

Maximum Oil Film Thickness Data

The results below are just a few of the simulations that have been carried out. The results of these simulations were used to derive equations (14), (15) and (17) of the main paper.

A (mm)	b (mm)	η (mPa.s)	P_{back} (bars)	f (Hz)	r (m)	h_{max} (microns)
5	0.5	10.0	2.0	30.0	0.005	0.852
5	0.5	10.0	2.0	30.0	0.075	1.029
5	0.5	10.0	2.0	30.0	0.01	1.125
5	0.5	10.0	2.0	30.0	0.015	1.205
5	0.5	10.0	2.0	30.0	0.02	1.225
5	0.5	10.0	2.0	30.0	0.021	1.225
5	0.5	10.0	2.0	30.0	0.022	1.225
5	0.5	10.0	2.0	30.0	0.023	1.224
5	0.5	10.0	2.0	30.0	0.024	1.223
5	0.5	10.0	2.0	30.0	0.025	1.221
5	0.5	10.0	2.0	30.0	0.03	1.208
5	0.5	10.0	2.0	30.0	0.04	1.173
5	0.5	10.0	2.0	30.0	0.05	1.137
5	0.5	10.0	2.0	30.0	0.1	0.993
5	0.5	10.0	2.0	30.0	0.2	0.835
5	0.5	10.0	2.0	30.0	0.5	0.643

Table A2.1: Variation of h_{max} with slider radius of curvature, r (m) for A = 5 mm, b = 0.5 mm, η = 10 mPa.s, f = 30 Hz and P_{back} = 2 bars ($r_o \approx 0.021$ m)

A (mm)	b (mm)	η (mPa.s)	P_{back} (bars)	f (Hz)	r (m)	h_{max} (microns)
10	0.5	10.0	2.0	30.0	0.005	1.423
10	0.5	10.0	2.0	30.0	0.075	1.613
10	0.5	10.0	2.0	30.0	0.01	1.694
10	0.5	10.0	2.0	30.0	0.014	1.732
10	0.5	10.0	2.0	30.0	0.015	1.733
10	0.5	10.0	2.0	30.0	0.016	1.732
10	0.5	10.0	2.0	30.0	0.02	1.716
10	0.5	10.0	2.0	30.0	0.03	1.647
10	0.5	10.0	2.0	30.0	0.04	1.575
10	0.5	10.0	2.0	30.0	0.05	1.511
10	0.5	10.0	2.0	30.0	0.1	1.292
10	0.5	10.0	2.0	30.0	0.2	1.074
10	0.5	10.0	2.0	30.0	0.5	0.819

Table A2.2: Variation of h_{max} with slider radius of curvature, r (m) for A = 10 mm, b = 0.5 mm, η = 10 mPa.s, f = 30 Hz and P_{back} = 2 bars ($r_o \approx 0.015$ m)

Supplementary data

A (mm)	b (mm)	η (mPa.s)	P_{back} (bars)	f (Hz)	r (m)	h_{max} (microns)
20	0.5	10.0	2.0	30.0	0.003	1.872
20	0.5	10.0	2.0	30.0	0.004	2.107
20	0.5	10.0	2.0	30.0	0.005	2.250
20	0.5	10.0	2.0	30.0	0.006	2.339
20	0.5	10.0	2.0	30.0	0.007	2.393
20	0.5	10.0	2.0	30.0	0.008	2.425
20	0.5	10.0	2.0	30.0	0.009	2.442
20	0.5	10.0	2.0	30.0	0.010	2.450
20	0.5	10.0	2.0	30.0	0.011	2.450
20	0.5	10.0	2.0	30.0	0.012	2.446
20	0.5	10.0	2.0	30.0	0.013	2.438
20	0.5	10.0	2.0	30.0	0.014	2.428
20	0.5	10.0	2.0	30.0	0.015	2.417
20	0.5	10.0	2.0	30.0	0.02	2.347
20	0.5	10.0	2.0	30.0	0.03	2.204
20	0.5	10.0	2.0	30.0	0.04	2.084
20	0.5	10.0	2.0	30.0	0.05	1.985
20	0.5	10.0	2.0	30.0	0.1	1.670
20	0.5	10.0	2.0	30.0	0.2	1.374
20	0.5	10.0	2.0	30.0	0.5	1.041

Table A2.3: Variation of h_{max} with slider radius of curvature, r (m) for A = 20 mm, b = 0.5 mm, η = 10 mPa.s, f = 30 Hz and P_{back} = 2 bars ($r_o \approx 0.0105$ m)

A (mm)	b (mm)	η (mPa.s)	P_{back} (bars)	f (Hz)	r (m)	h_{max} (microns)
5	1.0	10.0	2.0	30.0	0.005	0.547
5	1.0	10.0	2.0	30.0	0.0075	0.775
5	1.0	10.0	2.0	30.0	0.01	0.965
5	1.0	10.0	2.0	30.0	0.015	1.244
5	1.0	10.0	2.0	30.0	0.02	1.423
5	1.0	10.0	2.0	30.0	0.025	1.538
5	1.0	10.0	2.0	30.0	0.03	1.613
5	1.0	10.0	2.0	30.0	0.035	1.662
5	1.0	10.0	2.0	30.0	0.04	1.694
5	1.0	10.0	2.0	30.0	0.045	1.714
5	1.0	10.0	2.0	30.0	0.05	1.725
5	1.0	10.0	2.0	30.0	0.055	1.731
5	1.0	10.0	2.0	30.0	0.06	1.733
5	1.0	10.0	2.0	30.0	0.065	1.731
5	1.0	10.0	2.0	30.0	0.1	1.683
5	1.0	10.0	2.0	30.0	0.2	1.511
5	1.0	10.0	2.0	30.0	0.5	1.220

Table A2.4: Variation of h_{max} with slider radius of curvature, r (m) for A = 5 mm, b = 1.0 mm, η = 10 mPa.s, f = 30 Hz and P_{back} = 2 bars ($r_o \approx 0.06$ m)

Supplementary data

A (mm)	b (mm)	η (mPa.s)	P_{back} (bars)	f (Hz)	r (m)	h_{max} (microns)
10	1.0	10.0	2.0	30.0	0.005	1.045
10	1.0	10.0	2.0	30.0	0.0075	1.423
10	1.0	10.0	2.0	30.0	0.01	1.703
10	1.0	10.0	2.0	30.0	0.015	2.059
10	1.0	10.0	2.0	30.0	0.02	2.25
10	1.0	10.0	2.0	30.0	0.025	2.355
10	1.0	10.0	2.0	30.0	0.03	2.411
10	1.0	10.0	2.0	30.0	0.032	2.425
10	1.0	10.0	2.0	30.0	0.035	2.439
10	1.0	10.0	2.0	30.0	0.037	2.445
10	1.0	10.0	2.0	30.0	0.04	2.450
10	1.0	10.0	2.0	30.0	0.045	2.450
10	1.0	10.0	2.0	30.0	0.05	2.443
10	1.0	10.0	2.0	30.0	0.055	2.431
10	1.0	10.0	2.0	30.0	0.06	2.417
10	1.0	10.0	2.0	30.0	0.065	2.401
10	1.0	10.0	2.0	30.0	0.07	2.383
10	1.0	10.0	2.0	30.0	0.1	2.273
10	1.0	10.0	2.0	30.0	0.2	1.985
10	1.0	10.0	2.0	30.0	0.5	1.572

Table A2.5: Variation of h_{max} with slider radius of curvature, r (m) for A = 10 mm, b = 1.0 mm, η = 10 mPa.s, f = 30 Hz and P_{back} = 2 bars ($r_o \approx 0.0425$ m)

A (mm)	b (mm)	η (mPa.s)	P_{back} (bars)	f (Hz)	r (m)	h_{max} (microns)
20	1.0	10.0	2.0	30.0	0.005	1.931
20	1.0	10.0	2.0	30.0	0.0075	2.488
20	1.0	10.0	2.0	30.0	0.01	2.846
20	1.0	10.0	2.0	30.0	0.015	3.227
20	1.0	10.0	2.0	30.0	0.02	3.388
20	1.0	10.0	2.0	30.0	0.025	3.451
20	1.0	10.0	2.0	30.0	0.028	3.464
20	1.0	10.0	2.0	30.0	0.029	3.465
20	1.0	10.0	2.0	30.0	0.03	3.466
20	1.0	10.0	2.0	30.0	0.031	3.465
20	1.0	10.0	2.0	30.0	0.032	3.464
20	1.0	10.0	2.0	30.0	0.035	3.456
20	1.0	10.0	2.0	30.0	0.05	3.367
20	1.0	10.0	2.0	30.0	0.1	3.022
20	1.0	10.0	2.0	30.0	0.2	2.585
20	1.0	10.0	2.0	30.0	0.5	2.015

Table A2.6: Variation of h_{max} with slider radius of curvature, r (m) for A = 20 mm, b = 1.0 mm, η = 10 mPa.s, f = 30 Hz and P_{back} = 2 bars ($r_o \approx 0.03$ m)

Supplementary data

A (mm)	b (mm)	η (mPa.s)	P_{back} (bars)	f (Hz)	r (m)	h_{max} (microns)
5	1.5	10.0	2.0	30.0	0.01	0.723
5	1.5	10.0	2.0	30.0	0.02	1.254
5	1.5	10.0	2.0	30.0	0.03	1.592
5	1.5	10.0	2.0	30.0	0.04	1.800
5	1.5	10.0	2.0	30.0	0.05	1.930
5	1.5	10.0	2.0	30.0	0.06	2.011
5	1.5	10.0	2.0	30.0	0.07	2.062
5	1.5	10.0	2.0	30.0	0.08	2.093
5	1.5	10.0	2.0	30.0	0.09	2.111
5	1.5	10.0	2.0	30.0	0.10	2.120
5	1.5	10.0	2.0	30.0	0.11	2.122
5	1.5	10.0	2.0	30.0	0.12	2.120
5	1.5	10.0	2.0	30.0	0.13	2.115
5	1.5	10.0	2.0	30.0	0.14	2.108
5	1.5	10.0	2.0	30.0	0.15	2.099
5	1.5	10.0	2.0	30.0	0.2	2.042
5	1.5	10.0	2.0	30.0	0.3	1.922
5	1.5	10.0	2.0	30.0	0.4	1.820
5	1.5	10.0	2.0	30.0	0.5	1.734
5	1.5	10.0	2.0	30.0	1.0	1.462

Table A2.7: Variation of h_{max} with slider radius of curvature, r (m) for A = 5 mm, b = 1.5 mm, η = 10 mPa.s, f = 30 Hz and P_{back} = 2 bars ($r_o \approx 0.11$ m)

A (mm)	b (mm)	η (mPa.s)	P_{back} (bars)	f (Hz)	r (m)	h_{max} (microns)
10	1.5	10.0	2.0	30.0	0.01	1.372
10	1.5	10.0	2.0	30.0	0.02	2.184
10	1.5	10.0	2.0	30.0	0.03	2.598
10	1.5	10.0	2.0	30.0	0.04	2.810
10	1.5	10.0	2.0	30.0	0.05	2.920
10	1.5	10.0	2.0	30.0	0.06	2.974
10	1.5	10.0	2.0	30.0	0.07	2.997
10	1.5	10.0	2.0	30.0	0.075	3.001
10	1.5	10.0	2.0	30.0	0.08	3.001
10	1.5	10.0	2.0	30.0	0.085	2.999
10	1.5	10.0	2.0	30.0	0.09	2.994
10	1.5	10.0	2.0	30.0	0.1	2.979
10	1.5	10.0	2.0	30.0	0.15	2.867
10	1.5	10.0	2.0	30.0	0.2	2.746
10	1.5	10.0	2.0	30.0	0.3	2.542
10	1.5	10.0	2.0	30.0	0.4	2.385
10	1.5	10.0	2.0	30.0	0.5	2.260
10	1.5	10.0	2.0	30.0	1.0	1.880

Table A2.8: Variation of h_{max} with slider radius of curvature, r (m) for A = 10 mm, b = 1.5 mm, η = 10 mPa.s, f = 30 Hz and P_{back} = 2 bars ($r_o \approx 0.0775$ m)

Supplementary data

A (mm)	b (mm)	η (mPa.s)	P_{back} (bars)	f (Hz)	r (m)	h_{max} (microns)
20	1.5	10.0	2.0	30.0	0.01	2.508
20	1.5	10.0	2.0	30.0	0.02	3.600
20	1.5	10.0	2.0	30.0	0.03	4.022
20	1.5	10.0	2.0	30.0	0.04	4.186
20	1.5	10.0	2.0	30.0	0.045	4.222
20	1.5	10.0	2.0	30.0	0.05	4.240
20	1.5	10.0	2.0	30.0	0.055	4.245
20	1.5	10.0	2.0	30.0	0.06	4.241
20	1.5	10.0	2.0	30.0	0.065	4.231
20	1.5	10.0	2.0	30.0	0.07	4.216
20	1.5	10.0	2.0	30.0	0.08	4.177
20	1.5	10.0	2.0	30.0	0.09	4.132
20	1.5	10.0	2.0	30.0	0.10	4.084
20	1.5	10.0	2.0	30.0	0.15	3.844
20	1.5	10.0	2.0	30.0	0.2	3.689
20	1.5	10.0	2.0	30.0	0.3	3.326
20	1.5	10.0	2.0	30.0	0.4	3.098
20	1.5	10.0	2.0	30.0	0.5	2.923
20	1.5	10.0	2.0	30.0	1.0	2.407
20	1.5	10.0	2.0	30.0	2.0	1.955

Table A2.9: Variation of h_{max} with slider radius of curvature, r (m) for A = 20 mm, b = 1.5 mm, η = 10 mPa.s, f = 30 Hz and P_{back} = 2 bars ($r_0 \approx 0.055$ m)

Minimum Oil Film Thickness Data

The results below are just a few of the simulations that have been carried out. The results of these simulations were used to derive equations (20), (21), (22) and (23) of the main paper.

A (mm)	b (mm)	r (m)	η (mPa.s)	P_{back} (bars)	f (Hz)	h_{max} (μm)	h_{min} (μm)	Δ ($^{\circ}$)
5	0.5	0.005	10.0	2.0	30.0	0.851	0.090	4.7
5	0.5	0.0075	10.0	2.0	30.0	1.029	0.162	5.9
5	0.5	0.01	10.0	2.0	30.0	1.124	0.231	6.9
5	0.5	0.02	10.0	2.0	30.0	1.223	0.422	9.3
5	0.5	0.025	10.0	2.0	30.0	1.219	0.476	10.1
5	0.5	0.03	10.0	2.0	30.0	1.205	0.514	10.9
5	0.5	0.04	10.0	2.0	30.0	1.169	0.560	12.2
5	0.5	0.05	10.0	2.0	30.0	1.130	0.585	13.3
5	0.5	0.075	10.0	2.0	30.0	1.046	0.608	15.5
5	0.5	0.08	10.0	2.0	30.0	1.032	0.610	15.9
5	0.5	0.09	10.0	2.0	30.0	1.005	0.611	16.6
5	0.5	0.1	10.0	2.0	30.0	0.980	0.610	17.3
5	0.5	0.11	10.0	2.0	30.0	0.957	0.609	17.9
5	0.5	0.15	10.0	2.0	30.0	0.882	0.598	20.1
5	0.5	0.2	10.0	2.0	30.0	0.812	0.581	22.2
5	0.5	0.3	10.0	2.0	30.0	0.717	0.548	25.3
5	0.5	0.4	10.0	2.0	30.0	0.654	0.521	27.4
5	0.5	0.5	10.0	2.0	30.0	0.608	0.498	29.0

Table A3.1: Variation of h_{max} , h_{min} , and position ($^{\circ}$) of h_{min} , with slider radius of curvature, r (mm).

The position of the minimum occurs at $(90+\Delta)^{\circ}$ ($r_{opt} \approx 0.09$ m)

A (mm)	b (mm)	r (m)	η (mPa.s)	P_{back} (bars)	f (Hz)	h_{max} (μm)	h_{min} (μm)	Δ ($^{\circ}$)
10	0.5	0.01	10.0	2.0	30.0	1.694	0.329	5.2
10	0.5	0.02	10.0	2.0	30.0	1.715	0.552	7.0
10	0.5	0.03	10.0	2.0	30.0	1.645	0.646	8.2
10	0.5	0.04	10.0	2.0	30.0	1.573	0.690	9.2
10	0.5	0.05	10.0	2.0	30.0	1.508	0.712	10.0
10	0.5	0.06	10.0	2.0	30.0	1.452	0.723	10.8
10	0.5	0.07	10.0	2.0	30.0	1.403	0.727	11.4
10	0.5	0.08	10.0	2.0	30.0	1.360	0.728	12.0
10	0.5	0.09	10.0	2.0	30.0	1.321	0.727	12.6
10	0.5	0.1	10.0	2.0	30.0	1.286	0.725	13.1
10	0.5	0.2	10.0	2.0	30.0	1.061	0.685	17.0
10	0.5	0.3	10.0	2.0	30.0	0.936	0.647	19.7

Table A3.2: Variation of h_{max} , h_{min} , and position ($^{\circ}$) of h_{min} , with slider radius of curvature, r (mm).

The position of the minimum occurs at $(90+\Delta)^{\circ}$ ($r_{opt} \approx 0.08$ m)

Supplementary data

A (mm)	b (mm)	r (m)	η (mPa.s)	P _{back} (bars)	f (Hz)	h _{max} (μ m)	h _{min} (μ m)	Δ (°)
20	0.5	0.01	10.0	2.0	30.0	2.450	0.458	4.0
20	0.5	0.02	10.0	2.0	30.0	2.346	0.706	5.3
20	0.5	0.03	10.0	2.0	30.0	2.204	0.799	6.2
20	0.5	0.04	10.0	2.0	30.0	2.083	0.839	6.9
20	0.5	0.05	10.0	2.0	30.0	1.984	0.856	7.5
20	0.5	0.06	10.0	2.0	30.0	1.901	0.862	8.0
20	0.5	0.065	10.0	2.0	30.0	1.864	0.863	8.3
20	0.5	0.07	10.0	2.0	30.0	1.830	0.863	8.5
20	0.5	0.075	10.0	2.0	30.0	1.799	0.862	8.8
20	0.5	0.08	10.0	2.0	30.0	1.769	0.861	9.0
20	0.5	0.09	10.0	2.0	30.0	1.715	0.857	9.4
20	0.5	0.1	10.0	2.0	30.0	1.668	0.852	9.8
20	0.5	0.2	10.0	2.0	30.0	1.368	0.795	12.7
20	0.5	0.3	10.0	2.0	30.0	1.207	0.749	14.7

Table A3.3: Variation of h_{max}, h_{min}, and position (°) of h_{min}, with slider radius of curvature, r (mm).

The position of the minimum occurs at $(90+\Delta)^\circ$ ($r_{\text{opt}} \approx 0.0675$ m)

A (mm)	b (mm)	r (m)	η (mPa.s)	P _{back} (bars)	f (Hz)	h _{max} (μ m)	h _{min} (μ m)	Δ (°)
5	1.0	0.01	10.0	2.0	30.0	0.965	0.118	6.1
5	1.0	0.015	10.0	2.0	30.0	1.242	0.213	7.6
5	1.0	0.02	10.0	2.0	30.0	1.419	0.314	8.8
5	1.0	0.03	10.0	2.0	30.0	1.607	0.492	10.7
5	1.0	0.04	10.0	2.0	30.0	1.685	0.627	12.1
5	1.0	0.05	10.0	2.0	30.0	1.713	0.725	13.3
5	1.0	0.1	10.0	2.0	30.0	1.657	0.941	17.3
5	1.0	0.15	10.0	2.0	30.0	1.555	0.996	20.0
5	1.0	0.2	10.0	2.0	30.0	1.465	1.006	22.1
5	1.0	0.25	10.0	2.0	30.0	1.389	1.001	23.8
5	1.0	0.3	10.0	2.0	30.0	1.326	0.989	25.2
5	1.0	0.4	10.0	2.0	30.0	1.226	0.959	27.3

Table A3.4: Variation of h_{max}, h_{min}, and position (°) of h_{min}, with slider radius of curvature, r (mm).

The position of the minimum occurs at $(90+\Delta)^\circ$ ($r_{\text{opt}} \approx 0.2$ m)

Supplementary data

A (mm)	b (mm)	r (m)	η (mPa.s)	P _{back} (bars)	f (Hz)	h _{max} (μ m)	h _{min} (μ m)	Δ (°)
10	1.0	0.02	10.0	2.0	30.0	2.248	0.458	6.8
10	1.0	0.03	10.0	2.0	30.0	2.408	0.682	8.2
10	1.0	0.04	10.0	2.0	30.0	2.445	0.838	9.2
10	1.0	0.05	10.0	2.0	30.0	2.437	0.945	10.0
10	1.0	0.1	10.0	2.0	30.0	2.261	1.161	13.1
10	1.0	0.11	10.0	2.0	30.0	2.224	1.177	13.5
10	1.0	0.12	10.0	2.0	30.0	2.189	1.188	14.0
10	1.0	0.13	10.0	2.0	30.0	2.155	1.197	14.4
10	1.0	0.14	10.0	2.0	30.0	2.123	1.203	14.8
10	1.0	0.15	10.0	2.0	30.0	2.093	1.207	15.2
10	1.0	0.16	10.0	2.0	30.0	2.063	1.210	15.6
10	1.0	0.17	10.0	2.0	30.0	2.035	1.211	16.0
10	1.0	0.18	10.0	2.0	30.0	2.009	1.212	16.3
10	1.0	0.19	10.0	2.0	30.0	1.983	1.212	16.6
10	1.0	0.2	10.0	2.0	30.0	1.959	1.211	17.0
10	1.0	0.3	10.0	2.0	30.0	1.762	1.186	19.6
10	1.0	0.4	10.0	2.0	30.0	1.623	1.152	21.7

Table A3.5: Variation of h_{max}, h_{min}, and position (°) of h_{min}, with slider radius of curvature, r (mm).

The position of the minimum occurs at (90+ Δ)° (r_{opt} $\approx$ 0.185 m)

A (mm)	b (mm)	r (m)	η (mPa.s)	P _{back} (bars)	f (Hz)	h _{max} (μ m)	h _{min} (μ m)	Δ (°)
20	1.0	0.02	10.0	2.0	30.0	3.387	0.651	5.2
20	1.0	0.05	10.0	2.0	30.0	3.364	1.203	7.5
20	1.0	0.1	10.0	2.0	30.0	3.017	1.407	9.7
20	1.0	0.11	10.0	2.0	30.0	2.958	1.418	10.1
20	1.0	0.12	10.0	2.0	30.0	2.904	1.427	10.4
20	1.0	0.13	10.0	2.0	30.0	2.853	1.432	10.8
20	1.0	0.14	10.0	2.0	30.0	2.805	1.435	11.1
20	1.0	0.15	10.0	2.0	30.0	2.761	1.437	11.3
20	1.0	0.16	10.0	2.0	30.0	2.718	1.437	11.6
20	1.0	0.17	10.0	2.0	30.0	2.678	1.436	11.9
20	1.0	0.18	10.0	2.0	30.0	2.641	1.434	12.1
20	1.0	0.19	10.0	2.0	30.0	2.605	1.432	12.4
20	1.0	0.2	10.0	2.0	30.0	2.571	1.429	12.6
20	1.0	0.3	10.0	2.0	30.0	2.303	1.389	14.6

Table A3.6: Variation of h_{max}, h_{min}, and position (°) of h_{min}, with slider radius of curvature, r (mm).

The position of the minimum occurs at (90+ Δ)° (r_{opt} $\approx$ 0.155 m)

Supplementary data

A (mm)	b (mm)	r (m)	η (mPa.s)	P _{back} (bars)	f (Hz)	h _{max} (μ m)	h _{min} (μ m)	Δ (°)
5	1.5	0.05	10.0	2.0	30.0	1.913	0.665	13.1
5	1.5	0.1	10.0	2.0	30.0	2.081	1.071	17.3
5	1.5	0.15	10.0	2.0	30.0	2.042	1.231	20.0
5	1.5	0.2	10.0	2.0	30.0	1.972	1.298	22.1
5	1.5	0.25	10.0	2.0	30.0	1.900	1.325	23.7
5	1.5	0.26	10.0	2.0	30.0	1.886	1.328	24.0
5	1.5	0.27	10.0	2.0	30.0	1.873	1.330	24.3
5	1.5	0.28	10.0	2.0	30.0	1.860	1.331	24.6
5	1.5	0.29	10.0	2.0	30.0	1.847	1.332	24.9
5	1.5	0.3	10.0	2.0	30.0	1.834	1.333	25.1
5	1.5	0.31	10.0	2.0	30.0	1.821	1.333	25.4
5	1.5	0.32	10.0	2.0	30.0	1.809	1.333	25.6
5	1.5	0.4	10.0	2.0	30.0	1.720	1.322	27.2
5	1.5	0.5	10.0	2.0	30.0	1.628	1.298	28.8

Table A3.7: Variation of h_{max}, h_{min}, and position (°) of h_{min}, with slider radius of curvature, r (mm).

The position of the minimum occurs at $(90+\Delta)^\circ$ ($r_{\text{opt}} \approx 0.31$ m)

A (mm)	b (mm)	r (m)	η (mPa.s)	P _{back} (bars)	f (Hz)	h _{max} (μ m)	h _{min} (μ m)	Δ (°)
10	1.5	0.05	10.0	2.0	30.0	2.912	0.922	9.9
10	1.5	0.1	10.0	2.0	30.0	2.961	1.375	13.1
10	1.5	0.15	10.0	2.0	30.0	2.837	1.535	15.2
10	1.5	0.2	10.0	2.0	30.0	2.706	1.598	16.9
10	1.5	0.25	10.0	2.0	30.0	2.588	1.621	18.4
10	1.5	0.26	10.0	2.0	30.0	2.566	1.622	18.6
10	1.5	0.27	10.0	2.0	30.0	2.545	1.624	18.9
10	1.5	0.28	10.0	2.0	30.0	2.524	1.625	19.1
10	1.5	0.29	10.0	2.0	30.0	2.504	1.625	19.4
10	1.5	0.3	10.0	2.0	30.0	2.484	1.625	19.6
10	1.5	0.31	10.0	2.0	30.0	2.465	1.624	19.8
10	1.5	0.32	10.0	2.0	30.0	2.446	1.623	20.0
10	1.5	0.35	10.0	2.0	30.0	2.393	1.619	20.7
10	1.5	0.4	10.0	2.0	30.0	2.313	1.609	21.6
10	1.5	0.5	10.0	2.0	30.0	2.178	1.580	23.3

Table A3.8: Variation of h_{max}, h_{min}, and position (°) of h_{min}, with slider radius of curvature, r (mm).

The position of the minimum occurs at $(90+\Delta)^\circ$ ($r_{\text{opt}} \approx 0.29$ m)

Supplementary data

A (mm)	b (mm)	r (m)	η (mPa.s)	P _{back} (bars)	f (Hz)	h _{max} (μ m)	h _{min} (μ m)	Δ (°)
20	1.5	0.05	10.0	2.0	30.0	4.236	1.242	7.5
20	1.5	0.1	10.0	2.0	30.0	4.075	1.722	9.7
20	1.5	0.15	10.0	2.0	30.0	3.830	1.870	11.3
20	1.5	0.2	10.0	2.0	30.0	3.618	1.919	12.6
20	1.5	0.23	10.0	2.0	30.0	3.509	1.929	13.3
20	1.5	0.24	10.0	2.0	30.0	3.475	1.931	13.5
20	1.5	0.25	10.0	2.0	30.0	3.442	1.931	13.7
20	1.5	0.26	10.0	2.0	30.0	3.410	1.931	13.9
20	1.5	0.27	10.0	2.0	30.0	3.379	1.931	14.1
20	1.5	0.28	10.0	2.0	30.0	3.349	1.930	14.3
20	1.5	0.29	10.0	2.0	30.0	3.320	1.928	14.4
20	1.5	0.3	10.0	2.0	30.0	3.292	1.923	14.6
20	1.5	0.35	10.0	2.0	30.0	3.164	1.914	15.4
20	1.5	0.4	10.0	2.0	30.0	3.053	1.898	16.2
20	1.5	0.5	10.0	2.0	30.0	2.886	1.861	17.5

Table A3.9: Variation of h_{max}, h_{min}, and position (°) of h_{min}, with slider radius of curvature, r (mm).

The position of the minimum occurs at (90+ Δ)° (r_{opt} $\approx$ 0.255 m)

A (mm)	b (mm)	r (m)	η (mPa.s)	P _{back} (bars)	f (Hz)	h _{max} (μ m)	h _{min} (μ m)	Δ (°)
50	0.25	0.001	30.0	5.0	20.0	2.107	0.0518	0.9
50	0.25	0.002	30.0	5.0	20.0	2.425	0.149	1.3
50	0.25	0.005	30.0	5.0	20.0	2.347	0.381	2.0
50	0.25	0.01	30.0	5.0	20.0	2.084	0.520	2.7
50	0.25	0.015	30.0	5.0	20.0	1.903	0.562	3.1
50	0.25	0.02	30.0	5.0	20.0	1.771	0.576	3.5
50	0.25	0.023	30.0	5.0	20.0	1.708	0.579	3.7
50	0.25	0.024	30.0	5.0	20.0	1.689	0.580	3.7
50	0.25	0.025	30.0	5.0	20.0	1.670	0.580	3.8
50	0.25	0.026	30.0	5.0	20.0	1.683	0.580	3.9
50	0.25	0.027	30.0	5.0	20.0	1.636	0.580	3.9
50	0.25	0.028	30.0	5.0	20.0	1.620	0.579	4.0
50	0.025	0.029	30.0	5.0	20.0	1.605	0.579	4.0
50	0.25	0.03	30.0	5.0	20.0	1.589	0.579	4.1
50	0.25	0.04	30.0	5.0	20.0	1.467	0.571	4.6
50	0.25	0.05	30.0	5.0	20.0	1.374	0.561	5.0
50	0.25	0.1	30.0	5.0	20.0	1.115	0.516	6.5
50	0.25	0.2	30.0	5.0	20.0	1.034	0.461	8.4

Table A3.10: Variation of h_{max}, h_{min}, and position (°) of h_{min}, with slider radius of curvature, r (mm).

The position of the minimum occurs at (90+ Δ)° (r_{opt} $\approx$ 0.0255 m)