	0.065"	1.65	038000-249-A* **
2.0"	2.000"	50.8	4.063"	103.2	0.065"	1.65	051000-249-A* **
2.5"	2.500"	63.5	5.189"	131.8	0.065"	1.65	063000-249-A* **
3.0"	3.000"	76.2	6.311"	160.3	0.065"	1.65	076000-249-A* **
4.0"	4.000"	101.6	8.311"	211.1	0.083"	2.11	100000-249-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	No finish requirement	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 249	1.0"	025000-249-A54*

*Material and Surface are including to the ordering code

ELBOWS

90° Automatic WW
Tri-Weld

Nominal Size In.	B		Ordering Code
	in.	mm	
1/2"	3.00"	76.20	015000-250-A* **
3/4"	3.00"	76.20	020000-250-A* **
1.0"	3.00"	76.20	025000-250-A* **
1½"	3.75"	95.25	038000-250-A* **
2.0"	4.75"	120.65	051000-250-A* **
2½"	5.50"	139.70	063000-250-A* **
3.0"	6.25"	158.75	076000-250-A* **
4.0"	8.00"	203.20	100000-250-A* **
6.0"	11.50"	292.10	150000-250-A* **

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

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

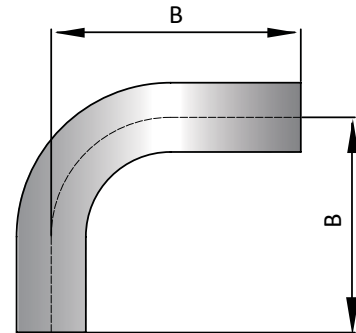


Table 1

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

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	No finish requirement	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

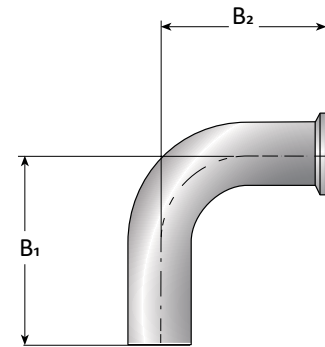
Description	Nominal Size In.	Ordering Code
Type 250	1.0"	025000-250-A54*

*Material and Surface are including to the ordering code

ELBOWS

Weld X Tri-Clamp
90° Elbow

Nominal Size In.	B ₂		B ₁		Ordering Code
	in.	mm	in.	mm	
1.0"	2.063"	52.4	2.563"	65.1	025000-251-A* **
1½"	2.938"	74.6	3.438"	87.3	038000-251-A* **
2.0"	4.063"	103.2	4.563"	115.9	051000-251-A* **
2½"	5.188"	131.8	5.688"	144.5	063000-251-A* **
3.0"	6.313"	160.3	6.813"	173.0	076000-251-A* **
4.0"	8.313"	211.1	8.938"	227.0	100000-251-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	No finish requirement	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

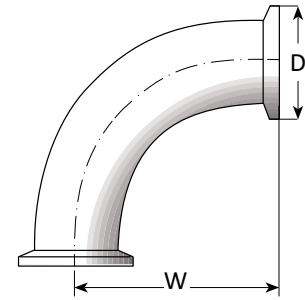
Description	Nominal Size In.	Ordering Code
Type 251	1.0"	025000-251-A54*

*Material and Surface are including to the ordering code

ELBOWS

90° Clamp Elbow

Nominal Size In.	W		D		Ordering Code
	in.	mm	in.	mm	
1.0"	2.00"	50.80	1.99"	50.5	025000-252-A* **
1½"	2.75"	69.90	1.99"	50.5	038000-252-A* **
2.0"	3.50"	88.90	2.52"	64.0	051000-252-A* **
2½"	4.25"	107.95	3.05"	77.5	063000-252-A* **
3.0"	5.00"	127.00	3.58"	91.0	076000-252-A* **
4.0"	6.62"	168.20	4.69"	119.0	100000-252-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	No finish requirement	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 252	1.0"	025000-252-A54*

*Material and Surface are including to the ordering code

RETURN BEND ELBOWS

180° Return Bend

Nominal Size In.	Type	W		B		Ordering Code
		in.	mm	in.	mm	
1.0"	A	3.0"	76.2	2.500"	63.5	025000-382-A* **
1½"	A	4.5"	114.3	3.500"	88.9	038000-382-A* **
2.0"	A	6.0"	152.4	4.500"	114.3	051000-382-A* **
2½"	B	7.5"	190.5	5.500"	139.7	063000-382-A* **
3.0"	B	9.0"	228.6	6.500"	165.1	076000-382-A* **
4.0"	B	12.0"	304.8	8.625"	219.1	100000-382-A* **

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

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

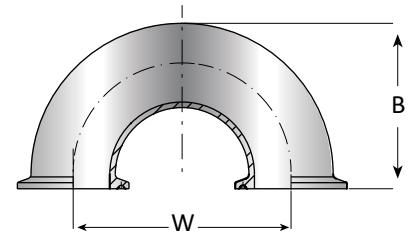


Table 1

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

Table 2

Inside Surface	Outside Surface	Ordering Code
No finish requirement	No finish requirement	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.	Type	Ordering Code
Type 382	1.0"	A	025000-382-A54*

*Material and Surface are including to the ordering code

