TABLE 1 METRIC PITCH THREADS

Metric Coarse	Pitch mm	Mandrel gear	Gearbox Setting tpi	Calc. pitch mm	Myford Set up	Comments	Other useful matches
M36,39	4.00	34	9	3.998	*		
M30,33	3.50	33	10	3.493	*		
M24,27	3.00	34	12	2.999	2.997	##	
	2.75	25	9 ½	2.785	*	Error 0.035 mm	
M18,20,22	2.50	33	14	2.495	*	##	
	2.25	34	16	2.249	*		
M14	2.00	34	18	1.999	*	##	
	1.80	34	20	1.799	*		
M12	1.75	33	20	1.746	*	##	
M11,10	1.50	34	24	1.499	1.499	##	~17 tpi
	1.40	25	19	1.393	*		
M8,9	1.25	33	28	1.247	*	##	
	1.20	25	22	1.203	*		
	1.10	25	24	1.101	*		
M6,7	1.00	34	36	1.000	0.999	##	
	0.90	34	40	0.900	*		
M5	0.80	33	44	0.794	*	##	
M4.5	0.75	34	48	0.750	0.749	##	~34 tpi
M4	0.70	25	38	0.696	*	##	
M3.5	0.60	25	44	0.601	*	##	
	0.55	25	48	0.549	*		
M3	0.50	21	44	0.505	*	##	
M2.2,2.5	0.45	24	56	0.454	*	##	~56 tpi
M2	0.40	21	56	0.397	*	##	
M1.6,1.8	0.35	30	10	0.353	*	**}Reverse**	
M1.4	0.30	33	13	0.299	*	**}cluster**	
M1.2,1.1,1.0	0.25	34	16	0.250	0.249	**}gear to**	
	0.20	34	20	0.200	*	**}fine feed**	
Metric Fine	Pitch mm	Mandrel gear	Gearbox Setting tpi	Actual pitch	Myford Set up	Comments	
M14	1.50	34	24	1.499	*	##	
M12,10	1.25	33	28	1.247	*	##	
M8	1.00	34	36	1.000	*	##	
M7,6	0.75	34	48	0.750	*	##	
M5,4.5,4.0	0.50	21	44	0.505	*	##	
Reverse cluster gear							
M3.5,3.0,2.5	0.35	30	10	0.343	n/a	##	10 BA
M2	0.25	34	16	0.250	n/a	##	13 BA

22 out of 34 combinations (65%) can be set up using either 33 or 34 tooth wheels
17 tpi is commonly used for fuel gas threads. It is not available on the Myford gearbox

*These results are from the Myford gearbox literature and are almost exact values (less than 1 micron) ## From tables available on the ME forum n/a not quoted

TABLE 2 BRITISH ASSOCIATION THREADS

BA Number	Pitch mm	Mandrel gear	Gearbox Setting tpi	Actual pitch mm	Myford Set up	Comments
0 BA	1.000	34	36	1.000	0.999	##
1 BA	0.900	34	40	0.900	*	##
2 BA	0.810	20	26	0.814	*	##
3 BA	0.730	33	48	0.728	*	##
4 BA	0.660	20	32	0.661	*	##
5 BA	0.590	20	36	0.588	*	##
6 BA	0.530	20	40	0.529	*	##
7 BA	0.480	20	44	0.481	*	##
8 BA	0.430	21	52	0.427	*	##
Reverse Cluster gear						
9 BA	0.390	33	10	0.388	*	
10 BA	0.350	30	10	0.353	*	
11 BA	0.310	21	8	0.308	*	
12 BA	0.280	38	16	0.279	*	
13 BA	0.250	34	16	0.250		
14 BA	0.230	35	18	0.228		
15 BA	0.210	38	22	0.203		
16 BA	0.190	35	22	0.187		
17 BA	0.170	34	24	0.166		
18 BA	0.150	33	26	0.149		

*These results from the Myford gearbox literature and are almost exact values (less than 1 micron)
From tables available on the ME forum

TABLE 3a DP PITCHES

DP number	Pitch mm	Mandrel gear	Gearbox Setting tpi	Calc. Pitch mm	Myford Set up	Comments
14	5.70	70	13	5.70	Not quoted	
16	4.986	75	16	4.961	}4.989	Error 0.025
		66	14	4.989	}	Best match
18	4.445	42	10	4.445	}4.435	Best match
		40	9 ½	4.456	}	
19	4.191	55	14	4.158	4.201	Error 0.033
20	3.990	34	9	3.998	3.991	
22	3.632	48	14	3.628	3.628	
24	3.327	44	14	3.326	3.323	
26	3.073	35	12	3.084	3.070	
28	2.845	35	13	2.848	2.851	
32	2.489	33	14	2.495	2.497	
36	2.210	25	12	2.203	2.215	
38	2.108	20	10	2.117	2.101	
40	1.995	38	20	2.011	}1.996	
		34	18	1.997	}	
44	1.803	34	20	1.800	1.814	
48	1.651	25	16	1.654	1.661	
52	1.524	40	28	1.512	1.535	Error 0.012
56	1.422	35	26	1.425	1.425	
64	1.245	33	28	1.247	1.247	
72	1.118	38	36	1.116	1.108	
76	1.041	55	56	1.040	1.050	
80	0.991	30	32	0.992	0.998	
88	0.914	38	44	0.914	0.907	
96	0.838	30	38	0.835	0.828	
104	0.762	40	56	0.756	0.767	
112	0.711	35	52	0.712	0.713	

A relatively large error of 0.033 mm was the closest match for 19DP pitch threads.

TABLE 3b DP PITCHES

DP number	Pitch mm	Mandrel gear	Gearbox Setting tpi	Calc. Pitch mm	Myford Set up	Comments
17	4.70	40	9	4.704	4.696	
21	3.80	34	9 ½	3.788	3.801	
23	3.47	59	18	3.470	3.471	No other match
25	3.20	30	10	3.175	3.193	Error 0.025
27	2.96	28	10	2.960	2.954	
30	2.66	20	8	2.649	}2.661	
		25	10	2.646	}	Error 0.014
34	2.37	20	9	2.352	}2.348	Error 0.018
		27	12	2.379	}	Best match
42	1.90	34	19	1.894	1.901	
46	1.735	36	22	1.732	}	Best match
		33	20	1.746	}1.735	
50	1.60	30	20	1.587	1.597	Error 0.013
54	1.478	28	20	1.482	1.477	
60	1.330	20	16	1.323	1.330	
68	1.173	40	36	1.175	1.174	
84	0.950	34	38	0.947	0.950	
92	0.867	33	40	0.873	0.868	
100	0.80	33	44	0.794	0.798	
108	0.739	28	40	0.741	0.736	
120	0.665	24	38	0.668	0.665	

TABLE 4 IMPERIAL PITCHES BEYOND THE NORMAL GEARBOX RANGE

Mandrel gear	Gearbox setting	Pitch achieved
25	26	25 tpi
	52	50 tpi
32	8	6 tpi
	20	15 tpi
	28	21 tpi
	36	27 tpi
	40	30 tpi
	44	33 tpi
	52	39 tpi
	56	42 tpi
48	10	5 tpi
	14	7 tpi

The table lists various imperial thread pitches not directly available from the Myford gearbox.

TABLE 5 MODULE PITCHES

Module number	Pitch mm	Mandrel gear	Gearbox Setting tpi	Calc. Pitch mm	Myford Set up	Comments
0.20	0.628	33	56	0.624	*	
0.25	0.785	28	38	0.780	*	
0.30	0.942	50	56	0.945	0.943	
0.35	1.10	50	48	1.098	*	
0.40	1.257	38	32	1.257	*	
0.45	1.414	24	18	1.410	*	
0.50	1.571	28	19	1.560	*	Only match
0.55	1.728	31	19	1.727	*	Best match
		33	20	1.746		Error 0.018
0.60	1.885	50	28	1.890	*	
0.65	2.042	50	26	2.035	*	
0.70	2.199	25	12	2.203	*	
0.75	2.356	20	9	2.352	*	
0.80	2.513	38	16	2.514	*	
0.85	2.670	24	9 ½	2.674	*	
0.90	2.877	30	11	2.886	*	
0.95	2.985	34	12	3.000	*	Error 0.015
1.00	3.142	28	9 ½	3.119	*	Error 0.023
1.05	3.299	28	9	3.293	------	
1.10	3.456	36	11	3.463	------	
		31	9 ½	3.453		Best match
1.15	3.613	41	12	3.612	------	Best match
		34	10	3.598	------	Error 0.015
1.20	3.770	50	14	3.780	------	
1.25	3.927	37	10	3.916	------	Best match
		35	9 ½	3.900	------	Error 0.027
1.30	4.084	50	13	4.071	------	Error 0.013
1.35	4.241	38	9 ½	4.233	------	
1.40	4.400	50	12	4.405	------	
1.45	4.555	43	10	4.551	}------	
		41	9 ½	4.568	}	
		60	14	4.535	}	Error 0.020
1.50	4.712	40	9	4.704	------	

------ There were no values listed in the Myford gearbox literature for these pitches, those identified by * were almost exact values (within 1 micron)

NOTE. The limitations of a restricted range of available ratios from the gearbox are particularly apparent in this table. The choice of gearing depends entirely on what errors are acceptable for the work in hand in those cases.

TABLE 6 HOLTZAPFFEL THREAD PITCHES

Thread Size tpi **	Metric Pitch mm	Mandrel gear	Gearbox Setting tpi	Calc. Pitch mm	Error mm	Comments
6.58	3.860	51	14	3.855	0.005	Best match
8.25	3.079	32	11	3.078	0.001	
9.45	2.688	33	13	2.687	0.001	
13.09	1.940	33	18	1.938	0.002	
16.50	1.539	32	22	1.539	exact	
19.89	1.277	29	24	1.278	0.001	Best match
22.12	1.148	39	36	1.145	0.003	Best match
		24	22	1.154	0.006	
25.71	0.988	41	44	0.986	0.002	Only match
28.88	0.880	30	36	0.881	0.001	
36.10	0.704	24	36	0.705	0.001	
39.83	0.638	29	48	0.637	0.001	Best match
		24	40	0.635	0.003	
55.11	0.461	21	48	0.461	exact	

** Thread pitches as published in Model Engineers Handbook by Tubal Cain.

These results are realistically as good as those obtained from his compound gearing settings that use the Myford metric banjo. However, a lot of ‘special’ wheels are needed for this thread series.

TABLE 7 LÖWENHERZ THREADS

Diameter mm	Pitch mm	Mandrel gear	Gearbox Setting tpi	Calc. Pitch mm	Comments
1.0 & 1.2	0.25	34	16 FF	0.250	Fine feed
1.4	0.30	33	13 FF	0.299	Fine feed
1.7	0.35	30	10 FF	0.353	Fine feed
2.0 & 2.3	0.40	21	56	0.397	
2.6	0.45	24	56	0.454	
3.0	0.50	21	44	0.505	
3.5	0.60	25	44	0.601	
4.0	0.70	25	38	0.696	
4.5	0.75	34	48	0.750	
5.0	0.80	33	44	0.794	
5.5	0.90	34	40	0.900	
6.0	1.00	34	36	0.999	
7.0	1.10	25	24	1.101	
8.0	1.20	25	22	1.203	
9.0	1.30	27	22	1.300	Only match
10.0	1.40	25	19	1.393	
12.0	1.60	33	22	1.587	
14.0	1.80	34	20	1.799	
16.0	2.00	34	18	1.999	
18.0	2.20	25	12	2.203	
20.0	2.40	25	11	2.405	
22 & 24	2.80	21	8	2.778	
26 & 28	3.20	60	20	3.175	Error 0.025
30.0	3.60	34	10	3.598	

This was a screw thread system used by a consortium of scientific instrument makers and other agencies. It was introduced in Berlin in 1894 and used mainly in Germany and Austria in the late 19th to early 20th century. Some French makers used the same system.

The series is named after Dr. Leopold Löwenherz, a physicist active in metrology and especially the design of scientific instruments.

The thread angle is 53 degrees 8 minutes and is of truncated form.

Copyrighted material, which includes a drawing and full information for tapping drill size and other thread data can be downloaded in a table published by Sizes Inc.

www.sizes.com/tools/thread_Lowenherzl.htm