

# Welle 1

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	237.3	21
2	4.0	217.6	19
3	8.1	198.3	18
4	12.1	179.6	16
5	16.2	161.3	14
6	20.2	143.6	13
7	24.3	126.5	11
8	28.3	110.1	10
9	32.3	94.2	8
10	36.4	79.1	7
11	40.4	64.8	6
12	44.5	51.2	5
13	48.5	38.5	3
14	52.6	26.6	2
15	56.6	15.6	1
16	60.6	5.6	1
17	64.7	356.6	32
18	68.7	348.6	31
19	72.8	341.7	30
20	76.8	335.9	30
21	80.9	331.2	29
22	84.9	327.7	29
23	88.9	325.3	29
24	93.0	324.1	29
25	97.0	324.1	29
26	101.1	325.3	29
27	105.1	327.7	29
28	109.1	331.2	29
29	113.2	335.9	30
30	117.2	341.7	30
31	121.3	348.6	31
32	125.3	356.6	32
33	129.4	5.6	1
34	133.4	15.6	1
35	137.4	26.6	2
36	141.5	38.5	3
37	145.5	51.2	5
38	149.6	64.8	6
39	153.6	79.1	7
40	157.7	94.2	8
41	161.7	110.1	10
42	165.7	126.5	11
43	169.8	143.6	13
44	173.8	161.3	14
45	177.9	179.6	16
46	181.9	198.3	18
47	186.0	217.6	19
48	190.0	237.3	21

## Welle 2

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	176.8	16
2	6.1	156.2	14
3	10.1	136.0	12
4	14.1	116.3	10
5	18.2	97.2	9
6	22.2	78.6	7
7	26.3	60.6	5
8	30.3	43.2	4
9	34.4	26.5	2
10	38.4	10.6	1
11	42.4	355.4	32
12	46.5	341.1	30
13	50.5	327.6	29
14	54.6	315.1	28
15	58.6	303.6	27
16	62.7	293.1	26
17	66.7	283.7	25
18	70.7	275.4	24
19	74.8	268.4	24
20	78.8	262.5	23
21	82.9	257.9	23
22	86.9	254.6	23
23	91.0	252.7	22
24	95.0	252.0	22
25	99.0	252.7	22
26	103.1	254.6	23
27	107.1	257.9	23
28	111.2	262.5	23
29	115.2	268.4	24
30	119.3	275.4	24
31	123.3	283.7	25
32	127.3	293.1	26
33	131.4	303.6	27
34	135.4	315.1	28
35	139.5	327.6	29
36	143.5	341.1	30
37	147.6	355.4	32
38	151.6	10.6	1
39	155.6	26.5	2
40	159.7	43.2	4
41	163.7	60.6	5
42	167.8	78.6	7
43	171.8	97.2	9
44	175.9	116.3	10
45	179.9	136.0	12
46	183.9	156.2	14
47	188.0	176.8	16

### Welle 3

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	140.3	12
2	4.0	118.3	11
3	8.1	96.7	9
4	12.1	75.6	7
5	16.2	54.9	5
6	20.2	34.7	3
7	24.3	15.1	1
8	28.3	356.1	32
9	32.3	337.7	30
10	36.4	320.0	28
11	40.4	303.0	27
12	44.5	286.9	26
13	48.5	271.7	24
14	52.6	257.4	23
15	56.6	244.1	22
16	60.6	231.8	21
17	64.7	220.8	20
18	68.7	210.9	19
19	72.8	202.3	18
20	76.8	195.0	17
21	80.9	189.1	17
22	84.9	184.7	16
23	88.9	181.7	16
24	93.0	180.2	16
25	97.0	180.2	16
26	101.1	181.7	16
27	105.1	184.7	16
28	109.1	189.1	17
29	113.2	195.0	17
30	117.2	202.3	18
31	121.3	210.9	19
32	125.3	220.8	20
33	129.4	231.8	21
34	133.4	244.1	22
35	137.4	257.4	23
36	141.5	271.7	24
37	145.5	286.9	26
38	149.6	303.0	27
39	153.6	320.0	28
40	157.7	337.7	30
41	161.7	356.1	32
42	165.7	15.1	1
43	169.8	34.7	3
44	173.8	54.9	5
45	177.9	75.6	7
46	181.9	96.7	9
47	186.0	118.3	11
48	190.0	140.3	12

# Welle 4

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	85.4	8
2	6.1	62.4	6
3	10.1	39.8	4
4	14.1	17.5	2
5	18.2	355.7	32
6	22.2	334.4	30
7	26.3	313.6	28
8	30.3	293.4	26
9	34.4	273.9	24
10	38.4	255.0	23
11	42.4	236.9	21
12	46.5	219.6	20
13	50.5	203.3	18
14	54.6	187.9	17
15	58.6	173.7	15
16	62.7	160.6	14
17	66.7	148.7	13
18	70.7	138.3	12
19	74.8	129.2	11
20	78.8	121.7	11
21	82.9	115.7	10
22	86.9	111.5	10
23	91.0	108.9	10
24	95.0	108.0	10
25	99.0	108.9	10
26	103.1	111.5	10
27	107.1	115.7	10
28	111.2	121.7	11
29	115.2	129.2	11
30	119.3	138.3	12
31	123.3	148.7	13
32	127.3	160.6	14
33	131.4	173.7	15
34	135.4	187.9	17
35	139.5	203.3	18
36	143.5	219.6	20
37	147.6	236.9	21
38	151.6	255.0	23
39	155.6	273.9	24
40	159.7	293.4	26
41	163.7	313.6	28
42	167.8	334.4	30
43	171.8	355.7	32
44	175.9	17.5	2
45	179.9	39.8	4
46	183.9	62.4	6
47	188.0	85.4	8

## Welle 5

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	58.1	5
2	4.0	33.7	3
3	8.1	9.6	1
4	12.1	345.8	31
5	16.2	322.4	29
6	20.2	299.4	27
7	24.3	276.8	25
8	28.3	254.8	23
9	32.3	233.3	21
10	36.4	212.4	19
11	40.4	192.1	17
12	44.5	172.7	15
13	48.5	154.0	14
14	52.6	136.4	12
15	56.6	119.7	11
16	60.6	104.2	9
17	64.7	90.0	8
18	68.7	77.2	7
19	72.8	65.9	6
20	76.8	56.2	5
21	80.9	48.4	4
22	84.9	42.4	4
23	88.9	38.3	3
24	93.0	36.3	3
25	97.0	36.3	3
26	101.1	38.3	3
27	105.1	42.4	4
28	109.1	48.4	4
29	113.2	56.2	5
30	117.2	65.9	6
31	121.3	77.2	7
32	125.3	90.0	8
33	129.4	104.2	9
34	133.4	119.7	11
35	137.4	136.4	12
36	141.5	154.0	14
37	145.5	172.7	15
38	149.6	192.1	17
39	153.6	212.4	19
40	157.7	233.3	21
41	161.7	254.8	23
42	165.7	276.8	25
43	169.8	299.4	27
44	173.8	322.4	29
45	177.9	345.8	31
46	181.9	9.6	1
47	186.0	33.7	3
48	190.0	58.1	5

## Welle 6

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	11.2	1
2	6.1	345.8	31
3	10.1	320.6	28
4	14.1	295.6	26
5	18.2	271.0	24
6	22.2	246.7	22
7	26.3	222.9	20
8	30.3	199.4	18
9	34.4	176.4	16
10	38.4	154.0	14
11	42.4	132.2	12
12	46.5	111.1	10
13	50.5	90.8	8
14	54.6	71.5	6
15	58.6	53.2	5
16	62.7	36.2	3
17	66.7	20.5	2
18	70.7	6.4	1
19	74.8	354.0	31
20	78.8	343.5	31
21	82.9	335.1	30
22	86.9	329.0	29
23	91.0	325.3	29
24	95.0	324.0	29
25	99.0	325.3	29
26	103.1	329.0	29
27	107.1	335.1	30
28	111.2	343.5	31
29	115.2	354.0	31
30	119.3	6.4	1
31	123.3	20.5	2
32	127.3	36.2	3
33	131.4	53.2	5
34	135.4	71.5	6
35	139.5	90.8	8
36	143.5	111.1	10
37	147.6	132.2	12
38	151.6	154.0	14
39	155.6	176.4	16
40	159.7	199.4	18
41	163.7	222.9	20
42	167.8	246.7	22
43	171.8	271.0	24
44	175.9	295.6	26
45	179.9	320.6	28
46	183.9	345.8	31
47	188.0	11.2	1

## Welle 7

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	355.6	32
2	4.0	329.0	29
3	8.1	302.5	27
4	12.1	276.3	25
5	16.2	250.2	22
6	20.2	224.4	20
7	24.3	198.8	18
8	28.3	173.5	15
9	32.3	148.6	13
10	36.4	124.0	11
11	40.4	99.9	9
12	44.5	76.4	7
13	48.5	53.4	5
14	52.6	31.2	3
15	56.6	9.9	1
16	60.6	349.6	31
17	64.7	330.4	29
18	68.7	312.8	28
19	72.8	296.8	26
20	76.8	282.8	25
21	80.9	271.0	24
22	84.9	261.9	23
23	88.9	255.6	23
24	93.0	252.4	22
25	97.0	252.4	22
26	101.1	255.6	23
27	105.1	261.9	23
28	109.1	271.0	24
29	113.2	282.8	25
30	117.2	296.8	26
31	121.3	312.8	28
32	125.3	330.4	29
33	129.4	349.6	31
34	133.4	9.9	1
35	137.4	31.2	3
36	141.5	53.4	5
37	145.5	76.4	7
38	149.6	99.9	9
39	153.6	124.0	11
40	157.7	148.6	13
41	161.7	173.5	15
42	165.7	198.8	18
43	169.8	224.4	20
44	173.8	250.2	22
45	177.9	276.3	25
46	181.9	302.5	27
47	186.0	329.0	29
48	190.0	355.6	32

# Welle 8

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	319.8	28
2	6.1	292.3	26
3	10.1	265.0	24
4	14.1	237.7	21
5	18.2	210.6	19
6	22.2	183.7	16
7	26.3	156.9	14
8	30.3	130.2	12
9	34.4	103.8	9
10	38.4	77.7	7
11	42.4	51.9	5
12	46.5	26.5	2
13	50.5	1.5	0
14	54.6	337.1	30
15	58.6	313.4	28
16	62.7	290.5	26
17	66.7	268.7	24
18	70.7	248.3	22
19	74.8	229.6	20
20	78.8	213.1	19
21	82.9	199.3	18
22	86.9	188.8	17
23	91.0	182.2	16
24	95.0	180.0	16
25	99.0	182.2	16
26	103.1	188.8	17
27	107.1	199.3	18
28	111.2	213.1	19
29	115.2	229.6	20
30	119.3	248.3	22
31	123.3	268.7	24
32	127.3	290.5	26
33	131.4	313.4	28
34	135.4	337.1	30
35	139.5	1.5	0
36	143.5	26.5	2
37	147.6	51.9	5
38	151.6	77.7	7
39	155.6	103.8	9
40	159.7	130.2	12
41	163.7	156.9	14
42	167.8	183.7	16
43	171.8	210.6	19
44	175.9	237.7	21
45	179.9	265.0	24
46	183.9	292.3	26
47	188.0	319.8	28



## Welle 9

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	318.4	28
2	4.0	290.3	26
3	8.1	262.2	23
4	12.1	234.1	21
5	16.2	206.1	18
6	20.2	178.2	16
7	24.3	150.3	13
8	28.3	122.5	11
9	32.3	94.8	8
10	36.4	67.1	6
11	40.4	39.6	4
12	44.5	12.3	1
13	48.5	345.1	31
14	52.6	318.1	28
15	56.6	291.5	26
16	60.6	265.2	24
17	64.7	239.5	21
18	68.7	214.4	19
19	72.8	190.4	17
20	76.8	167.7	15
21	80.9	147.0	13
22	84.9	129.4	12
23	88.9	116.2	10
24	93.0	108.9	10
25	97.0	108.9	10
26	101.1	116.2	10
27	105.1	129.4	12
28	109.1	147.0	13
29	113.2	167.7	15
30	117.2	190.4	17
31	121.3	214.4	19
32	125.3	239.5	21
33	129.4	265.2	24
34	133.4	291.5	26
35	137.4	318.1	28
36	141.5	345.1	31
37	145.5	12.3	1
38	149.6	39.6	4
39	153.6	67.1	6
40	157.7	94.8	8
41	161.7	122.5	11
42	165.7	150.3	13
43	169.8	178.2	16
44	173.8	206.1	18
45	177.9	234.1	21
46	181.9	262.2	23
47	186.0	290.3	26
48	190.0	318.4	28

# Welle 10

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	296.5	26
2	6.1	268.0	24
3	10.1	239.6	21
4	14.1	211.1	19
5	18.2	182.7	16
6	22.2	154.3	14
7	26.3	125.8	11
8	30.3	97.4	9
9	34.4	69.0	6
10	38.4	40.6	4
11	42.4	12.2	1
12	46.5	343.9	31
13	50.5	315.6	28
14	54.6	287.3	26
15	58.6	259.0	23
16	62.7	230.8	21
17	66.7	202.7	18
18	70.7	174.7	16
19	74.8	147.0	13
20	78.8	119.5	11
21	82.9	92.8	8
22	86.9	67.4	6
23	91.0	45.9	4
24	95.0	36.0	3
25	99.0	45.9	4
26	103.1	67.4	6
27	107.1	92.8	8
28	111.2	119.5	11
29	115.2	147.0	13
30	119.3	174.7	16
31	123.3	202.7	18
32	127.3	230.8	21
33	131.4	259.0	23
34	135.4	287.3	26
35	139.5	315.6	28
36	143.5	343.9	31
37	147.6	12.2	1
38	151.6	40.6	4
39	155.6	69.0	6
40	159.7	97.4	9
41	163.7	125.8	11
42	167.8	154.3	14
43	171.8	182.7	16
44	175.9	211.1	19
45	179.9	239.6	21
46	183.9	268.0	24
47	188.0	296.5	26

# Welle 11

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	310.7	28
2	4.0	282.3	25
3	8.1	253.8	23
4	12.1	225.4	20
5	16.2	196.9	18
6	20.2	168.5	15
7	24.3	140.0	12
8	28.3	111.6	10
9	32.3	83.2	7
10	36.4	54.8	5
11	40.4	26.4	2
12	44.5	358.1	32
13	48.5	329.7	29
14	52.6	301.4	27
15	56.6	273.1	24
16	60.6	244.9	22
17	64.7	216.8	19
18	68.7	188.7	17
19	72.8	160.8	14
20	76.8	133.2	12
21	80.9	106.0	9
22	84.9	79.8	7
23	88.9	55.9	5
24	93.0	38.7	3
25	97.0	38.7	3
26	101.1	55.9	5
27	105.1	79.8	7
28	109.1	106.0	9
29	113.2	133.2	12
30	117.2	160.8	14
31	121.3	188.7	17
32	125.3	216.8	19
33	129.4	244.9	22
34	133.4	273.1	24
35	137.4	301.4	27
36	141.5	329.7	29
37	145.5	358.1	32
38	149.6	26.4	2
39	153.6	54.8	5
40	157.7	83.2	7
41	161.7	111.6	10
42	165.7	140.0	12
43	169.8	168.5	15
44	173.8	196.9	18
45	177.9	225.4	20
46	181.9	253.8	23
47	186.0	282.3	25
48	190.0	310.7	28

## Welle 12

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	304.3	27
2	6.1	276.2	25
3	10.1	248.2	22
4	14.1	220.1	20
5	18.2	192.2	17
6	22.2	164.2	15
7	26.3	136.4	12
8	30.3	108.6	10
9	34.4	80.9	7
10	38.4	53.4	5
11	42.4	25.9	2
12	46.5	358.6	32
13	50.5	331.6	29
14	54.6	304.8	27
15	58.6	278.3	25
16	62.7	252.3	22
17	66.7	226.9	20
18	70.7	202.2	18
19	74.8	178.8	16
20	78.8	157.0	14
21	82.9	137.7	12
22	86.9	122.1	11
23	91.0	111.7	10
24	95.0	108.0	10
25	99.0	111.7	10
26	103.1	122.1	11
27	107.1	137.7	12
28	111.2	157.0	14
29	115.2	178.8	16
30	119.3	202.2	18
31	123.3	226.9	20
32	127.3	252.3	22
33	131.4	278.3	25
34	135.4	304.8	27
35	139.5	331.6	29
36	143.5	358.6	32
37	147.6	25.9	2
38	151.6	53.4	5
39	155.6	80.9	7
40	159.7	108.6	10
41	163.7	136.4	12
42	167.8	164.2	15
43	171.8	192.2	17
44	175.9	220.1	20
45	179.9	248.2	22
46	183.9	276.2	25
47	188.0	304.3	27

### Welle 13

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	333.5	30
2	4.0	306.0	27
3	8.1	278.6	25
4	12.1	251.3	22
5	16.2	224.2	20
6	20.2	197.1	18
7	24.3	170.2	15
8	28.3	143.5	13
9	32.3	117.0	10
10	36.4	90.7	8
11	40.4	64.8	6
12	44.5	39.1	3
13	48.5	13.9	1
14	52.6	349.2	31
15	56.6	325.1	29
16	60.6	301.8	27
17	64.7	279.4	25
18	68.7	258.3	23
19	72.8	238.7	21
20	76.8	221.0	20
21	80.9	205.8	18
22	84.9	193.6	17
23	88.9	185.0	16
24	93.0	180.6	16
25	97.0	180.6	16
26	101.1	185.0	16
27	105.1	193.6	17
28	109.1	205.8	18
29	113.2	221.0	20
30	117.2	238.7	21
31	121.3	258.3	23
32	125.3	279.4	25
33	129.4	301.8	27
34	133.4	325.1	29
35	137.4	349.2	31
36	141.5	13.9	1
37	145.5	39.1	3
38	149.6	64.8	6
39	153.6	90.7	8
40	157.7	117.0	10
41	161.7	143.5	13
42	165.7	170.2	15
43	169.8	197.1	18
44	173.8	224.2	20
45	177.9	251.3	22
46	181.9	278.6	25
47	186.0	306.0	27
48	190.0	333.5	30

# Welle 14

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	342.3	30
2	6.1	315.7	28
3	10.1	289.4	26
4	14.1	263.2	23
5	18.2	237.3	21
6	22.2	211.6	19
7	26.3	186.1	17
8	30.3	161.0	14
9	34.4	136.2	12
10	38.4	111.9	10
11	42.4	88.1	8
12	46.5	64.8	6
13	50.5	42.2	4
14	54.6	20.4	2
15	58.6	359.6	32
16	62.7	339.8	30
17	66.7	321.4	29
18	70.7	304.5	27
19	74.8	289.5	26
20	78.8	276.6	25
21	82.9	266.1	24
22	86.9	258.4	23
23	91.0	253.6	23
24	95.0	252.0	22
25	99.0	253.6	23
26	103.1	258.4	23
27	107.1	266.1	24
28	111.2	276.6	25
29	115.2	289.5	26
30	119.3	304.5	27
31	123.3	321.4	29
32	127.3	339.8	30
33	131.4	359.6	32
34	135.4	20.4	2
35	139.5	42.2	4
36	143.5	64.8	6
37	147.6	88.1	8
38	151.6	111.9	10
39	155.6	136.2	12
40	159.7	161.0	14
41	163.7	186.1	17
42	167.8	211.6	19
43	171.8	237.3	21
44	175.9	263.2	23
45	179.9	289.4	26
46	183.9	315.7	28
47	188.0	342.3	30

# Welle 15

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	24.0	2
2	4.0	358.5	32
3	8.1	333.1	30
4	12.1	308.1	27
5	16.2	283.3	25
6	20.2	258.8	23
7	24.3	234.7	21
8	28.3	211.1	19
9	32.3	187.8	17
10	36.4	165.1	15
11	40.4	143.0	13
12	44.5	121.5	11
13	48.5	100.9	9
14	52.6	81.1	7
15	56.6	62.2	6
16	60.6	44.6	4
17	64.7	28.2	3
18	68.7	13.2	1
19	72.8	359.9	32
20	76.8	348.5	31
21	80.9	339.0	30
22	84.9	331.7	29
23	88.9	326.8	29
24	93.0	324.3	29
25	97.0	324.3	29
26	101.1	326.8	29
27	105.1	331.7	29
28	109.1	339.0	30
29	113.2	348.5	31
30	117.2	359.9	32
31	121.3	13.2	1
32	125.3	28.2	3
33	129.4	44.6	4
34	133.4	62.2	6
35	137.4	81.1	7
36	141.5	100.9	9
37	145.5	121.5	11
38	149.6	143.0	13
39	153.6	165.1	15
40	157.7	187.8	17
41	161.7	211.1	19
42	165.7	234.7	21
43	169.8	258.8	23
44	173.8	283.3	25
45	177.9	308.1	27
46	181.9	333.1	30
47	186.0	358.5	32
48	190.0	24.0	2

# Welle 16

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	45.8	4
2	6.1	21.6	2
3	10.1	357.6	32
4	14.1	334.1	30
5	18.2	310.8	28
6	22.2	288.1	26
7	26.3	265.7	24
8	30.3	243.9	22
9	34.4	222.7	20
10	38.4	202.2	18
11	42.4	182.3	16
12	46.5	163.2	15
13	50.5	145.1	13
14	54.6	127.9	11
15	58.6	111.8	10
16	62.7	96.9	9
17	66.7	83.4	7
18	70.7	71.3	6
19	74.8	60.9	5
20	78.8	52.1	5
21	82.9	45.1	4
22	86.9	40.1	4
23	91.0	37.0	3
24	95.0	36.0	3
25	99.0	37.0	3
26	103.1	40.1	4
27	107.1	45.1	4
28	111.2	52.1	5
29	115.2	60.9	5
30	119.3	71.3	6
31	123.3	83.4	7
32	127.3	96.9	9
33	131.4	111.8	10
34	135.4	127.9	11
35	139.5	145.1	13
36	143.5	163.2	15
37	147.6	182.3	16
38	151.6	202.2	18
39	155.6	222.7	20
40	159.7	243.9	22
41	163.7	265.7	24
42	167.8	288.1	26
43	171.8	310.8	28
44	175.9	334.1	30
45	179.9	357.6	32
46	183.9	21.6	2
47	188.0	45.8	4



# Welle 17

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	97.1	9
2	4.0	73.9	7
3	8.1	51.0	5
4	12.1	28.6	3
5	16.2	6.6	1
6	20.2	345.0	31
7	24.3	323.9	29
8	28.3	303.4	27
9	32.3	283.6	25
10	36.4	264.3	23
11	40.4	245.9	22
12	44.5	228.2	20
13	48.5	211.4	19
14	52.6	195.5	17
15	56.6	180.7	16
16	60.6	167.0	15
17	64.7	154.5	14
18	68.7	143.3	13
19	72.8	133.6	12
20	76.8	125.3	11
21	80.9	118.5	11
22	84.9	113.4	10
23	88.9	109.9	10
24	93.0	108.2	10
25	97.0	108.2	10
26	101.1	109.9	10
27	105.1	113.4	10
28	109.1	118.5	11
29	113.2	125.3	11
30	117.2	133.6	12
31	121.3	143.3	13
32	125.3	154.5	14
33	129.4	167.0	15
34	133.4	180.7	16
35	137.4	195.5	17
36	141.5	211.4	19
37	145.5	228.2	20
38	149.6	245.9	22
39	153.6	264.3	23
40	157.7	283.6	25
41	161.7	303.4	27
42	165.7	323.9	29
43	169.8	345.0	31
44	173.8	6.6	1
45	177.9	28.6	3
46	181.9	51.0	5
47	186.0	73.9	7
48	190.0	97.1	9

# Welle 18

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	129.3	11
2	6.1	107.5	10
3	10.1	86.1	8
4	14.1	65.2	6
5	18.2	44.7	4
6	22.2	24.8	2
7	26.3	5.5	0
8	30.3	346.8	31
9	34.4	328.7	29
10	38.4	311.4	28
11	42.4	294.9	26
12	46.5	279.2	25
13	50.5	264.4	24
14	54.6	250.6	22
15	58.6	237.8	21
16	62.7	226.2	20
17	66.7	215.7	19
18	70.7	206.4	18
19	74.8	198.5	18
20	78.8	191.9	17
21	82.9	186.7	17
22	86.9	183.0	16
23	91.0	180.8	16
24	95.0	180.0	16
25	99.0	180.8	16
26	103.1	183.0	16
27	107.1	186.7	17
28	111.2	191.9	17
29	115.2	198.5	18
30	119.3	206.4	18
31	123.3	215.7	19
32	127.3	226.2	20
33	131.4	237.8	21
34	135.4	250.6	22
35	139.5	264.4	24
36	143.5	279.2	25
37	147.6	294.9	26
38	151.6	311.4	28
39	155.6	328.7	29
40	159.7	346.8	31
41	163.7	5.5	0
42	167.8	24.8	2
43	171.8	44.7	4
44	175.9	65.2	6
45	179.9	86.1	8
46	183.9	107.5	10
47	188.0	129.3	11

# Welle 19

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	0.0	187.3	17
2	4.0	166.4	15
3	8.1	146.0	13
4	12.1	126.1	11
5	16.2	106.7	9
6	20.2	87.8	8
7	24.3	69.5	6
8	28.3	51.8	5
9	32.3	34.8	3
10	36.4	18.5	2
11	40.4	2.9	0
12	44.5	348.1	31
13	48.5	334.2	30
14	52.6	321.2	29
15	56.6	309.2	27
16	60.6	298.2	27
17	64.7	288.3	26
18	68.7	279.4	25
19	72.8	271.8	24
20	76.8	265.3	24
21	80.9	260.1	23
22	84.9	256.1	23
23	88.9	253.5	23
24	93.0	252.2	22
25	97.0	252.2	22
26	101.1	253.5	23
27	105.1	256.1	23
28	109.1	260.1	23
29	113.2	265.3	24
30	117.2	271.8	24
31	121.3	279.4	25
32	125.3	288.3	26
33	129.4	298.2	27
34	133.4	309.2	27
35	137.4	321.2	29
36	141.5	334.2	30
37	145.5	348.1	31
38	149.6	2.9	0
39	153.6	18.5	2
40	157.7	34.8	3
41	161.7	51.8	5
42	165.7	69.5	6
43	169.8	87.8	8
44	173.8	106.7	9
45	177.9	126.1	11
46	181.9	146.0	13
47	186.0	166.4	15
48	190.0	187.3	17

## Welle 20

Nockenposition	Nockenposition in cm	Winkel in Grad	Winkel in mm
1	2.0	227.4	20
2	6.1	207.9	18
3	10.1	188.9	17
4	14.1	170.4	15
5	18.2	152.4	14
6	22.2	135.0	12
7	26.3	118.2	11
8	30.3	102.1	9
9	34.4	86.6	8
10	38.4	71.9	6
11	42.4	57.9	5
12	46.5	44.7	4
13	50.5	32.4	3
14	54.6	21.0	2
15	58.6	10.5	1
16	62.7	1.0	0
17	66.7	352.5	31
18	70.7	345.1	31
19	74.8	338.7	30
20	78.8	333.4	30
21	82.9	329.3	29
22	86.9	326.4	29
23	91.0	324.6	29
24	95.0	324.0	29
25	99.0	324.6	29
26	103.1	326.4	29
27	107.1	329.3	29
28	111.2	333.4	30
29	115.2	338.7	30
30	119.3	345.1	31
31	123.3	352.5	31
32	127.3	1.0	0
33	131.4	10.5	1
34	135.4	21.0	2
35	139.5	32.4	3
36	143.5	44.7	4
37	147.6	57.9	5
38	151.6	71.9	6
39	155.6	86.6	8
40	159.7	102.1	9
41	163.7	118.2	11
42	167.8	135.0	12
43	171.8	152.4	14
44	175.9	170.4	15
45	179.9	188.9	17
46	183.9	207.9	18
47	188.0	227.4	20