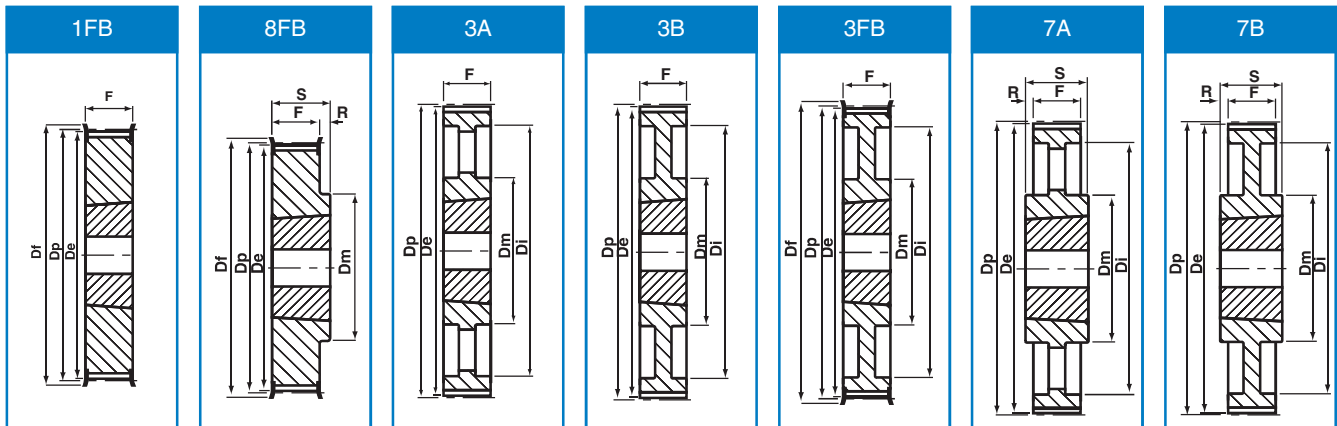


## Timing Taper Bore

### 3/8" PITCH (9.525mm) L050

Product Designation	Number of Teeth	Type	Bush Size	Material	De	Dp	Df	Dm	Di	F	S	R	Mass kg
18-L-050	18	8FB	1108	S	53.81	54.57	60	43	-	19	22	3.0	0.2
19-L-050	19	8FB	1108	S	56.84	57.61	63	43	-	19	22	3.0	0.2
20-L-050	20	8FB	1108	S	59.88	60.64	67	48	-	19	22	3.0	0.2
21-L-050	21	8FB	1108	S	62.91	63.67	70	48	-	19	22	3.0	0.3
22-L-050	22	8FB	1108	S	65.94	66.70	75	51	-	19	22	3.0	0.3
23-L-050	23	8FB	1108	S	68.97	69.73	79	54	-	19	22	3.0	0.4
24-L-050	24	8FB	1108	S	72.00	72.77	79	54	-	19	22	3.0	0.4
25-L-050	25	8FB	1108	S	75.04	75.80	87	56	-	19	22	3.0	0.5
26-L-050	26	8FB	1108	S	78.07	78.83	87	60	-	19	22	3.0	0.5
27-L-050	27	8FB	1108	S	81.10	81.86	91	65	-	19	22	3.0	0.6
28-L-050	28	8FB	1108	S	84.13	84.89	91	65	-	19	22	3.0	0.6
30-L-050	30	8FB	1108	S	90.20	90.96	97	70	-	19	22	3.0	0.8
32-L-050	32	8FB	1108	S	96.26	97.02	102	74	-	19	22	3.0	0.9
36-L-050	36	8FB	1108	CI	108.39	109.15	120	87	-	19	22	3.0	1.2
40-L-050	40	8FB	1210	CI	120.51	121.28	128	87	-	19	25	6.0	1.5
48-L-050	48	8FW	1210	CI	144.77	145.53	150	88	124	19	25	6.0	2.3
60-L-050	60	7B	1610	CI	181.15	181.91	-	92	166	19	25	3.0	2.0
72-L-050	72	7A	1610	CI	217.53	218.30	-	92	202	19	25	3.0	3.0
84-L-050	84	7A	1610	CI	253.90	254.68	-	106	236	19	25	3.0	4.0
96-L-050	96	7A	2012	CI	290.30	291.06	-	106	270	19	32	6.5	5.5
120-L-050	120	7A	2012	CI	363.07	363.83	-	106	343	19	32	6.5	6.8



Material; S = Steel, CI = Cast Iron

### 3/8" PITCH (9.525mm) L075

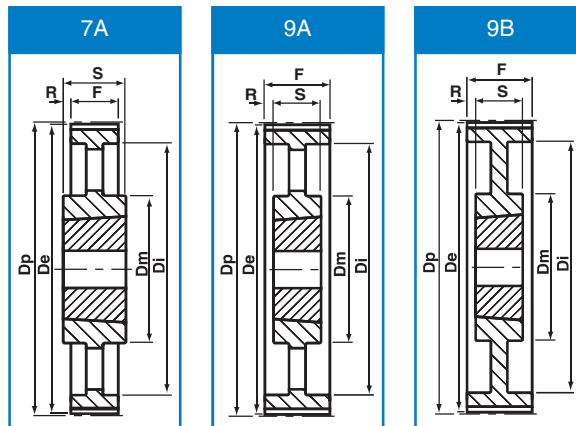
Product Designation	Number of Teeth	Type	Bush Size	Material	De	Dp	Df	Dm	Di	F	S	R	Mass kg
18-L-075	18	1FB	1108	S	53.81	54.57	60	-	-	25	25	-	0.2
19-L-075	19	1FB	1108	S	56.84	57.61	63	-	-	25	25	-	0.3
20-L-075	20	1FB	1108	S	59.88	60.64	67	-	-	25	25	-	0.3
21-L-075	21	1FB	1108	S	62.91	63.67	70	-	-	25	25	-	0.4
22-L-075	22	1FB	1108	S	65.94	66.70	75	-	-	25	25	-	0.4
23-L-075	23	1FB	1108	S	68.97	69.73	79	-	-	25	25	-	0.4
24-L-075	24	1FB	1108	S	72.00	72.77	79	-	-	25	25	-	0.5
25-L-075	25	1FB	1108	S	75.04	75.80	87	-	-	25	25	-	0.6
26-L-075	26	1FB	1108	S	78.07	78.83	87	-	-	25	25	-	0.6
27-L-075	27	1FB	1108	S	81.10	81.86	91	-	-	25	25	-	0.7
28-L-075	28	1FB	1108	S	84.13	84.89	91	-	-	25	25	-	0.7
30-L-075	30	1FB	1108	S	90.20	90.96	97	-	-	25	25	-	0.9
32-L-075	32	1FB	1108	S	96.26	97.02	102	-	-	25	25	-	1.0
36-L-075	36	1FB	1210	CI	108.39	109.15	120	-	-	25	25	-	1.2
40-L-075	40	1FB	1210	CI	120.51	121.28	128	-	-	25	25	-	1.7
48-L-075	48	3FB	1610	CI	144.77	145.53	150	92	124	25	25	-	2.5
60-L-075	60	3B	1610	CI	181.15	181.91	-	92	166	25	25	-	3.0
72-L-075	72	3A	1610	CI	217.53	218.30	-	92	202	25	25	-	4.0
84-L-075	84	7A	2012	CI	253.90	254.68	-	106	236	25	32	3.5	5.2
96-L-075	96	7A	2012	CI	290.30	291.06	-	106	270	25	32	3.5	6.5
120-L-075	120	7A	2012	CI	363.07	363.83	-	106	343	25	32	35.0	7.6

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

# Timing Taper Bore

## 3/8" PITCH (9.525mm) L100

Product Designation	Number of Teeth	Type	Bush Size	Material	De	Dp	Df	Dm	Di	F	S	R	Mass kg
18-L-100	18	5FB	1108	S	53.81	54.57	60	-	38	31	22	9.0	0.2
19-L-100	19	5FB	1108	S	56.84	57.61	63	-	38	31	22	9.0	0.3
20-L-100	20	5FB	1108	S	59.88	60.64	67	-	45	31	22	9.0	0.4
21-L-100	21	5FB	1108	S	62.91	63.67	70	-	47	31	22	9.0	0.4
22-L-100	22	5FB	1108	S	65.94	66.70	75	-	51	31	22	9.0	0.4
23-L-100	23	5FB	1108	S	68.97	69.73	79	-	54	32	22	10.0	0.5
24-L-100	24	5FB	1108	S	72.00	72.77	79	-	54	32	22	10.0	0.6
25-L-100	25	5FB	1108	S	75.04	75.80	87	-	56	32	22	10.0	0.6
26-L-100	26	5FB	1108	S	78.07	78.83	87	-	60	32	22	10.0	0.7
27-L-100	27	5FB	1108	S	81.10	81.86	91	-	62	32	22	10.0	0.8
28-L-100	28	5FB	1108	S	84.13	84.89	91	-	65	32	22	10.0	0.8
30-L-100	30	5FB	1210	S	90.20	90.96	97	-	71	32	25	7.0	0.9
32-L-100	32	5FB	1210	S	96.26	97.02	102	-	75	32	25	7.0	1.0
36-L-100	36	5FB	1210	CI	108.39	109.15	120	-	89	32	25	7.0	1.4
40-L-100	40	5FB	1610	CI	120.51	121.28	128	-	101	32	25	7.0	1.7
48-L-100	48	5FW	1610	CI	144.77	145.53	150	92	124	32	25	7.0	2.7
60-L-100	60	9B	1610	CI	181.15	181.91	-	92	166	32	25	4.0	2.4
72-L-100	72	3A	2012	CI	217.53	218.30	-	106	202	32	32	-	4.4
84-L-100	84	3A	2012	CI	253.90	254.68	-	106	236	32	32	-	6.0
96-L-100	96	3A	2012	CI	290.30	291.06	-	106	270	32	32	-	7.1
120-L-100	120	3A	2012	CI	363.07	363.83	-	106	343	32	32	-	8.5



Material; S = Steel, CI = Cast Iron

## 1/2" PITCH (12.70mm) H100

Product Designation	Number of Teeth	Type	Bush Size	Material	De	Dp	Df	Dm	Di	F	S	R	Mass kg
16-H-100	16	5FB	1108	S	63.31	64.68	71	-	45	31	22	9.0	0.4
18-H-100	18	5FB	1210	S	71.39	72.77	79	-	52	31	25	6.0	0.5
19-H-100	19	5FB	1210	S	75.44	76.81	83	-	56	31	25	6.0	0.6
20-H-100	20	5FB	1210	S	79.48	80.85	87	-	60	31	25	6.0	0.7
21-H-100	21	5FB	1210	S	83.52	84.89	91	-	63	32	25	7.0	0.8
22-H-100	22	5FB	1210	S	87.56	88.94	94	-	67	32	25	7.0	0.9
23-H-100	23	5FB	1210	S	91.61	92.98	102	-	70	32	25	7.0	0.9
24-H-100	24	5FB	1610	S	95.65	97.02	102	-	75	32	25	7.0	1.0
25-H-100	25	5FB	1610	CI	99.69	101.06	112	-	79	32	25	7.0	1.0
26-H-100	26	5FB	1610	CI	103.73	105.11	112	-	83	32	25	7.0	1.2
27-H-100	27	5FB	1610	CI	107.78	109.15	120	-	87	32	25	7.0	1.3
28-H-100	28	5FB	1610	CI	111.82	113.19	120	-	91	32	25	7.0	1.5
30-H-100	30	5FB	1610	CI	119.90	121.28	128	-	99	32	25	7.0	1.7
32-H-100	32	5FW	1610	CI	127.99	129.36	135	92	108	32	25	7.0	2.0
36-H-100	36	5FW	1610	CI	144.16	145.53	158	92	124	32	25	7.0	2.7
40-H-100	40	5FW	1610	CI	160.33	161.70	168	92	140	32	25	7.0	3.6
44-H-100	44	3FB	2012	CI	176.50	177.87	184	106	153	32	32	-	3.8
48-H-100	48	3FB	2012	CI	192.67	194.04	200	106	169	32	32	-	4.2
60-H-100	60	9A	2012	CI	241.18	242.55	-	106	223	34	32	1.0	4.8
72-H-100	72	9A	2012	CI	289.69	291.06	-	106	270	34	32	1.0	5.7
84-H-100	84	9A	2012	CI	338.20	339.57	-	106	318	34	32	1.0	6.8
96-H-100	96	7A	2517	CI	386.71	388.08	-	119	366	34	45	6.0	8.2

All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

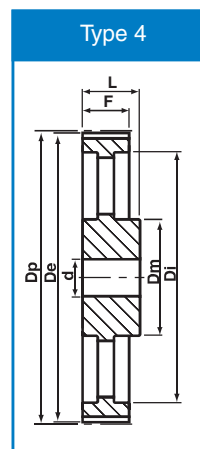
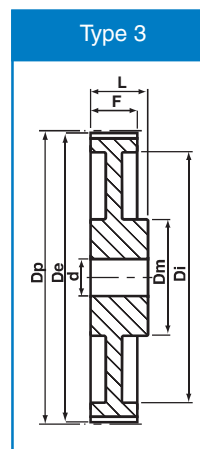
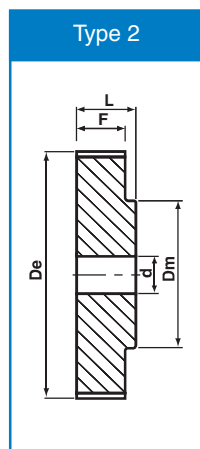
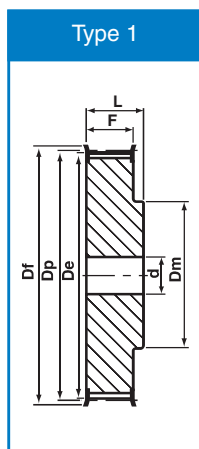
# Timing Pilot Bore

## XL037 Pitch 1/5" (5.08 mm)

Product	Type	Mat.	De	Dp	Df	Dm	F	L	d
10-XL-037	1	S	15.66	16.17	23	10	14.3	20	6
11-XL-037	1	S	17.28	17.79	23	10	14.3	20	6
12-XL-037	1	S	18.90	19.40	25	10	14.3	20	6
13-XL-037	1	CI	20.51	21.02	25	10	14.3	20	6
14-XL-037	1	CI	22.13	22.64	28	15	14.3	20	6
15-XL-037	1	CI	23.75	24.26	28	16	14.3	20	6
16-XL-037	1	CI	25.36	25.87	32	20	14.3	20	6
17-XL-037	1	CI	26.98	27.49	32	20	14.3	20	6
18-XL-037	1	CI	28.60	29.11	35	20	14.3	20	6
19-XL-037	1	CI	30.22	30.72	35	24	14.3	22	6
20-XL-037	1	CI	31.83	32.34	38	24	14.3	22	6
21-XL-037	1	CI	33.45	33.96	38	25	14.3	22	6
22-XL-037	1	CI	35.07	35.57	41	25	14.3	22	6
23-XL-037	1	CI	36.68	37.19	41	30	14.3	22	8
24-XL-037	1	CI	38.30	38.81	44	30	14.3	22	8
25-XL-037	1	CI	39.92	40.43	44	30	14.3	22	8
26-XL-037	1	CI	41.53	42.04	48	34	14.3	22	8
27-XL-037	1	CI	43.15	43.66	48	34	14.3	22	8
28-XL-037	1	CI	44.77	45.28	51	38	14.3	22	8
29-XL-037	1	CI	46.39	46.90	51	38	14.3	22	8
30-XL-037	1	CI	48.00	48.51	54	38	14.3	22	8
32-XL-037	1	CI	51.24	51.74	57	38	14.3	25	8
34-XL-037	1	CI	54.47	54.98	61	45	14.3	25	8
35-XL-037	1	CI	56.09	56.60	61	45	14.3	25	8
36-XL-037	2	CI	57.70	58.21	-	45	14.3	25	8
38-XL-037	2	CI	60.94	61.45	-	45	14.3	25	8
39-XL-037	2	CI	62.56	63.06	-	45	14.3	25	8
40-XL-037	2	CI	64.17	64.68	-	45	14.3	25	8
42-XL-037	2	CI	67.41	67.91	-	45	14.3	25	8
44-XL-037	2	CI	70.64	71.15	-	45	14.3	25	8
45-XL-037	2	CI	72.26	72.77	-	45	14.3	25	10
48-XL-037	3	CI	77.11	77.62	-	45	14.3	25	10
52-XL-037	3	CI	83.58	84.08	-	45	14.3	25	10
56-XL-037	3	CI	90.04	90.55	-	45	14.3	25	10
57-XL-037	3	CI	91.66	92.17	-	45	14.3	25	10
60-XL-037	3	S	96.51	97.02	-	45	14.3	25	10
68-XL-037	3	CI	109.45	109.96	-	45	14.3	25	10
70-XL-037	3	CI	112.68	113.19	-	45	14.3	25	10
72-XL-037	3	CI	115.92	116.42	-	45	14.3	25	10

## L050 Pitch 3/8" (9.525 mm)

Product	Type	Mat.	De	Dp	Df	Dm	F	L	d
10-L-050	1	S	29.56	30.33	37	20	19	28	8
11-L-050	1	S	32.59	33.35	37	22	19	30	8
12-L-050	1	S	35.62	36.37	43	24	19	30	8
13-L-050	1	S	38.65	39.41	43	28	19	30	8
14-L-050	1	S	41.68	42.44	48	28	19	30	10
15-L-050	1	S	44.72	45.48	51	34	19	30	10
16-L-050	1	S	47.75	48.51	54	36	19	32	10
17-L-050	1	S	50.78	51.54	57	36	19	32	10
18-L-050	1	S	53.81	54.59	60	40	19	32	10
19-L-050	1	S	56.84	57.61	64	40	19	32	10
20-L-050	1	S	59.88	60.63	67	40	19	32	10
21-L-050	1	S	62.91	63.68	70	45	19	32	10
22-L-050	1	S	65.94	66.70	75	45	19	32	10
23-L-050	1	S	68.97	69.73	79	55	19	32	10
24-L-050	1	S	72.00	72.77	79	55	19	32	10
25-L-050	1	S	75.04	75.80	83	58	19	32	10
26-L-050	1	S	78.07	78.84	86	58	19	32	12
27-L-050	1	S	81.10	81.86	87	58	19	32	12
28-L-050	1	S	84.13	84.89	91	58	19	32	12
30-L-050	1	S	90.20	90.96	97	70	19	32	12
32-L-050	1	S	96.26	97.03	102	70	19	32	12
33-L-050	1	CI	99.29	100.05	106	70	19	32	12
34-L-050	1	CI	102.32	103.08	112	70	19	32	12
35-L-050	1	CI	105.35	106.12	112	70	19	32	12
36-L-050	1	CI	108.39	109.14	115	70	19	32	12
40-L-050	1	CI	120.51	121.29	128	70	19	32	12
42-L-050	1	CI	126.57	127.34	135	70	19	32	12
44-L-050	1	CI	132.65	133.40	142	70	19	32	12
45-L-050	1	CI	135.67	136.44	142	70	19	32	12
48-L-050	1	CI	144.77	145.54	150	70	19	32	12
50-L-050	4	CI	150.83	151.60	-	70	19	32	12
56-L-050	4	CI	169.02	169.79	-	70	19	32	14
57-L-050	4	CI	172.06	172.82	-	70	19	32	14
60-L-050	4	CI	181.15	181.92	-	75	19	42	14
68-L-050	4	CI	205.41	206.18	-	75	19	42	14
70-L-050	4	CI	211.47	212.24	-	75	19	42	14
72-L-050	4	CI	217.53	218.29	-	75	19	42	14
84-L-050	4	CI	253.92	254.69	-	75	19	42	14
96-L-050	4	CI	290.30	291.06	-	75	19	42	14



**Material;** S = Steel, CI = Cast Iron

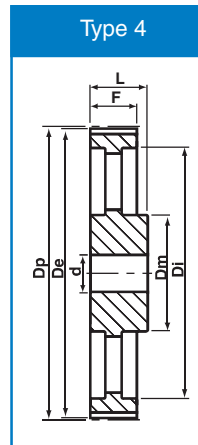
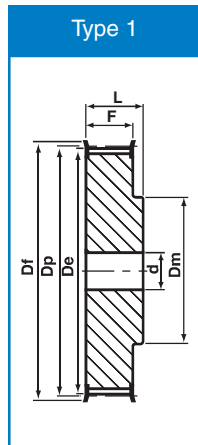
# Timing Pilot Bore

## L075 Pitch 3/8" (9.525 mm)

Product	Type	Mat.	De	Dp	Df	Dm	F	L	d
10-L-075	1	S	29.56	30.33	37	20	25.4	38	8
11-L-075	1	S	32.59	33.35	37	22	25.4	38	8
12-L-075	1	S	35.62	36.37	43	24	25.4	38	8
13-L-075	1	S	38.65	39.41	43	28	25.4	38	8
14-L-075	1	S	41.68	42.44	48	28	25.4	38	12
15-L-075	1	S	44.72	45.48	51	34	25.4	38	12
16-L-075	1	S	44.75	48.51	54	36	25.4	38	12
17-L-075	1	S	50.78	51.54	57	36	25.4	38	12
18-L-075	1	S	53.81	54.59	60	40	25.4	38	12
19-L-075	1	S	56.84	57.61	64	40	25.4	38	12
20-L-075	1	S	59.88	60.63	67	40	25.4	38	12
21-L-075	1	S	62.91	63.68	70	45	25.4	38	12
22-L-075	1	S	65.94	66.70	75	45	25.4	38	12
23-L-075	1	S	68.97	69.73	79	55	25.4	38	12
24-L-075	1	S	72.00	72.77	79	55	25.4	38	12
25-L-075	1	S	75.04	75.80	83	58	25.4	38	12
26-L-075	1	S	78.07	78.84	86	58	25.4	38	12
27-L-075	1	S	81.10	81.86	87	58	25.4	38	12
28-L-075	1	S	84.13	84.89	91	58	25.4	38	12
30-L-075	1	S	90.20	90.96	97	70	25.4	38	12
32-L-075	1	S	96.26	97.03	102	70	25.4	38	12
33-L-075	1	CI	99.29	100.05	106	70	25.4	38	12
34-L-075	1	CI	102.32	103.08	112	70	25.4	38	12
35-L-075	1	CI	105.35	106.12	112	70	25.4	38	12
36-L-075	1	CI	108.39	109.14	115	70	25.4	38	12
38-L-075	1	CI	114.46	115.22	120	70	25.4	38	12
40-L-075	1	CI	120.51	121.29	128	70	25.4	38	12
42-L-075	1	CI	126.57	127.34	135	70	25.4	38	12
44-L-075	1	CI	132.64	133.40	142	70	25.4	38	12
45-L-075	1	CI	135.67	136.44	142	70	25.4	38	12
48-L-075	1	CI	144.77	145.54	150	70	25.4	38	12
50-L-075	4	CI	150.83	151.60	-	70	25.4	38	14
52-L-075	4	CI	156.90	157.66	-	70	25.4	38	14
56-L-075	4	CI	169.02	169.79	-	70	25.4	38	14
57-L-075	4	CI	172.06	172.82	-	70	25.4	38	14
60-L-075	4	CI	181.15	181.92	-	75	25.4	38	14
70-L-075	4	CI	211.47	212.23	-	75	25.4	45	14
72-L-075	4	CI	217.53	218.29	-	75	25.4	45	14
84-L-075	4	CI	253.92	254.69	-	75	25.4	45	14
96-L-075	4	CI	290.30	291.06	-	75	25.4	45	14

## L100 Pitch 3/8" (9.525 mm)

Product	Type	Mat.	De	Dp	Df	Dm	F	L	d
10-L-100	1	S	29.56	30.33	37	20	31.8	45	8
11-L-100	1	S	32.59	33.35	37	22	31.8	45	8
12-L-100	1	S	35.62	36.37	43	24	31.8	45	8
13-L-100	1	S	38.65	39.41	43	28	31.8	45	8
14-L-100	1	S	41.68	42.44	48	28	31.8	45	12
15-L-100	1	S	44.72	45.48	51	34	31.8	45	12
16-L-100	1	S	47.75	48.51	54	36	31.8	45	12
17-L-100	1	S	50.78	51.54	57	36	31.8	45	12
18-L-100	1	S	53.81	54.59	60	40	31.8	45	12
19-L-100	1	S	56.84	57.61	64	40	31.8	45	12
20-L-100	1	S	59.88	60.63	67	40	31.8	45	12
21-L-100	1	S	62.91	63.68	70	45	31.8	45	14
22-L-100	1	S	65.94	66.70	75	45	31.8	45	14
23-L-100	1	S	68.97	69.73	79	55	31.8	45	14
24-L-100	1	S	72.00	72.77	79	55	31.8	45	14
25-L-100	1	S	75.04	75.80	83	58	31.8	45	14
26-L-100	1	S	78.07	78.84	86	58	31.8	45	14
27-L-100	1	S	81.10	81.86	87	58	31.8	45	14
28-L-100	1	S	84.13	84.89	91	58	31.8	45	14
30-L-100	1	S	90.20	90.96	97	70	31.8	45	14
32-L-100	1	S	96.26	97.03	102	70	31.8	45	14
33-L-100	1	CI	99.29	100.05	106	70	31.8	45	14
34-L-100	1	CI	102.32	103.08	112	70	31.8	45	14
35-L-100	1	CI	105.35	106.12	112	70	31.8	45	14
36-L-100	1	CI	108.39	109.14	115	70	31.8	45	14
40-L-100	1	CI	120.51	121.29	128	70	31.8	45	14
42-L-100	1	CI	126.57	127.34	135	70	31.8	45	14
44-L-100	1	CI	132.64	133.40	142	70	31.8	45	14
45-L-100	1	CI	135.67	136.44	142	70	31.8	45	14
48-L-100	1	CI	144.77	145.54	150	70	31.8	45	14
50-L-100	4	CI	150.83	151.60	-	70	31.8	45	14
52-L-100	4	CI	156.90	157.66	-	70	31.8	45	14
56-L-100	4	CI	169.02	169.79	-	70	31.8	45	14
57-L-100	4	CI	172.06	172.82	-	70	31.8	45	14
60-L-100	4	CI	181.15	181.92	-	75	31.8	45	14
68-L-100	4	CI	205.41	206.17	-	75	31.8	45	14
72-L-100	4	CI	217.53	218.29	-	75	31.8	45	14
84-L-100	4	CI	253.92	254.69	-	75	31.8	45	14
96-L-100	4	CI	290.30	291.06	-	75	31.8	45	14



Material; S = Steel, CI = Cast Iron