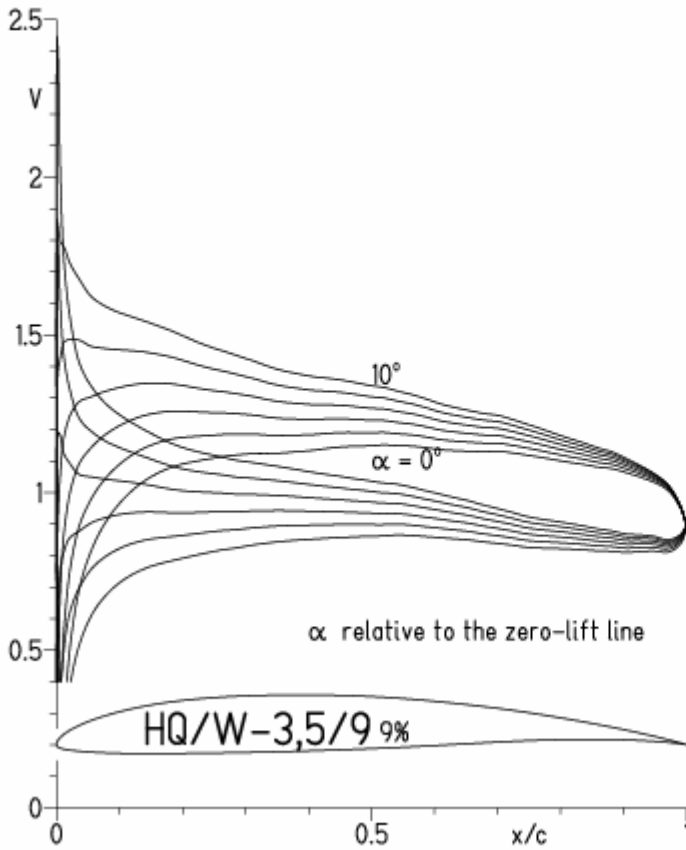


HQ/W-3,5/9, N=11, Re-Zahlen für leichter Thermikmodelle

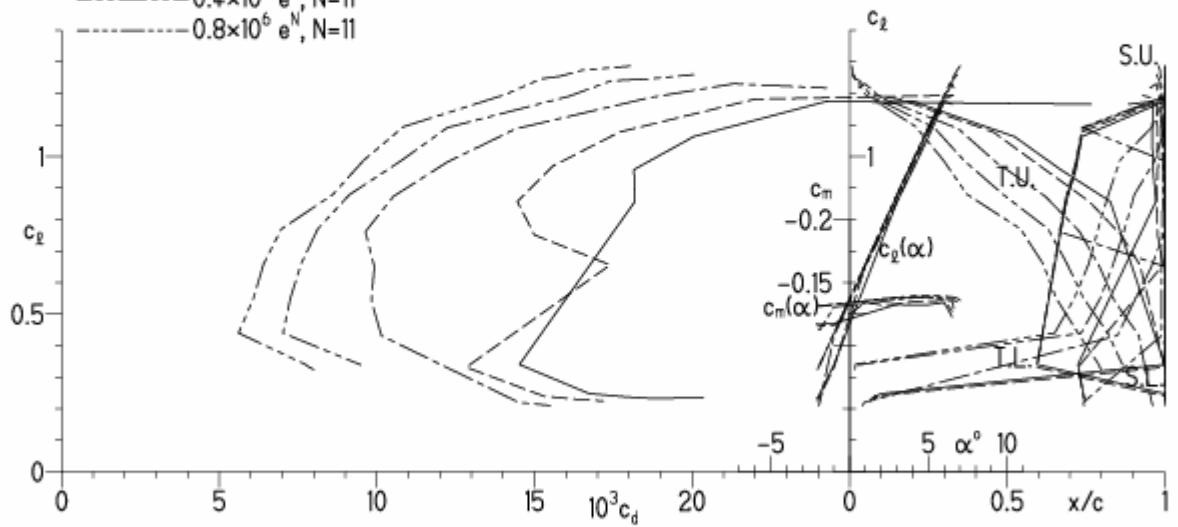
EPPLER 2005 V. 8.5.07 RUN 29.1.11 15:58



EPPLER 2005 V. 8.5.

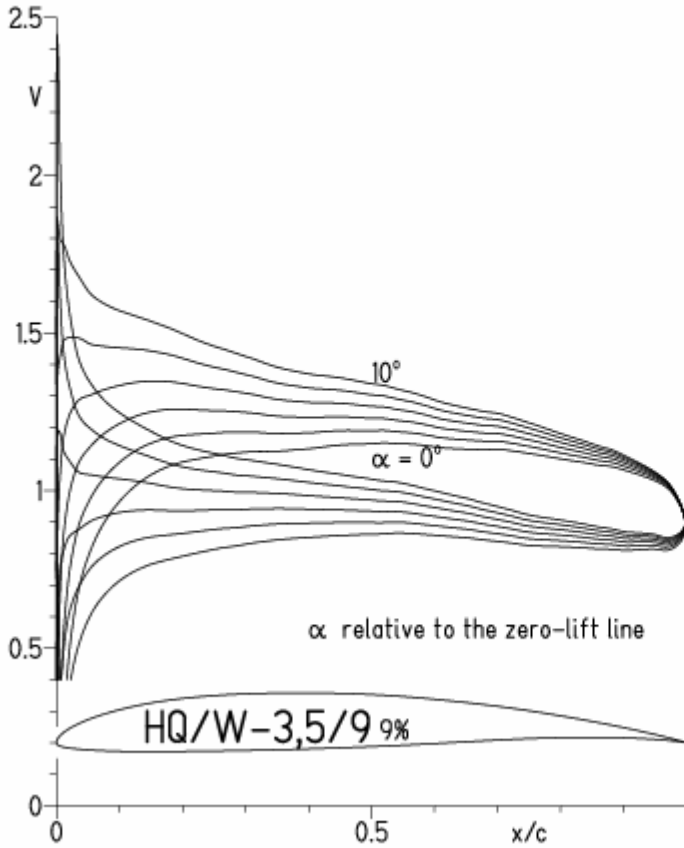
HQ/W-3,5/9 9%

- $Re = 75\,000 e^N, N=11$
- - - $0.1 \times 10^6 e^N, N=11$
- · - $0.2 \times 10^6 e^N, N=11$
- · · - $0.4 \times 10^6 e^N, N=11$
- · · · - $0.8 \times 10^6 e^N, N=11$



HQ/W-3,5/9, N=9, Re-Zahlen für leichter Thermikmodelle

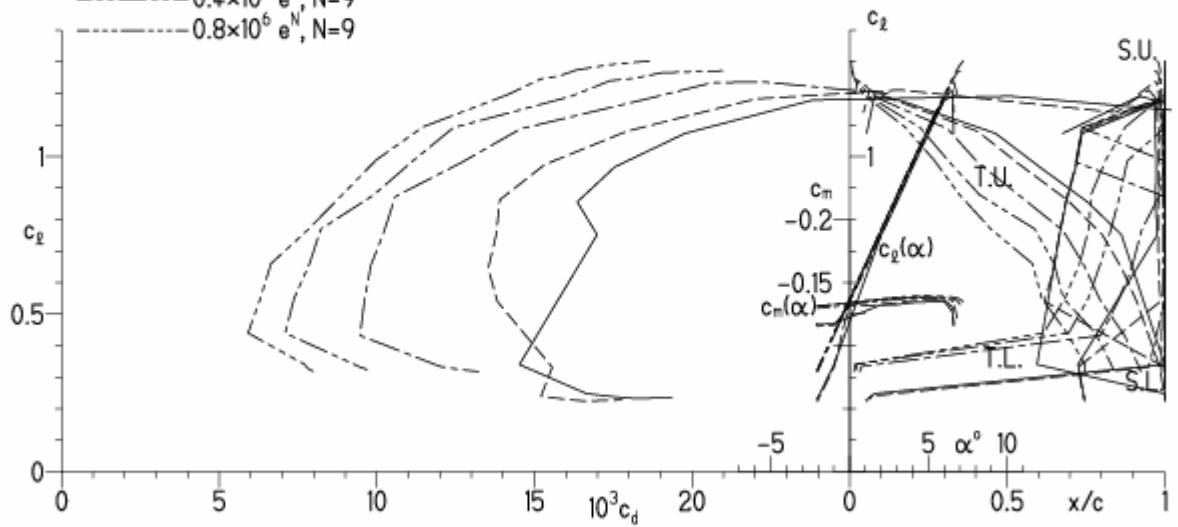
EPPLER 2005 V. 8.5.07 RUN 29.1.11 15:54



EPPLER 2005 V. 8.5.07 RUN 29.1.11 15:

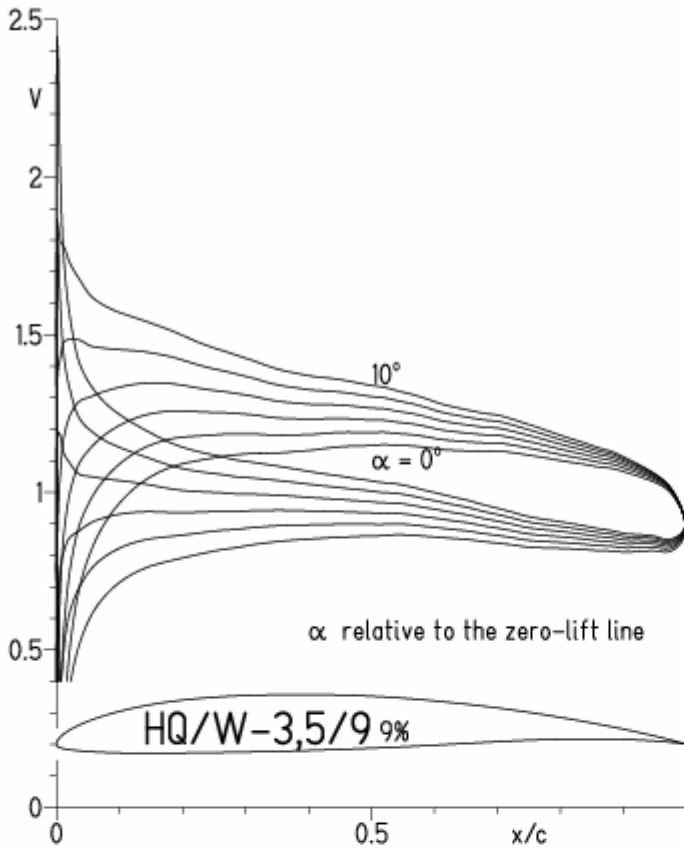
HQ/W-3,5/9 9%

- $Re = 75\,000 e^N, N=9$
- - - $0.1 \times 10^6 e^N, N=9$
- · - $0.2 \times 10^6 e^N, N=9$
- · - · $0.4 \times 10^6 e^N, N=9$
- · - · - $0.8 \times 10^6 e^N, N=9$



HQ/W-3,5/9, N=9, Re-Zahlen für leichter Thermikmodelle, Turbulatoreffekt

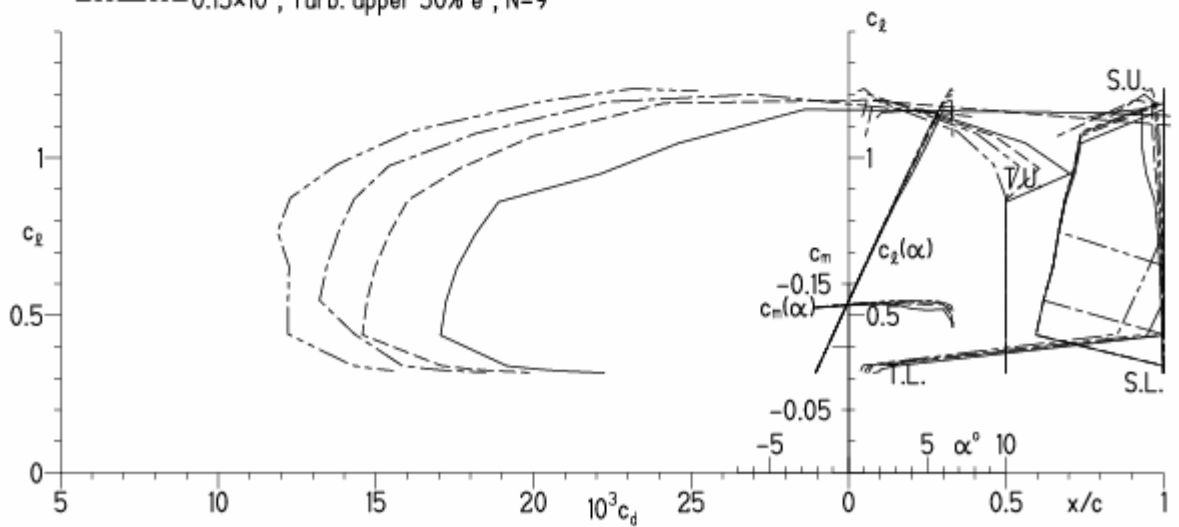
EPPLER 2005 V. 8.5.07 RUN 29.1.11 16:09



EPPLER 2005 V. 8.5.07 RUN 29.1.11 16:09

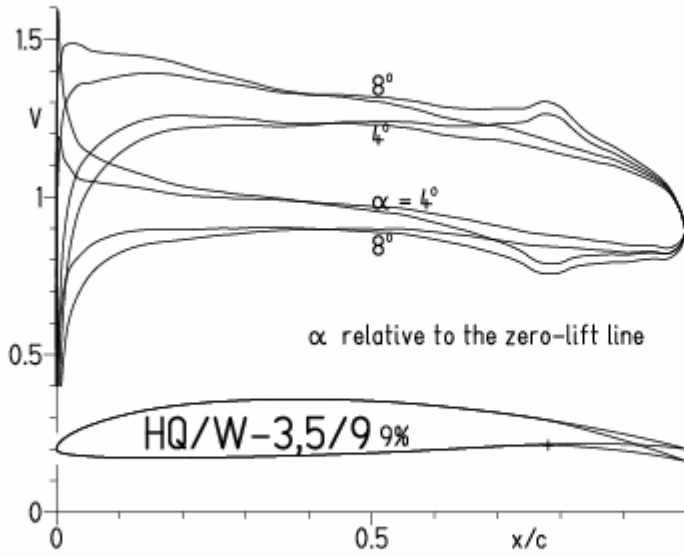
HQ/W-3,5/9 9%

- Re = 50 000, Turb. upper 50% e^N, N=9
- - - 75 000, Turb. upper 50% e^N, N=9
- · - 0.1×10⁶, Turb. upper 50% e^N, N=9
- · - · 0.15×10⁶, Turb. upper 50% e^N, N=9



HQ/W-3,5/9, N=9, mit 5° Wölbklappenausschlag bei kleinen Re-Zahlen

EPPLER 2005 V. 8.5.07 RUN 31.11 17:37

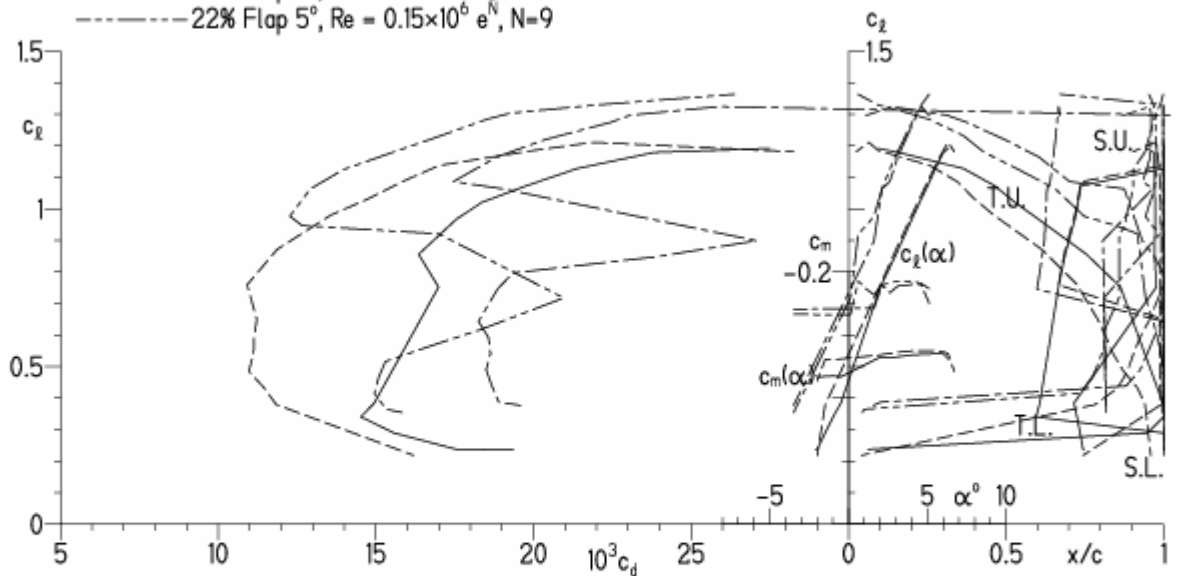


EPPLER 2005 V. 8.5.07 RUN 31.

HQ/W-3,5/9 9%

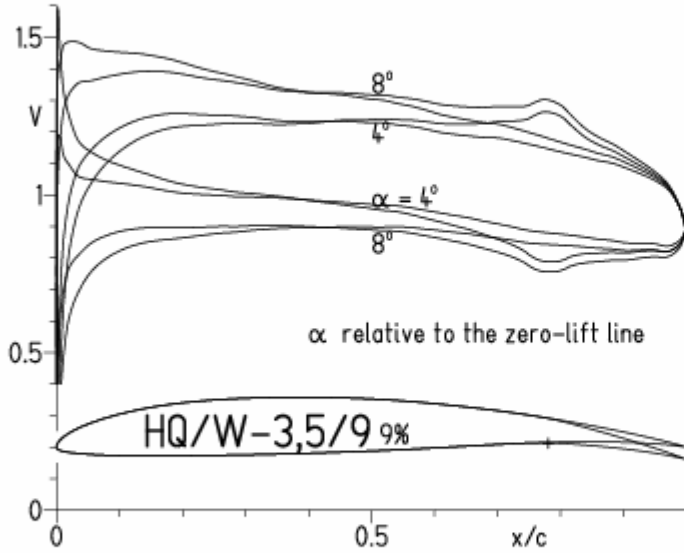
- $Re = 75\,000 e^N, N=9$
- - - $0.15 \times 10^6 e^N, N=9$
- · - · 22% Flap 5°, $Re = 75\,000 e^N, N=9$
- · - · 22% Flap 5°, $Re = 0.15 \times 10^6 e^N, N=9$

- T. boundary layer transition
- S. boundary layer separation
- U. upper surface
- L. lower surface



HQ/W-3,5/9, N=9, mit 5° Wölbklappenausschlag bei kleinen Re-Zahlen, Turbulatoreffekt (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 31.1.11 17:41

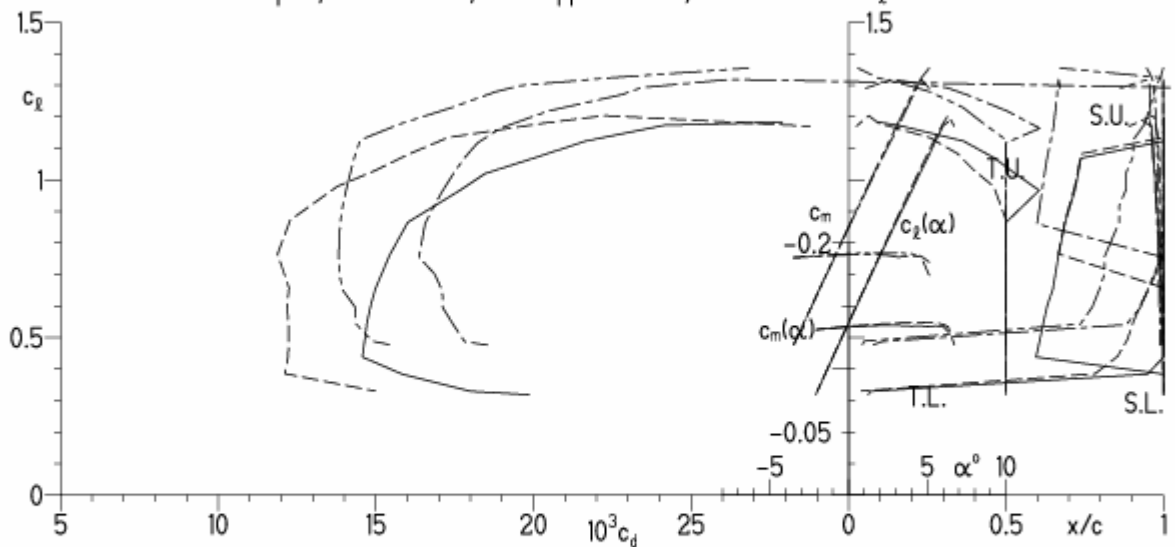


EPPLER 2005 V

HQ/W-3,5/9 9%

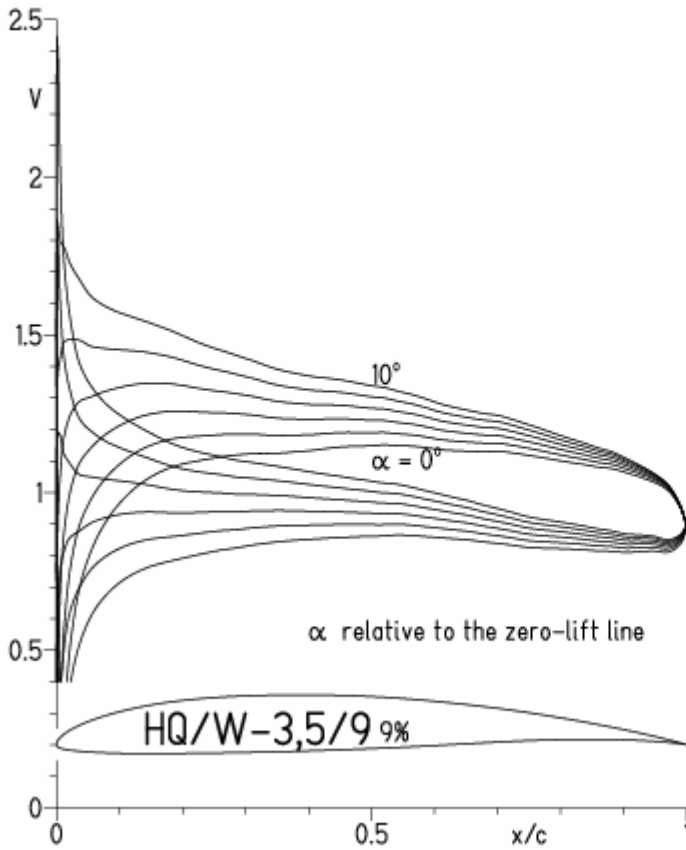
- Re = 75 000, Turb. upper 50% e^N, N=9
- - - 0.15x10⁶, Turb. upper 50% e^N, N=9
- · - 22% Flap 5°, Re = 75 000, Turb. upper 50% e^N, N=9
- · - 22% Flap 5°, Re = 0.15x10⁶, Turb. upper 50% e^N, N=9

- T. boundary layer transition
- S. boundary layer separation
- U. upper surface
- L. lower surface



HQ/W-3,5/9, N=11

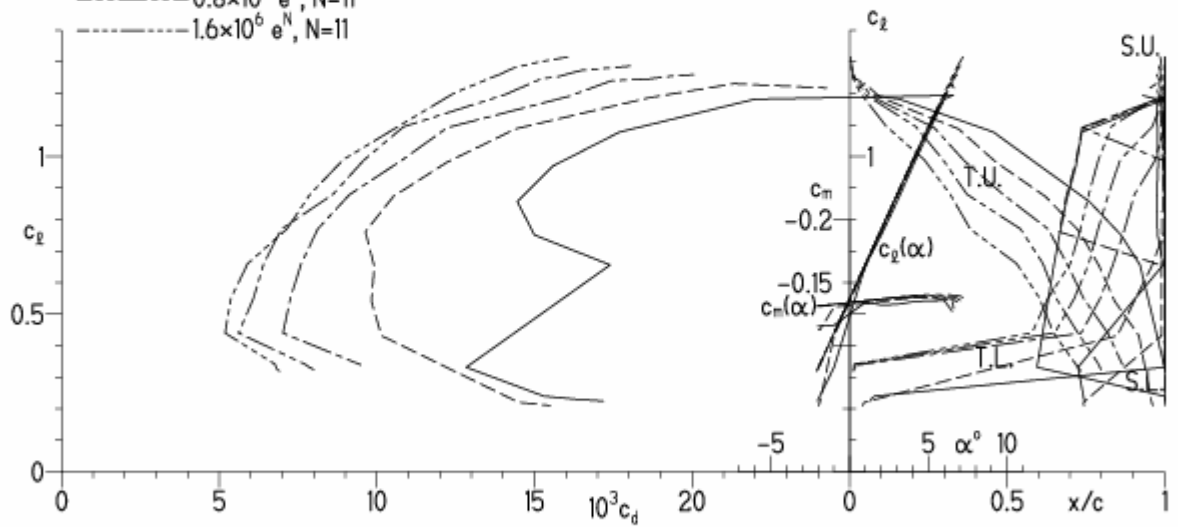
EPPLER 2005 V. 8.5.07 RUN 28.1.11 18:27



EPPLER 2005 V. 8.5.07

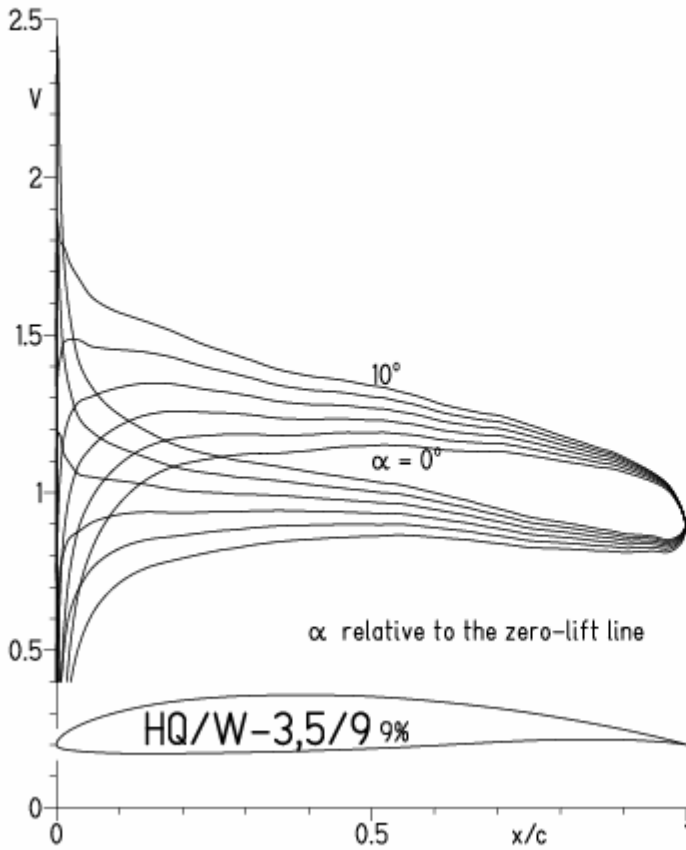
HQ/W-3,5/9 9%

- $Re = 0.1 \times 10^6 e^N, N=11$
- - - $0.2 \times 10^6 e^N, N=11$
- · - $0.4 \times 10^6 e^N, N=11$
- · - · $0.8 \times 10^6 e^N, N=11$
- · - · - $1.6 \times 10^6 e^N, N=11$



HQ/W-3,5/9, N=9

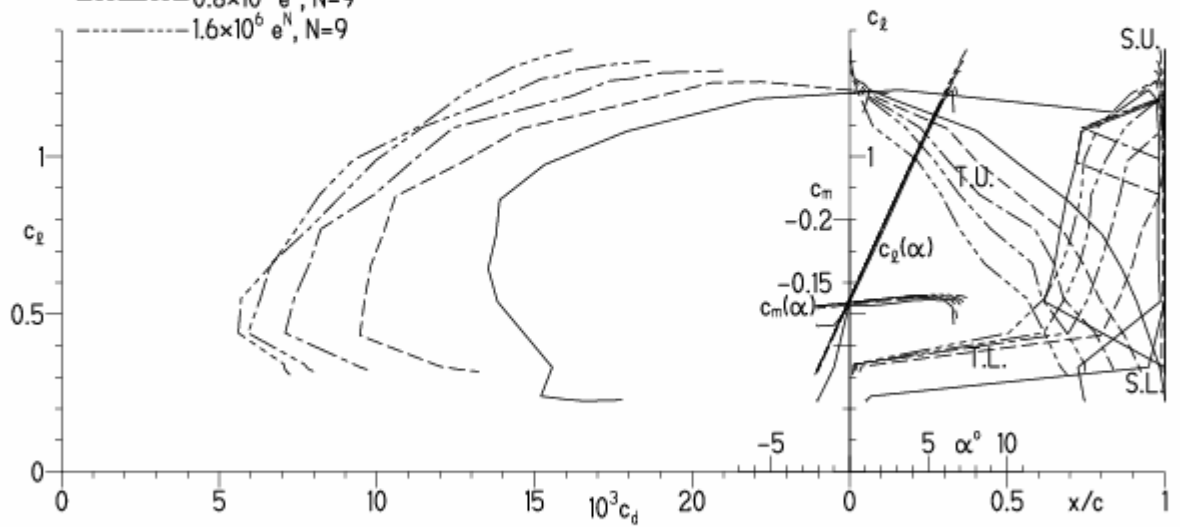
EPPLER 2005 V. 8.5.07 RUN 28.1.11 18:41



EPPLER 2

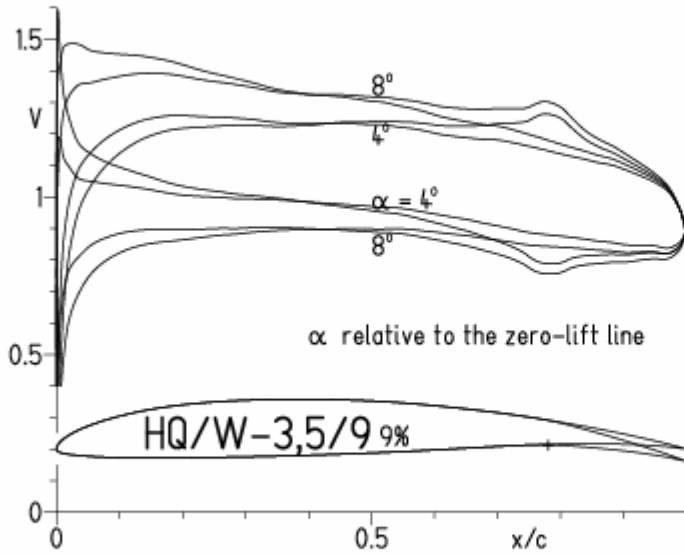
HQ/W-3,5/9 9%

- $Re = 0.1 \times 10^6 e^N, N=9$
- - - $0.2 \times 10^6 e^N, N=9$
- · - $0.4 \times 10^6 e^N, N=9$
- · - · $0.8 \times 10^6 e^N, N=9$
- · - · - $1.6 \times 10^6 e^N, N=9$

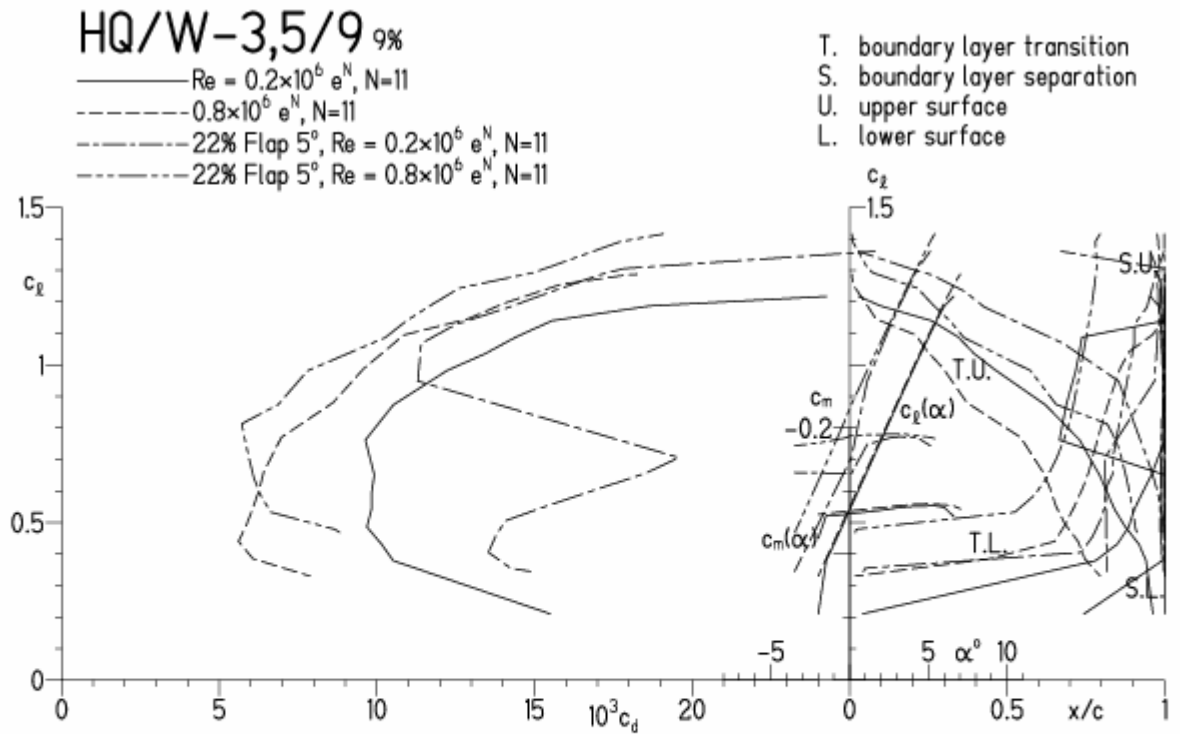


HQ/W-3,5/9, N=11, mit 5° Wölbklappenausschlag bei mittleren Re-Zahlen

EPPLER 2005 V. 8.5.07 RUN 31.1.11 17:05

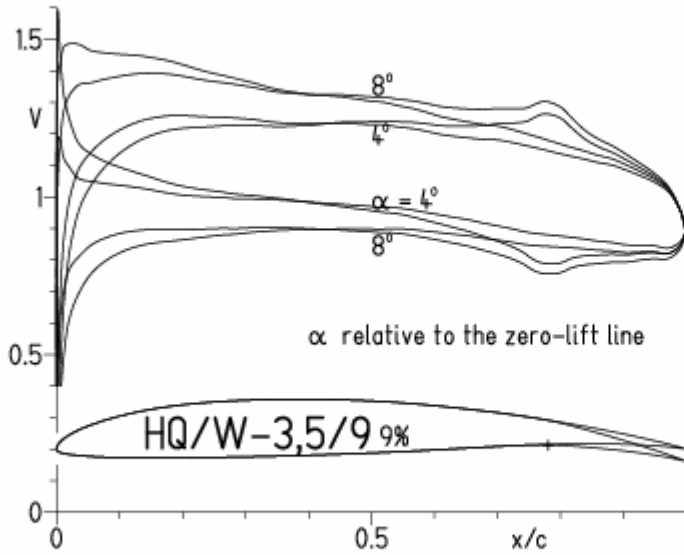


EPPLER 2005 V. 8.5



HQ/W-3,5/9, N=9, mit 5° Wölbklappenausschlag bei mittleren Re-Zahlen

EPPLER 2005 V. 8.5.07 RUN 31.1.11 17:22

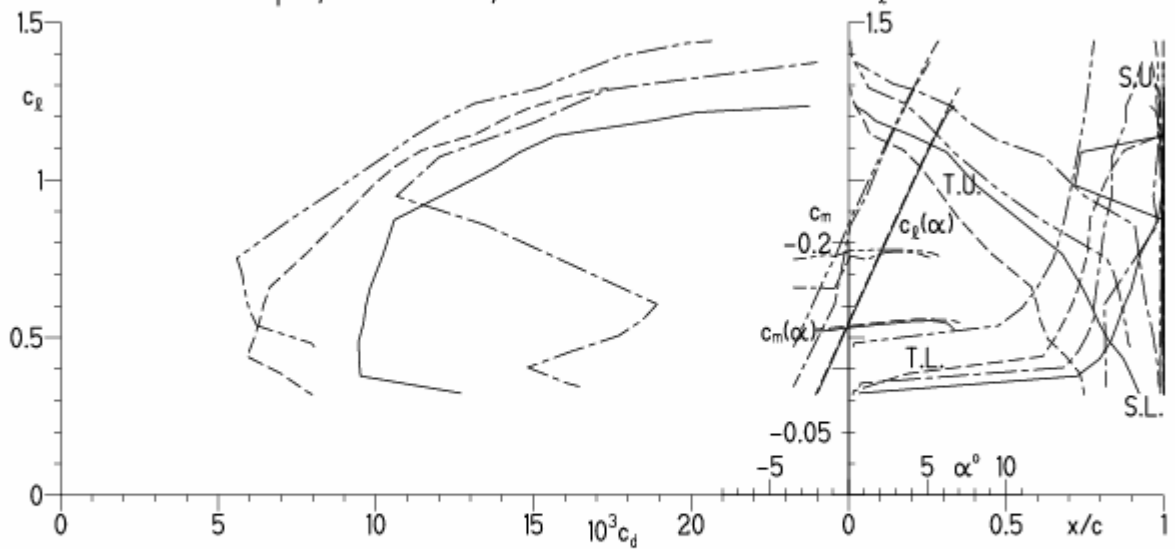


EPPLER

HQ/W-3,5/9 9%

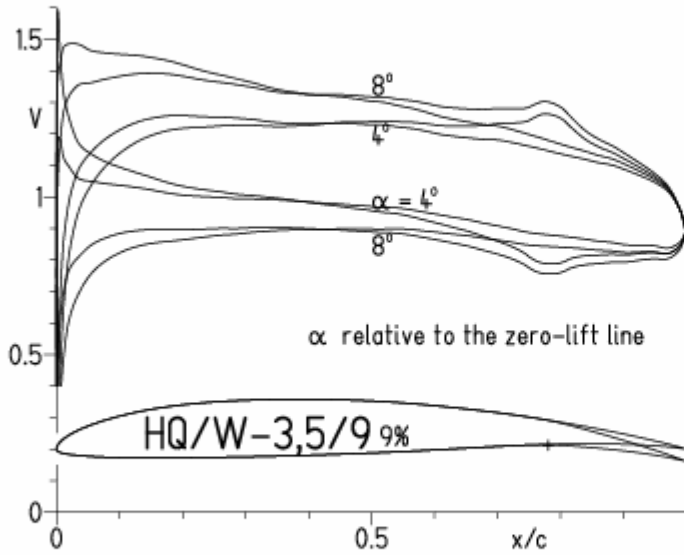
- $Re = 0.2 \times 10^6 e^N, N=9$
- - - $0.8 \times 10^6 e^N, N=9$
- · - · 22% Flap $5^\circ, Re = 0.2 \times 10^6 e^N, N=9$
- · - · 22% Flap $5^\circ, Re = 0.8 \times 10^6 e^N, N=9$

- T. boundary layer transition
- S. boundary layer separation
- U. upper surface
- L. lower surface



HQ/W-3,5/9, N=9, mit 5° Wölbklappenausschlag, Turbulatoreffekt
 (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 31.1.11 17:27

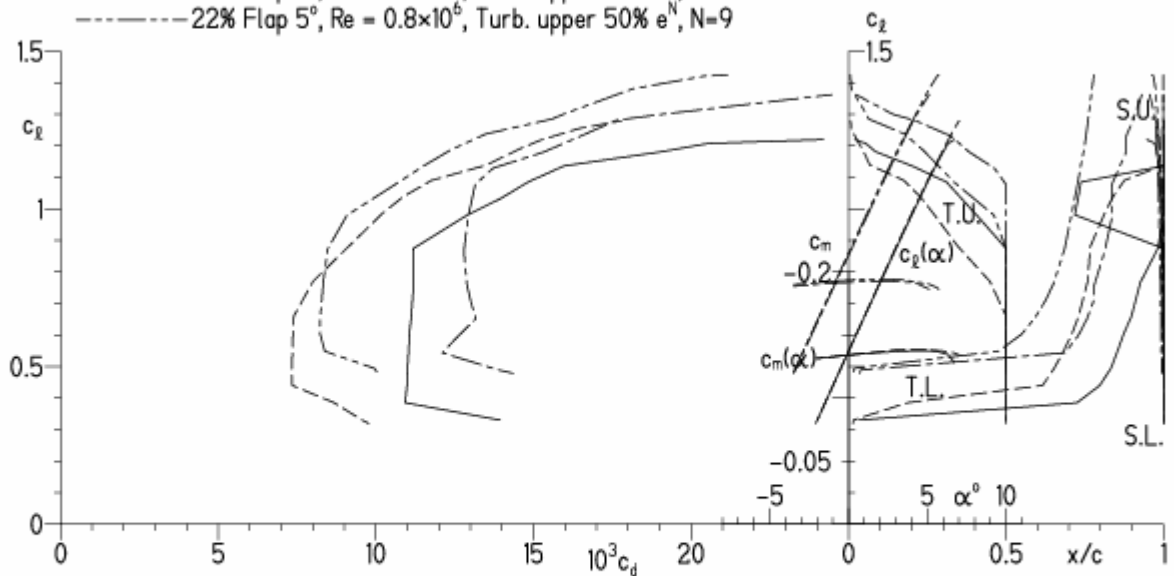


EPPLER 2005 V.

HQ/W-3,5/9 9%

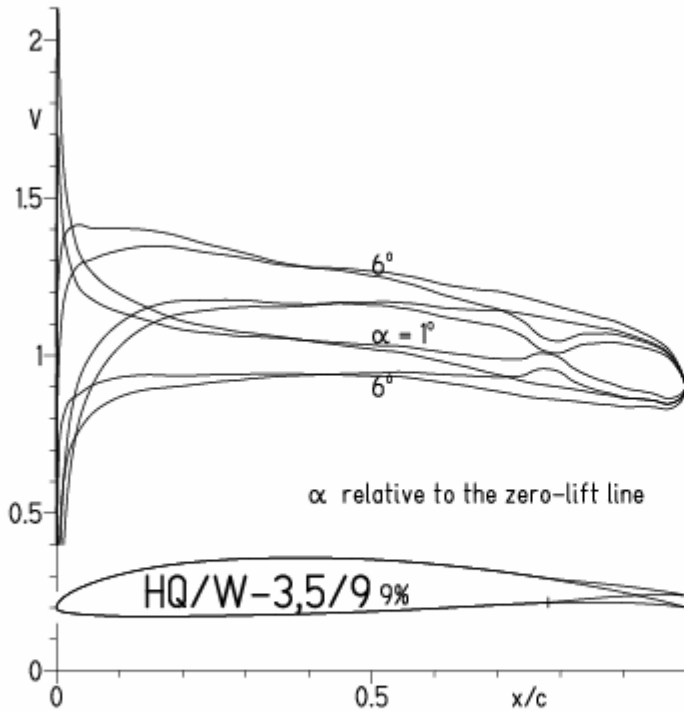
- Re = 0.2×10^6 , Turb. upper 50% e^N , N=9
- - - 0.8×10^6 , Turb. upper 50% e^N , N=9
- · - · 22% Flap 5°, Re = 0.2×10^6 , Turb. upper 50% e^N , N=9
- · - · 22% Flap 5°, Re = 0.8×10^6 , Turb. upper 50% e^N , N=9

- T. boundary layer transition
- S. boundary layer separation
- U. upper surface
- L. lower surface

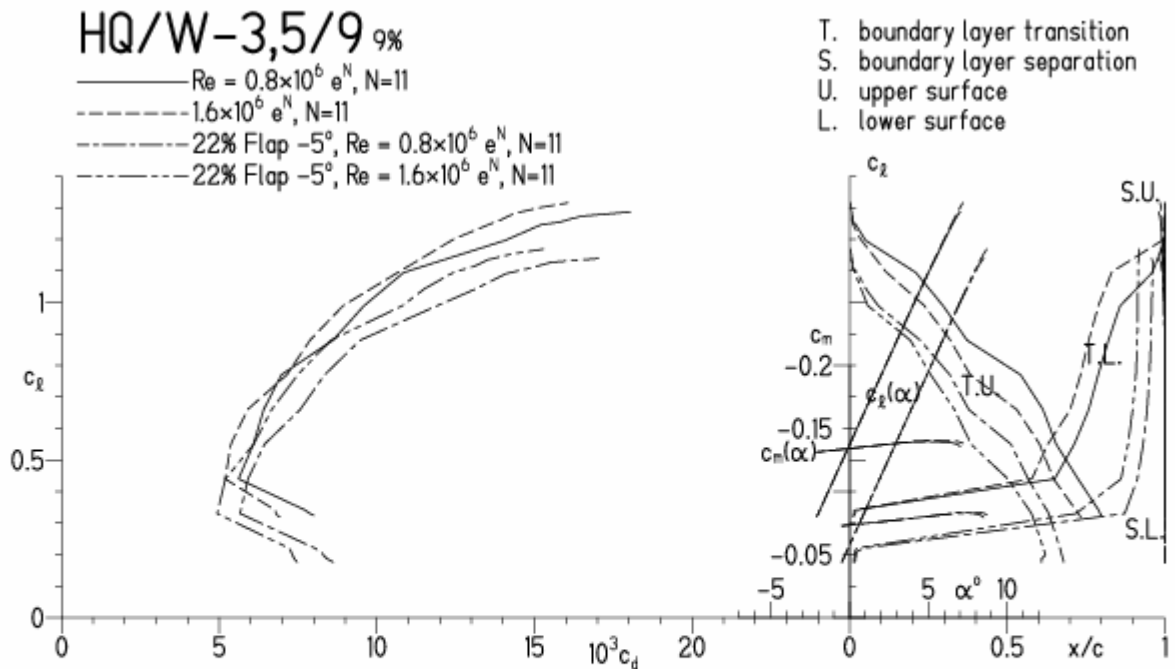


HQ/W-3,5/9, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 31.1.11 18:03

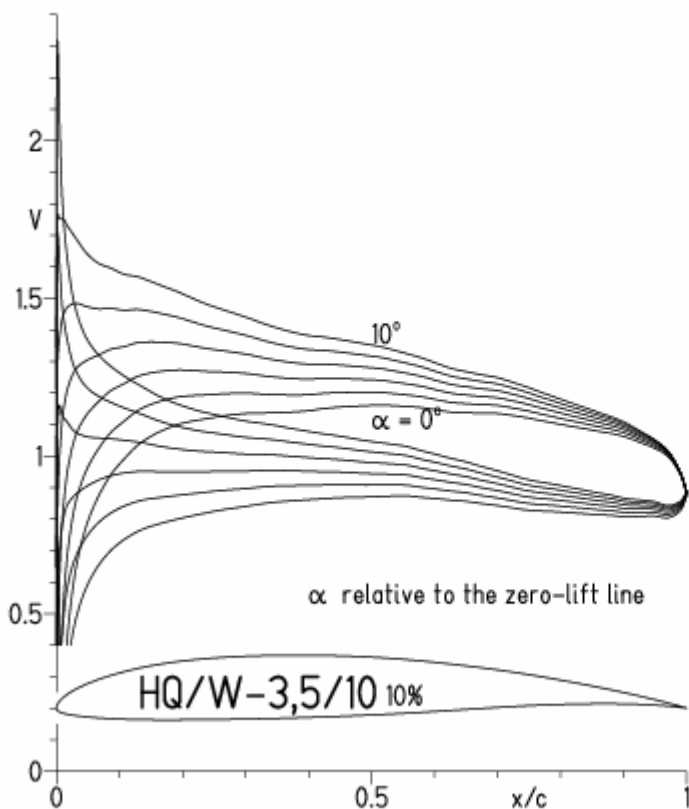


EPPLER 2005 V. 8

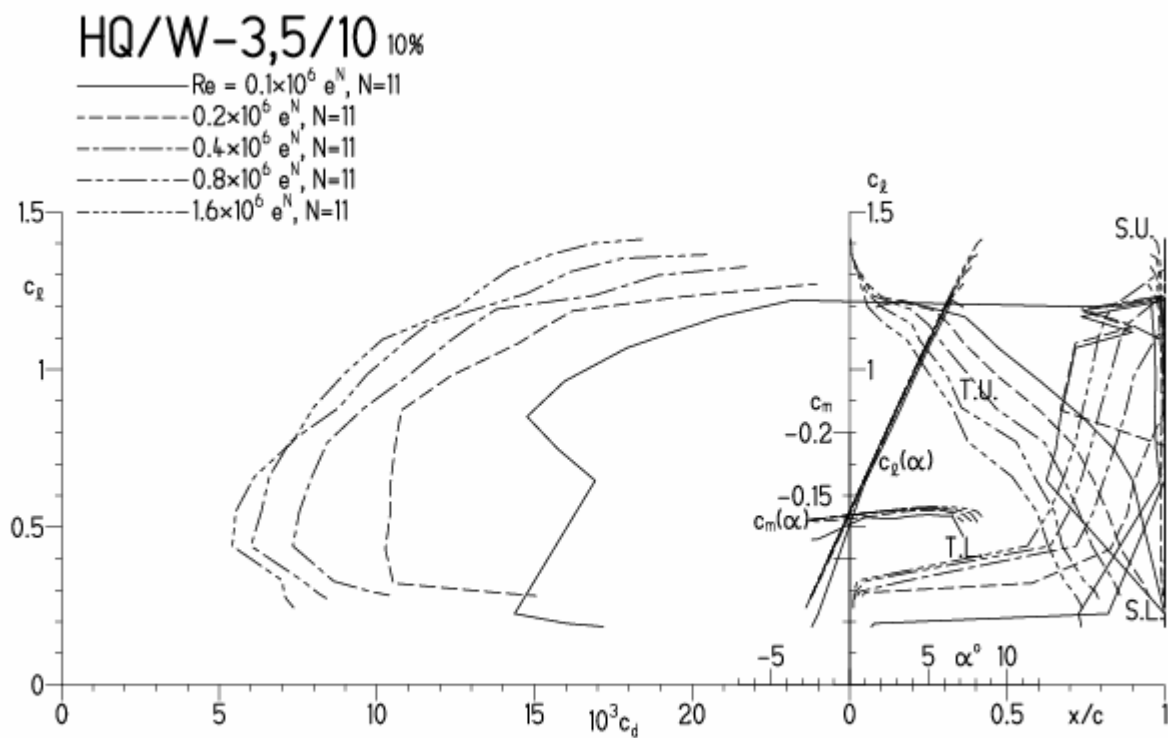


HQ/W-3,5/10, N=11

EPPLER 2005 V. 8.5.07 RUN 27.1.11 17:59

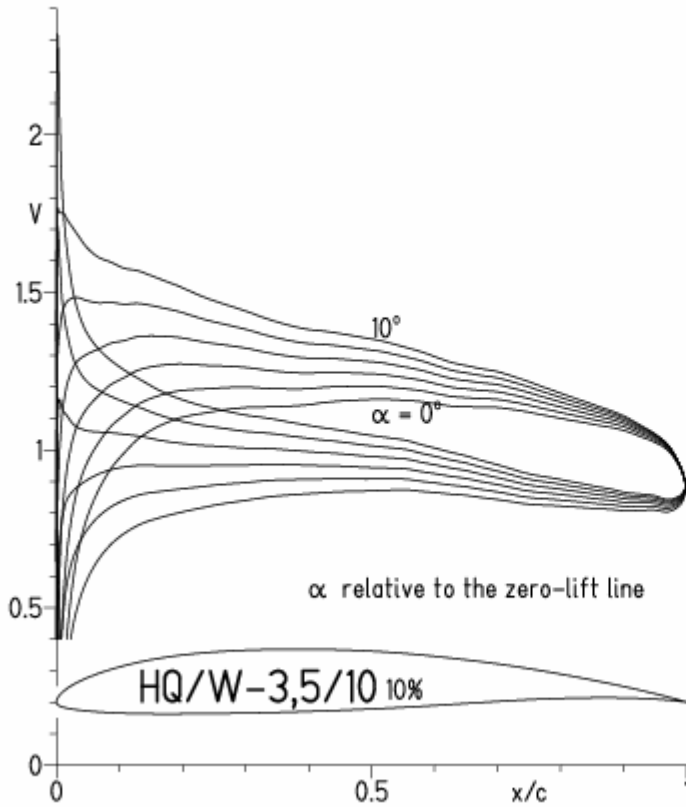


EPPLER 2005 V. 8.5.07 RUN 27.1.11 17:59



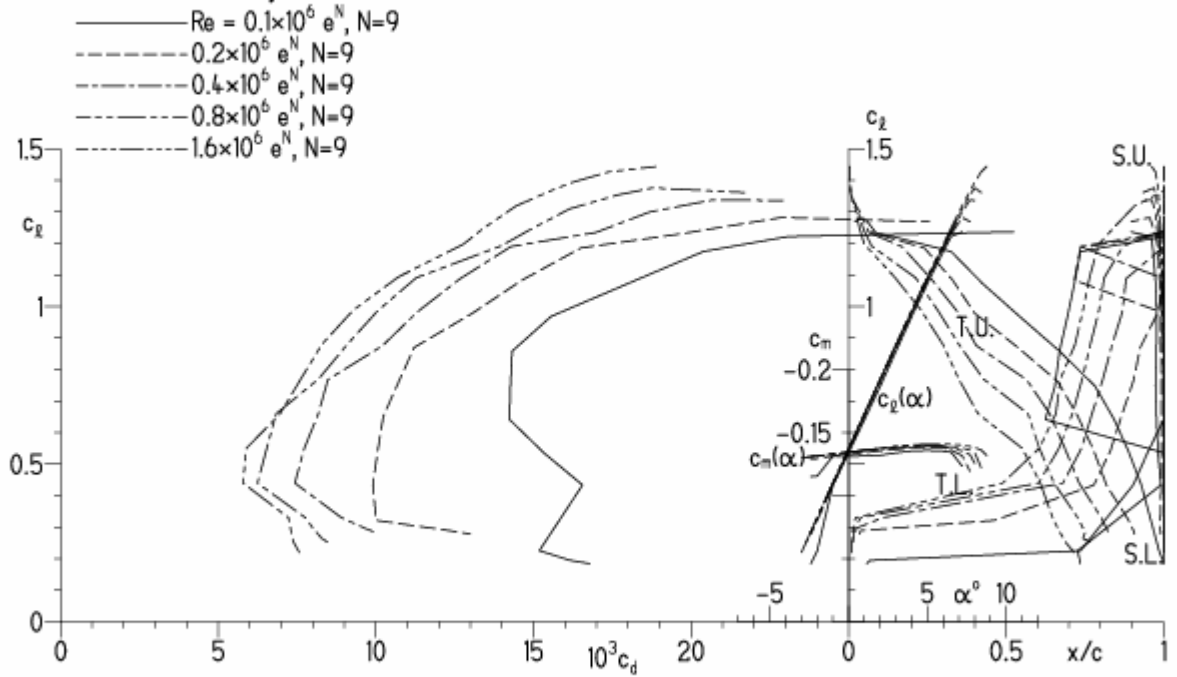
HQ/W-3,5/10, N=9

EPPLER 2005 V. 8.5.07 RUN 28.1.11 17:28



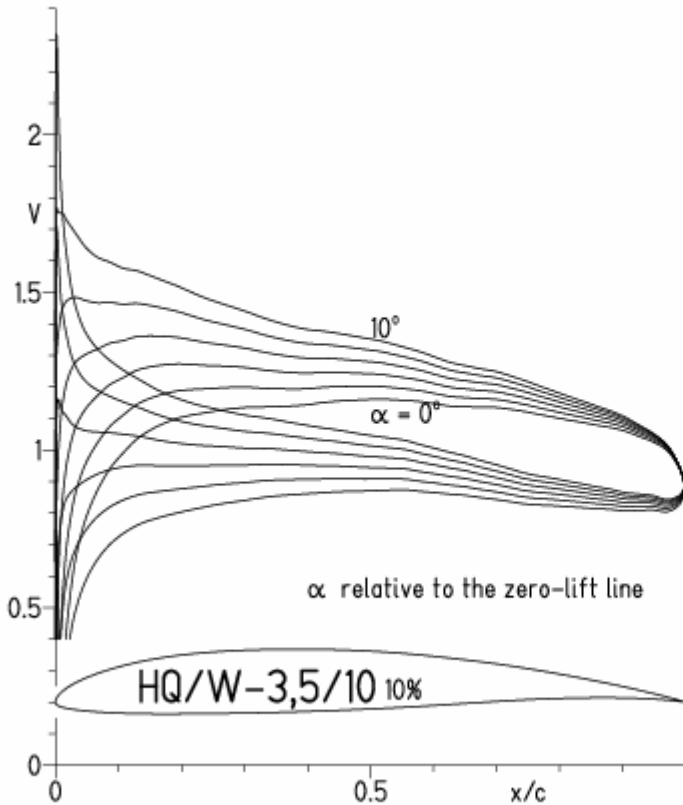
EPPLER 2005 V. 8.5.07 RU

HQ/W-3,5/10 10%



HQ/W-3,5/10, N=9, Turbulatoreffekt bei niedrigen Re-Zahlen

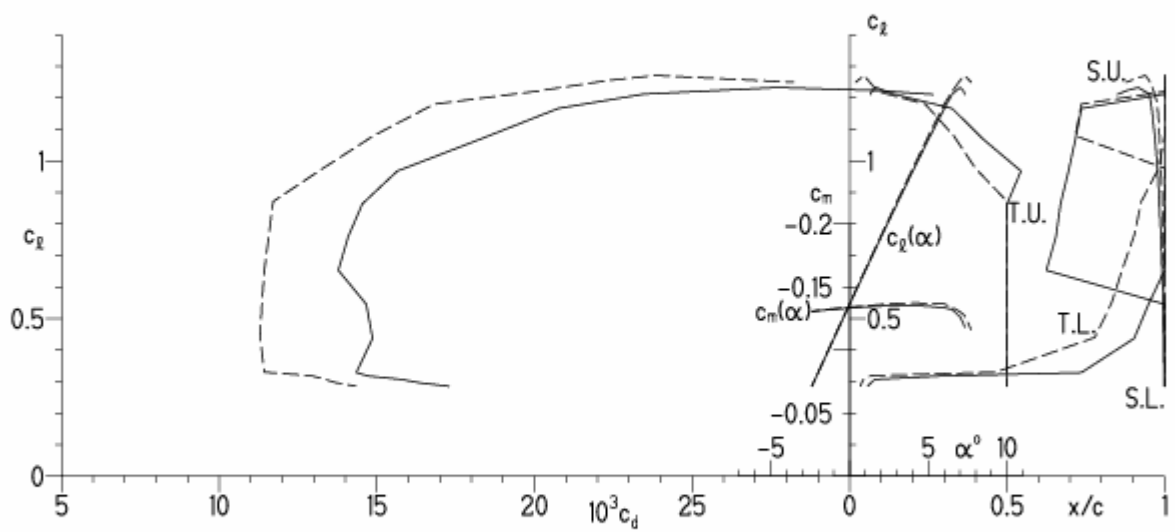
EPPLER 2005 V. 8.5.07 RUN 27.1.11 18:37



EPPLER 2005 V. 8.5.07 RUN 27.1.11 18

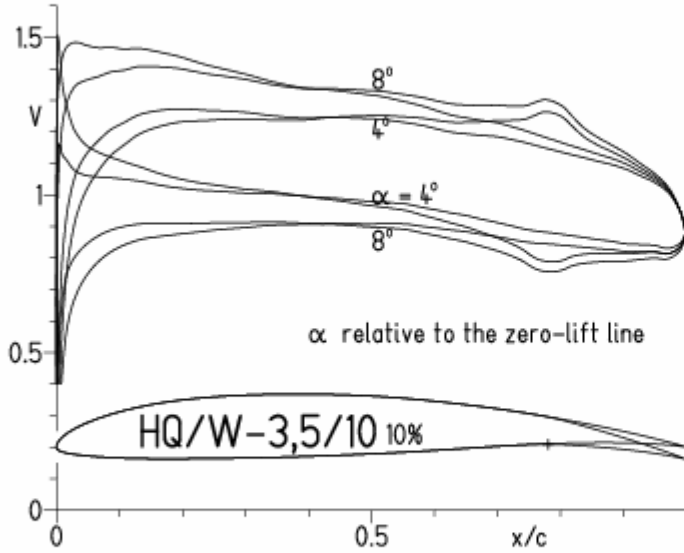
HQ/W-3,5/10 10%

— $Re = 0.1 \times 10^6$, Turb. upper 50% e^N , $N=9$
 - - - 0.2×10^6 , Turb. upper 50% e^N , $N=9$

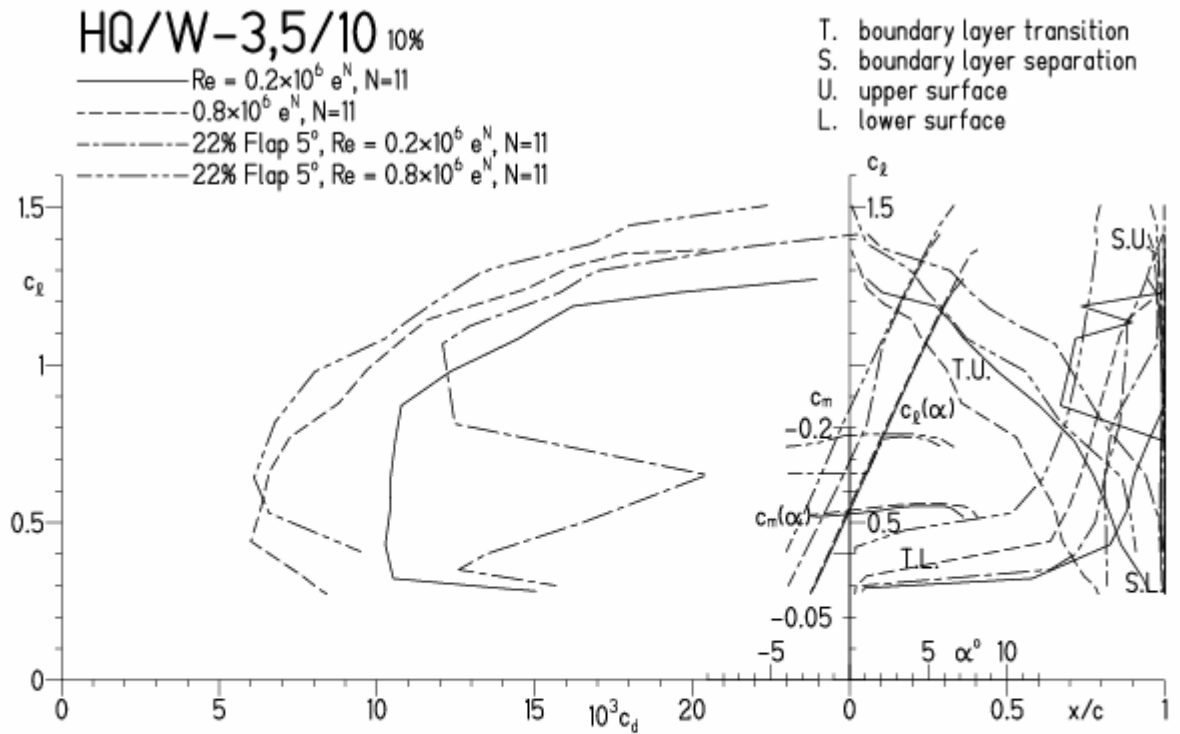


HQ/W-3,5/10, N=11, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 28.1.11 17:03

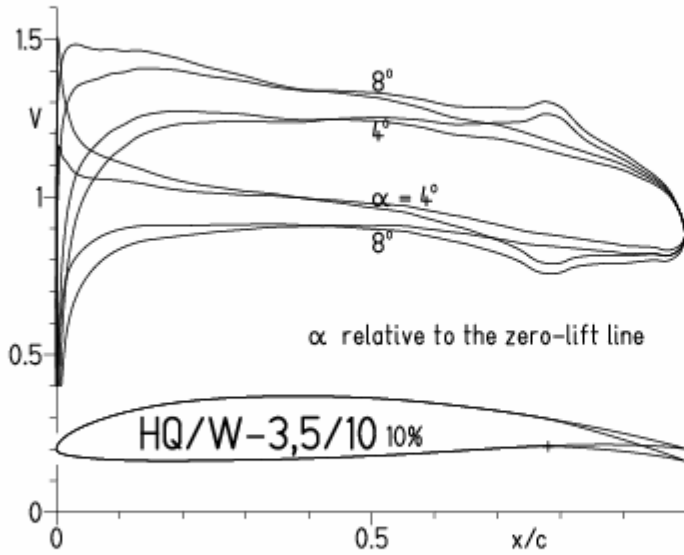


EPPLER 2005 V. 8.5.07 RUN 28.1.

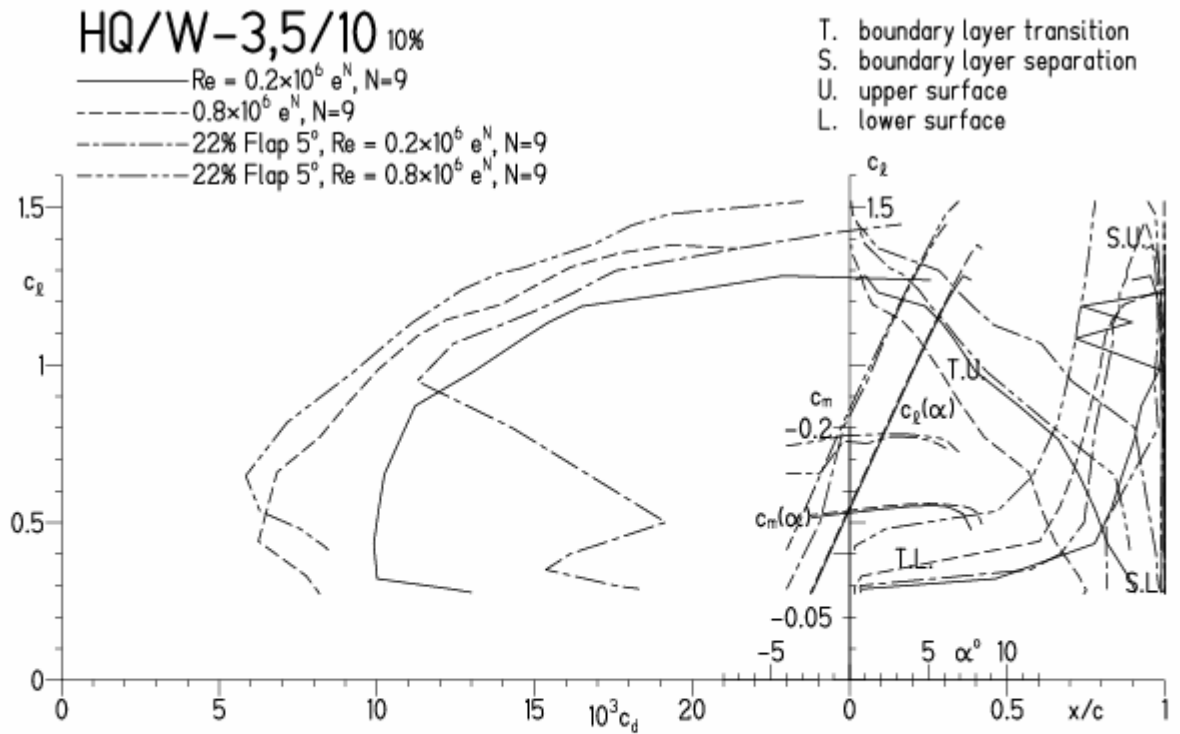


HQ/W-3,5/10, N=9, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 28.1.11 17:11

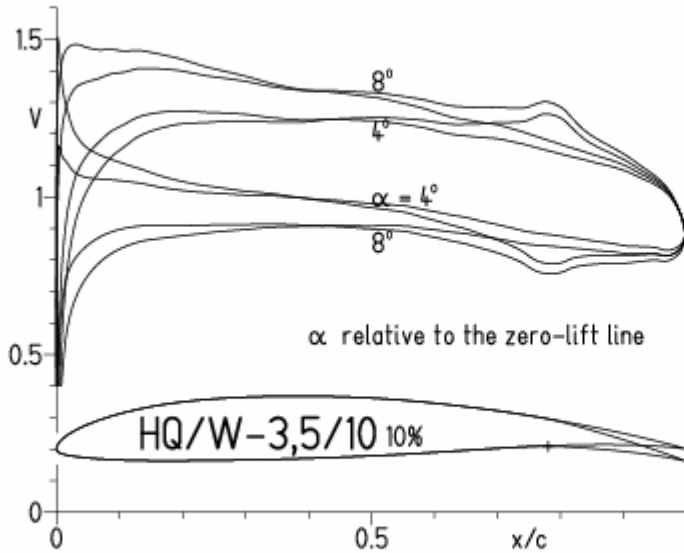


EPPLER 2005 V. 8.5.07 RUN 2

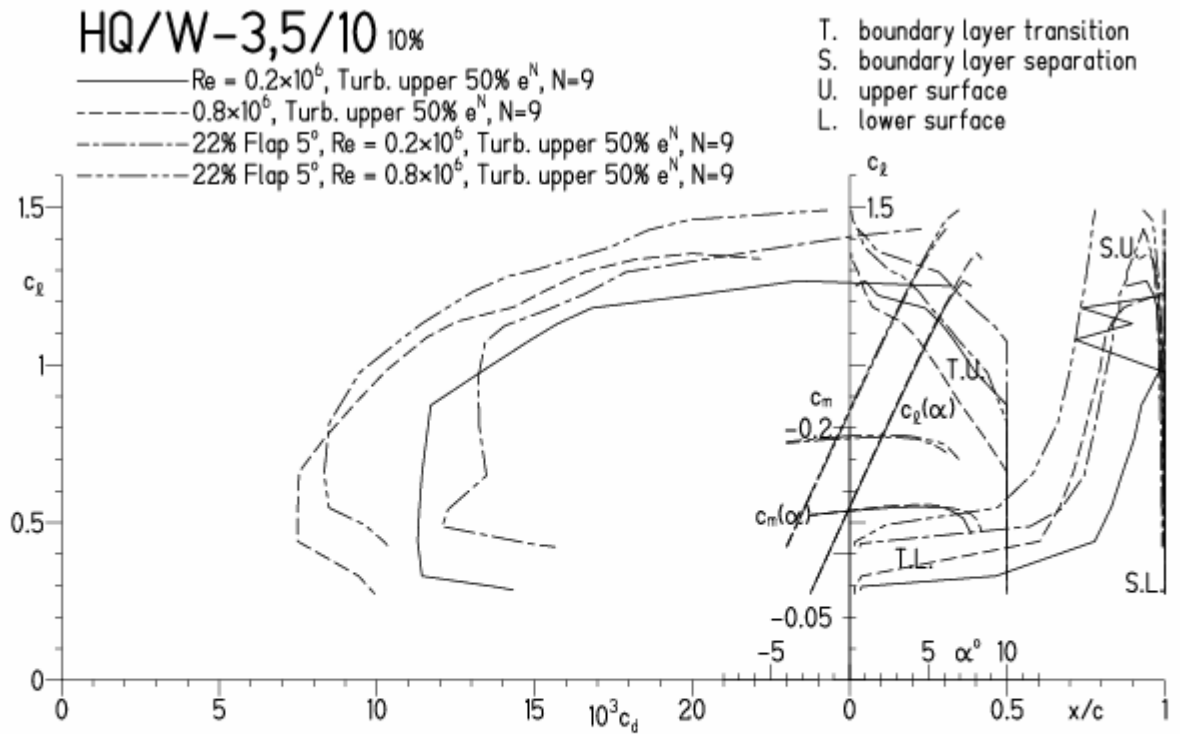


HQ/W-3,5/10, N=9, mit 5° Wölbklappenausschlag, Turbulatoreffekt
 (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 28.1.11 17:19

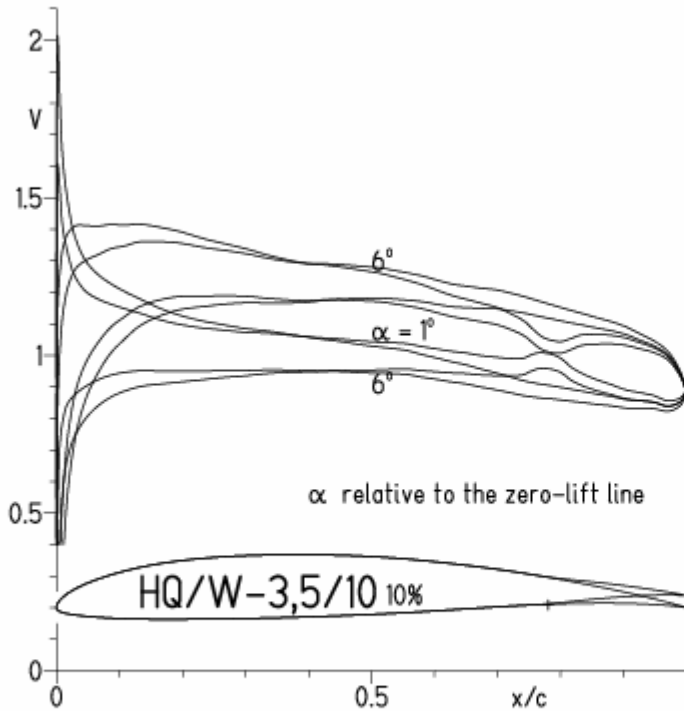


EPPLER 2005 V. 8.5.07 RUN 28.1.11 17:

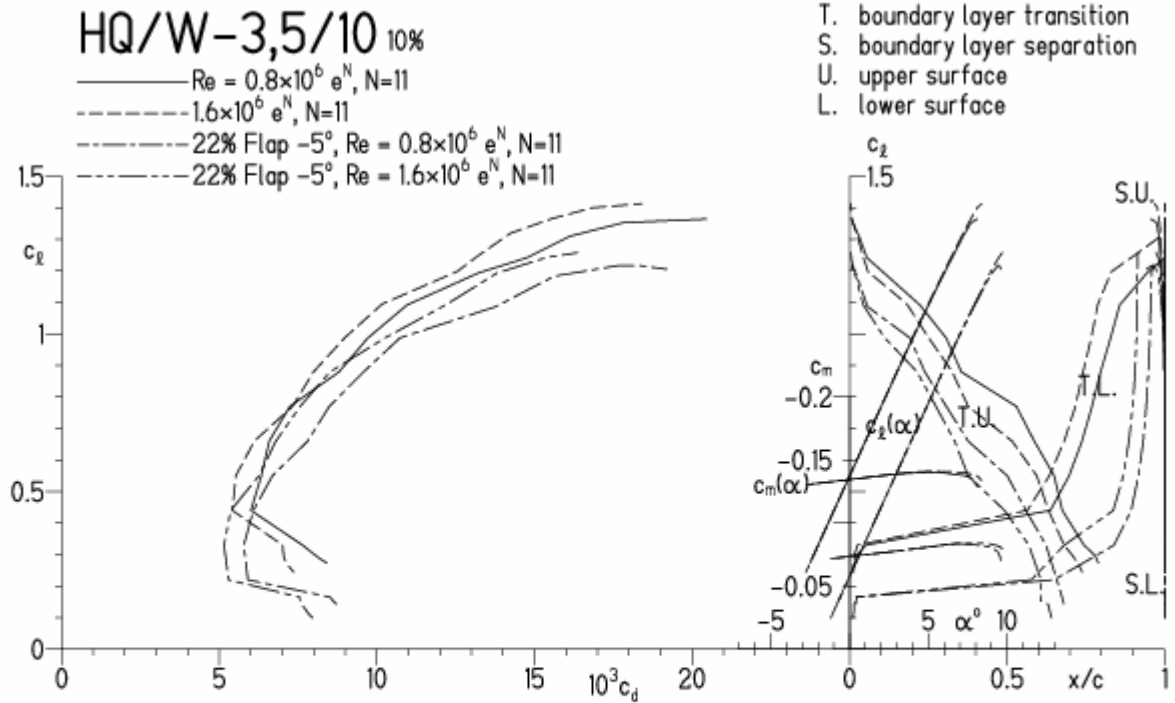


HQ/W-3,5/10, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 28.1.11 17:45

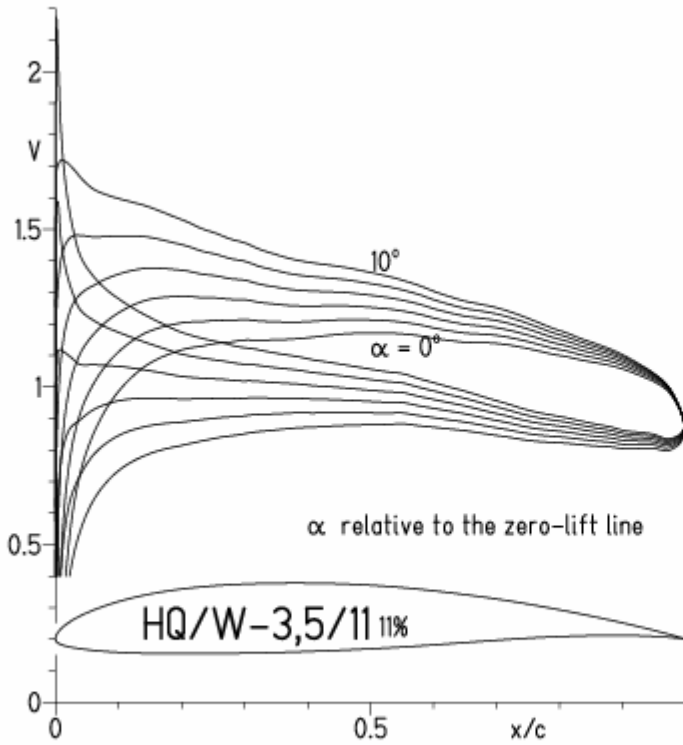


EPPLER 2005 V. 8.5.07 RUN 28.1.11 17:45



HQ/W-3,5/11, N=11

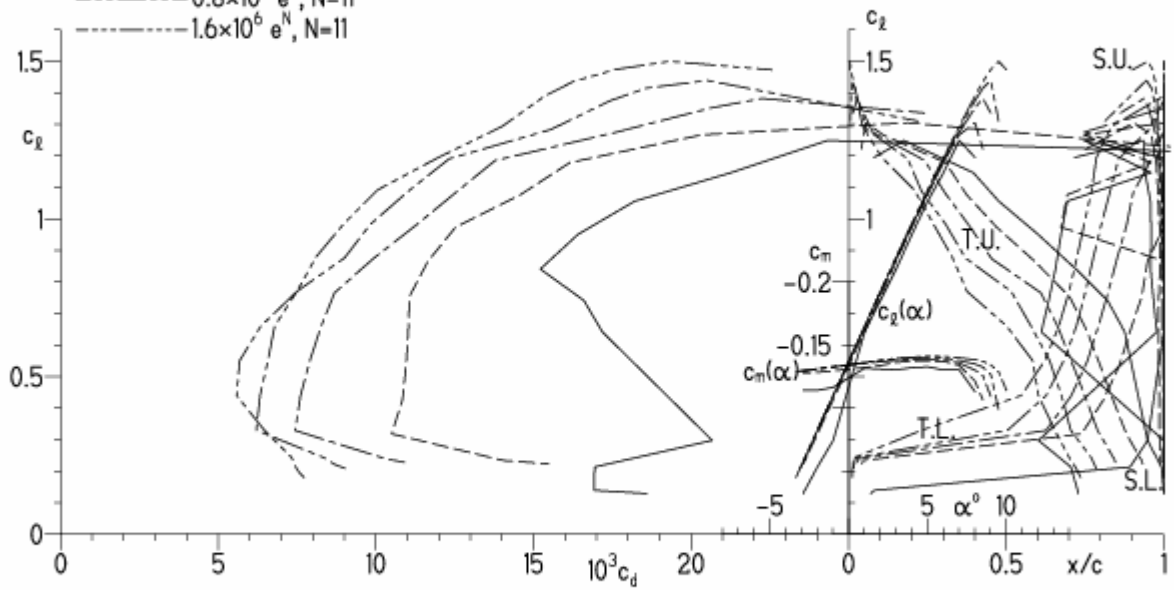
EPPLER 2005 V. 8.5.07 RUN 25.1.11 16:27



EPPLER 2005 V. 8.5.07 RUN

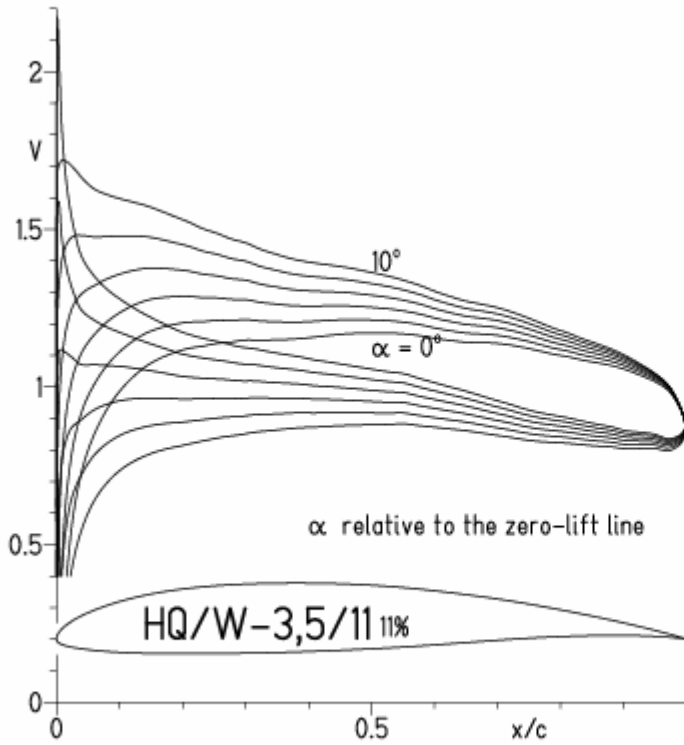
HQ/W-3,5/11 11%

- $Re = 0.1 \times 10^6 e^N, N=11$
- - - $0.2 \times 10^6 e^N, N=11$
- · - $0.4 \times 10^6 e^N, N=11$
- · - · $0.8 \times 10^6 e^N, N=11$
- · - · - $1.6 \times 10^6 e^N, N=11$



HQ/W-3,5/11, N=9

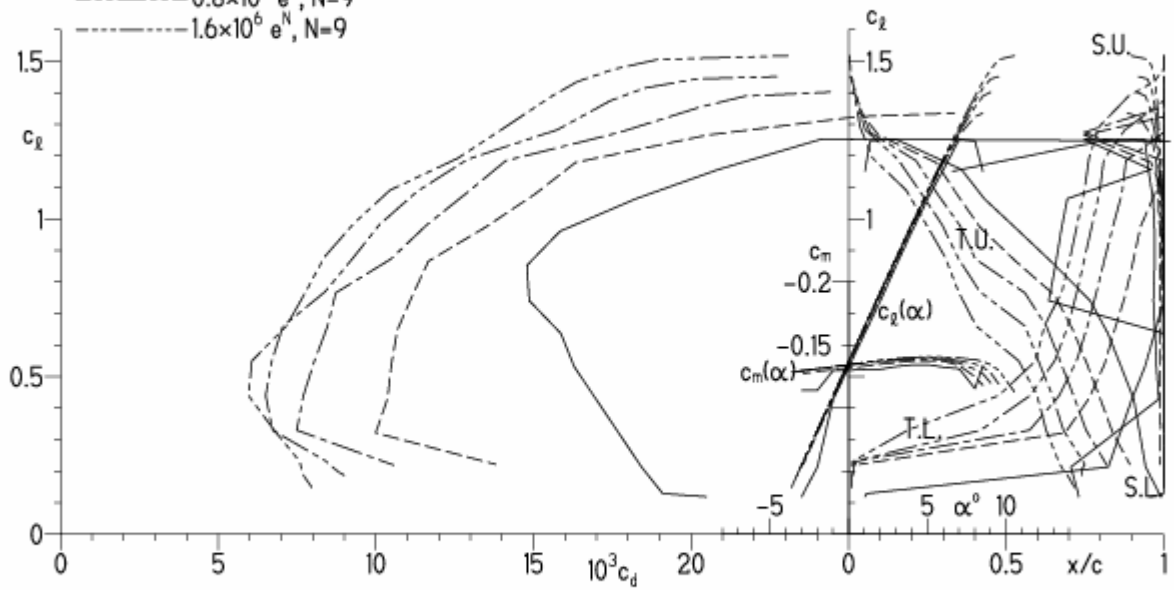
EPPLER 2005 V. 8.5.07 RUN 25.1.11 17:01



EPPLER 2005 V. 8.5.07 RUN 2

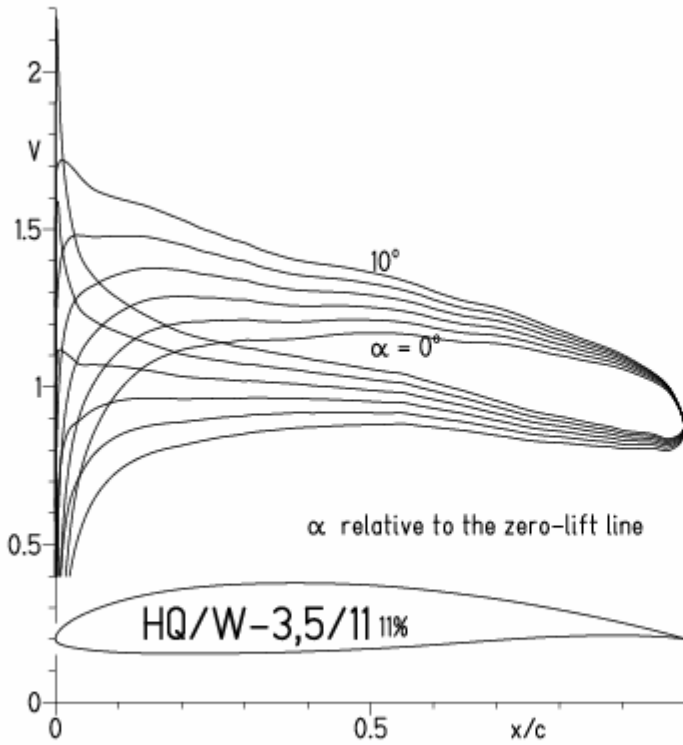
HQ/W-3,5/11 11%

- $Re = 0.1 \times 10^6 e^N, N=9$
- - - $0.2 \times 10^6 e^N, N=9$
- · - $0.4 \times 10^6 e^N, N=9$
- · - · $0.8 \times 10^6 e^N, N=9$
- · - · - $1.6 \times 10^6 e^N, N=9$



HQ/W-3,5/11, N=9, Turbulatoreffekt bei niedrigen Re-Zahlen

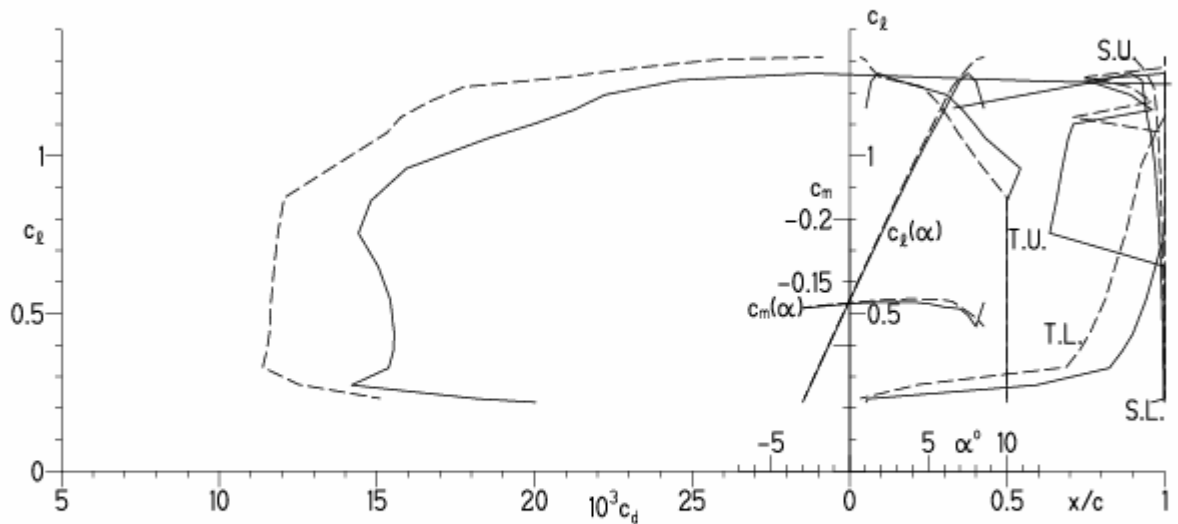
EPPLER 2005 V. 8.5.07 RUN 25.1.11 17:11



EPPLER 2005 V. 8.

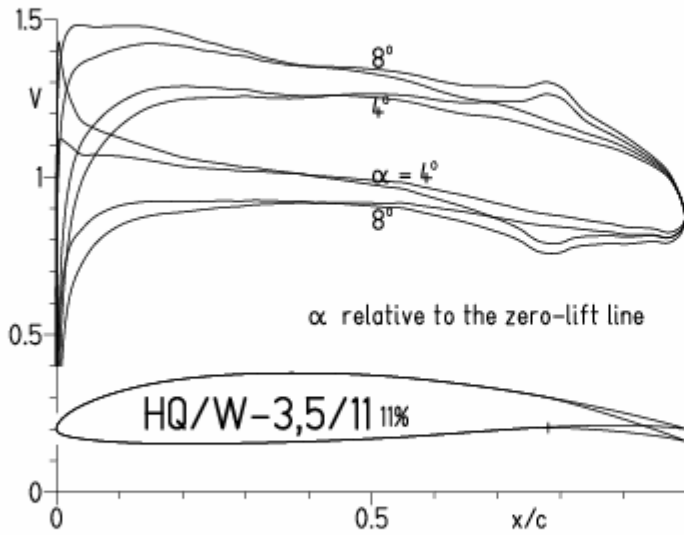
HQ/W-3,5/11 11%

- $Re = 0.1 \times 10^6$, Turb. upper 50% e^N , N=9
- - - 0.2×10^6 , Turb. upper 50% e^N , N=9

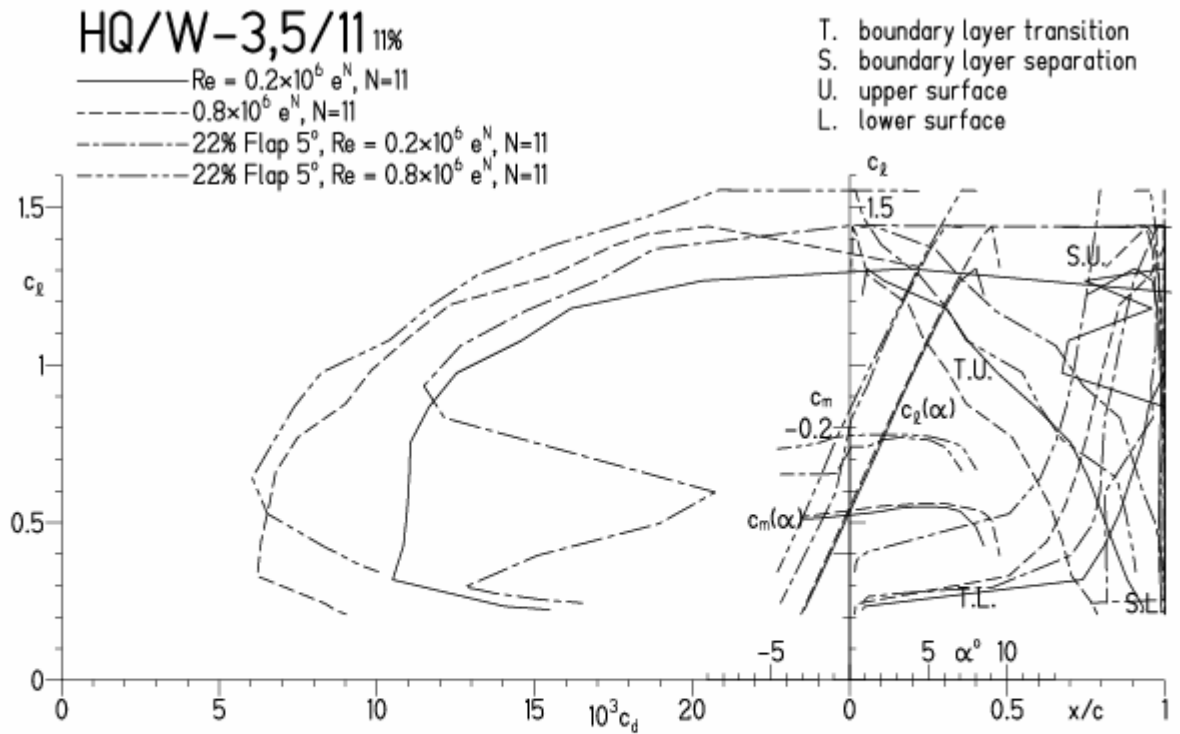


HQ/W-3,5/11, N=11, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 25.1.11 17:34

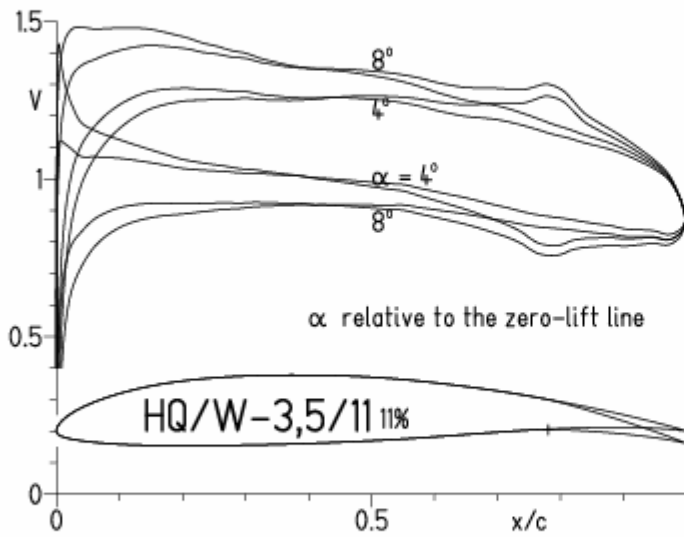


EPPLER 2005 V. 8.5.07 RUN 25.1.11 17:34

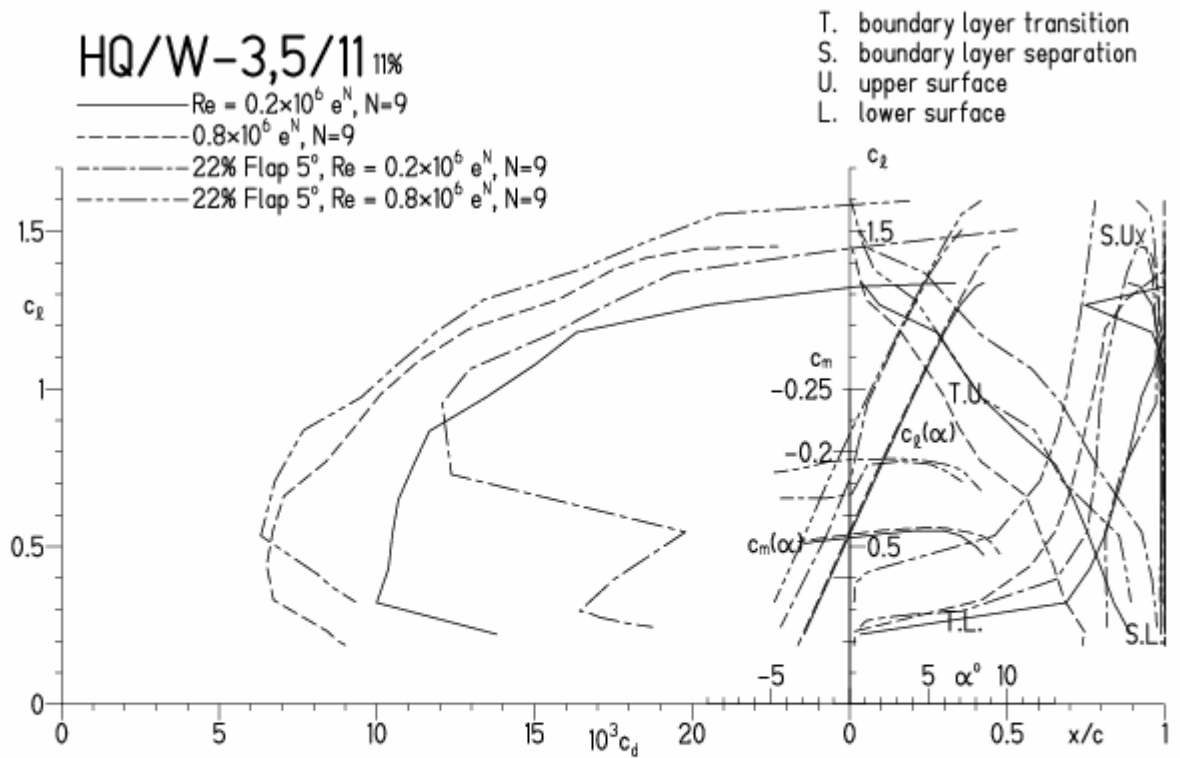


HQ/W-3,5/11, N=9, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 25.1.11 17:43

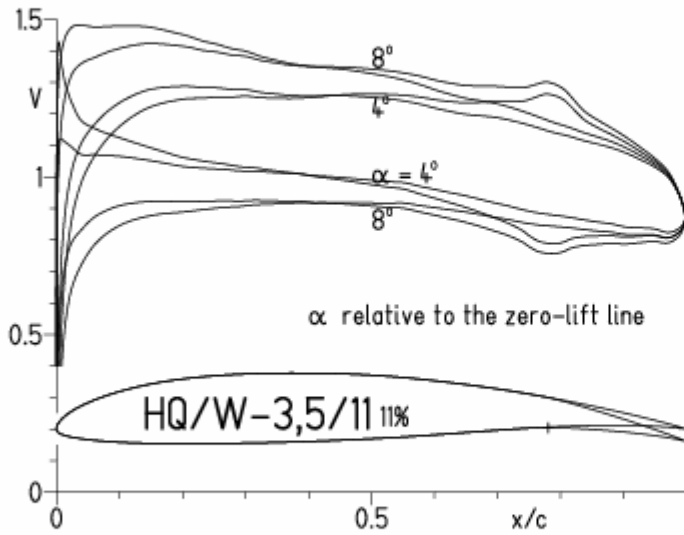


EPPLER 2005 V. 8.5

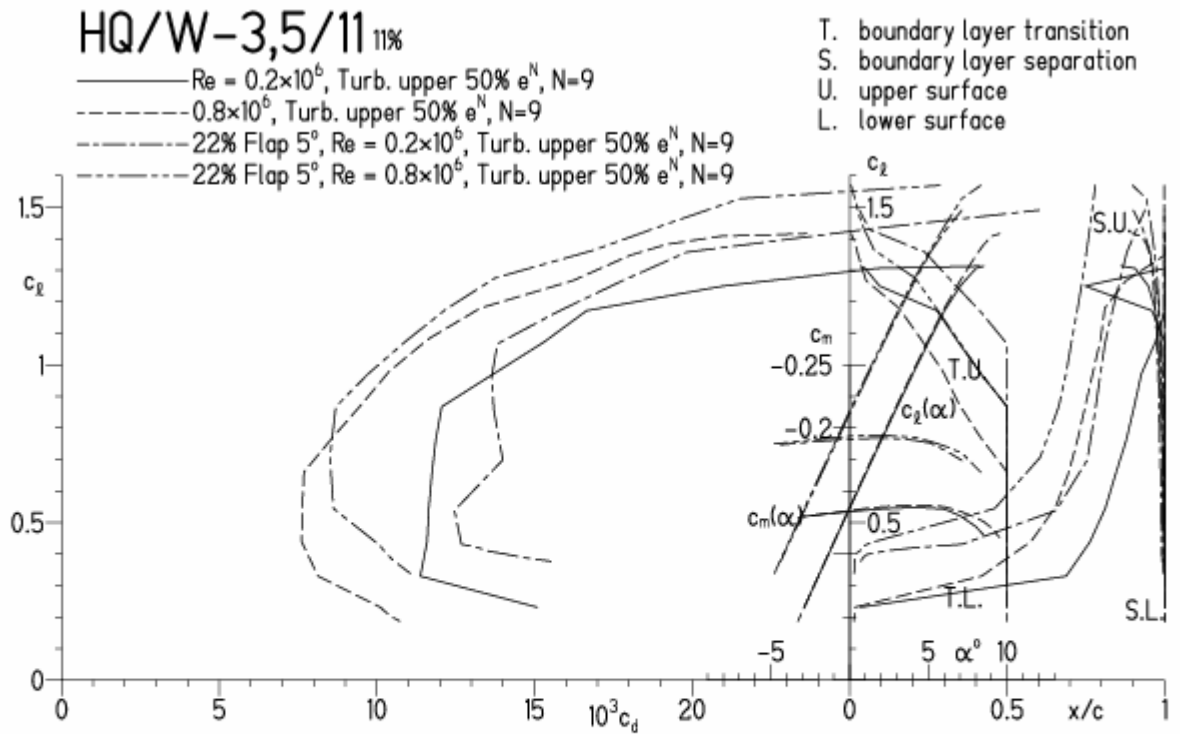


HQ/W-3,5/11, N=9, mit 5° Wölbklappenausschlag, Turbulatoreffekt
 (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 25.1.11 17:48

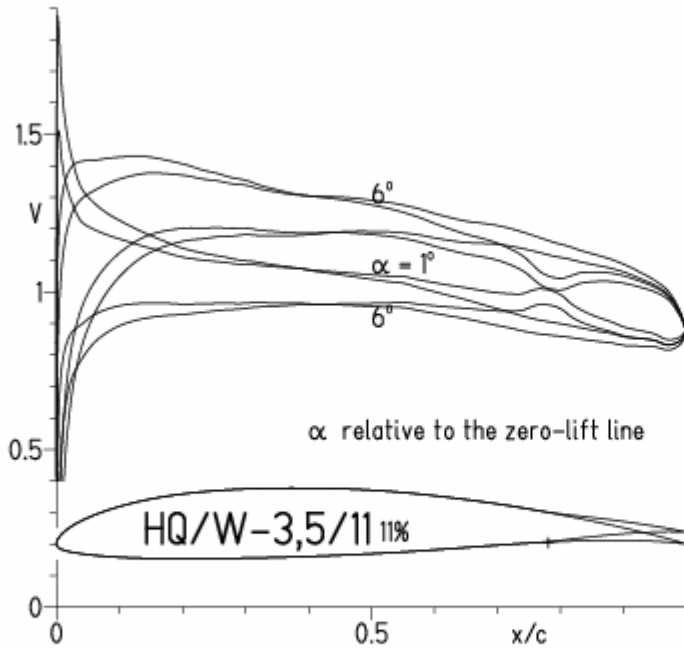


EPPLER 2005 V. 8.5.07 RUN 25.1.11

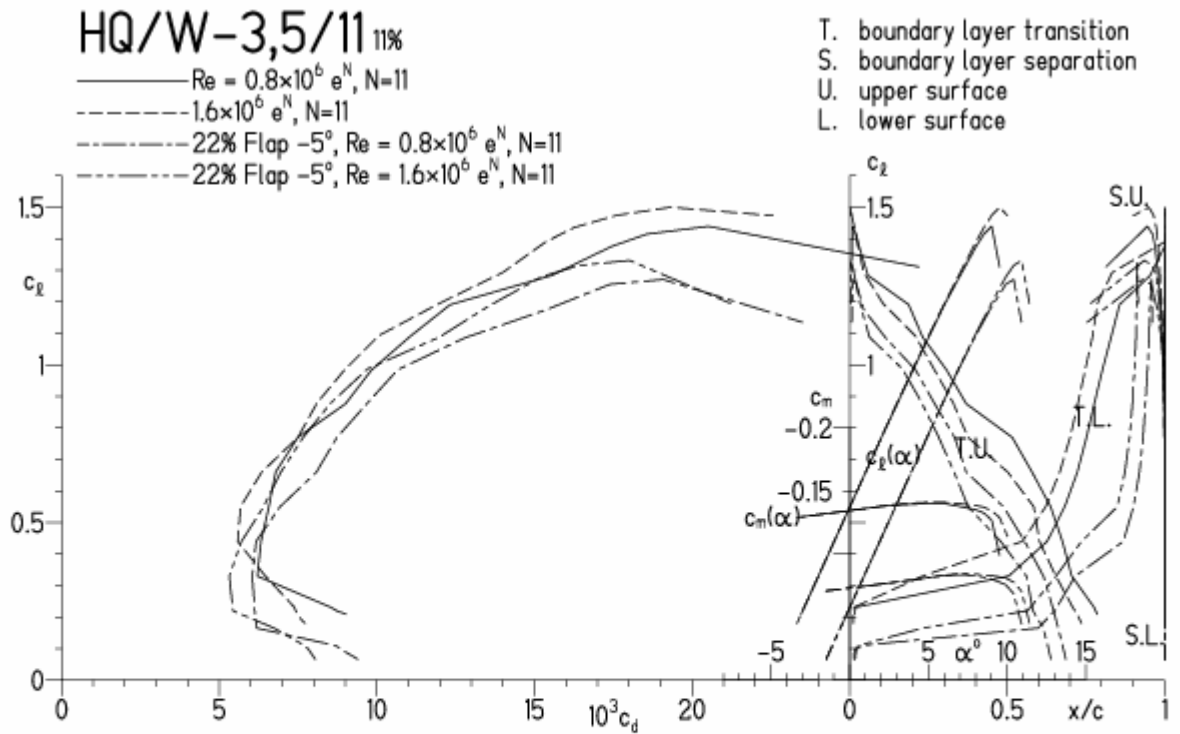


HQ/W-3,5/11, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 25.111 18:09

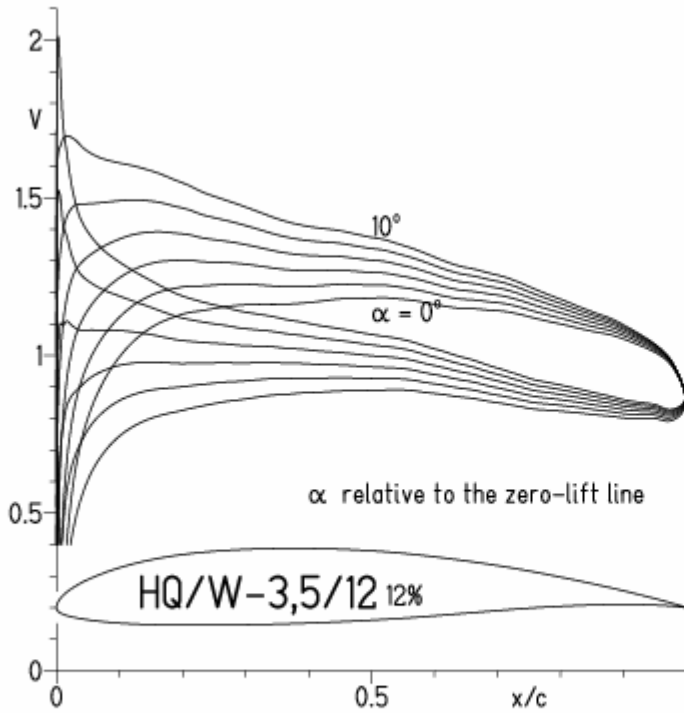


EPPLER 2005 V. 8.5.07 RUN 2



HQ/W-3,5/12, N=11

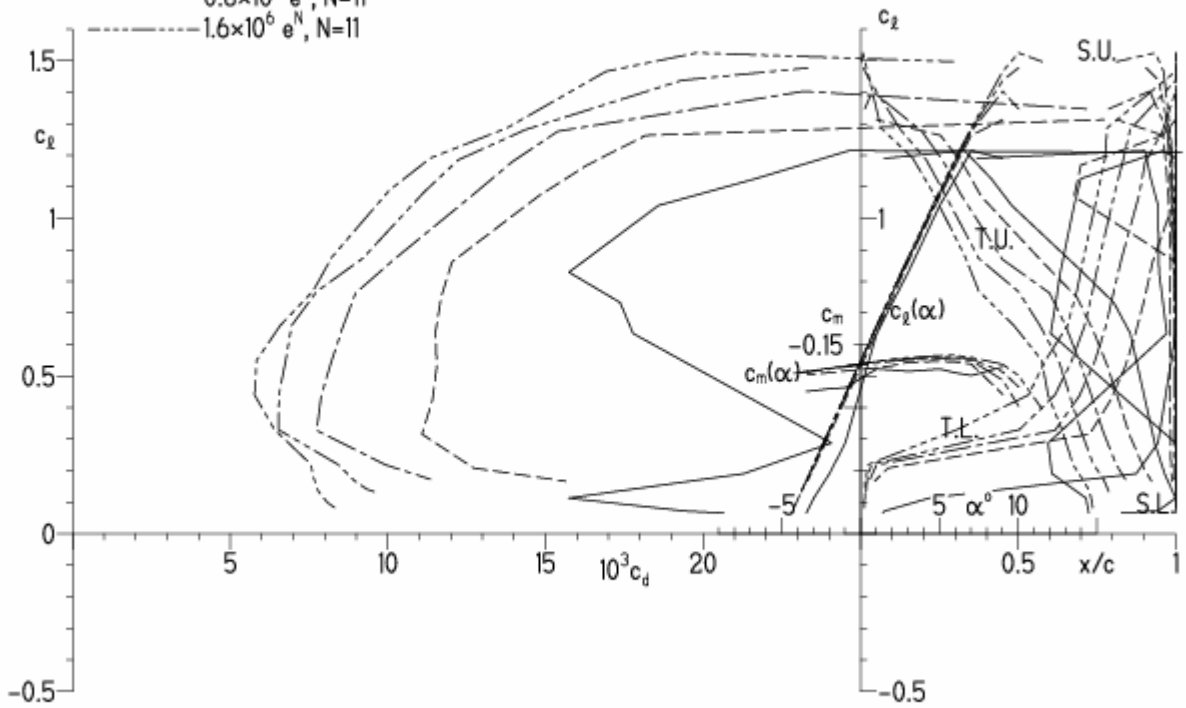
EPPLER 2005 V. 8.5.07 RUN 24.1.11 18:06



EPPLER 2005 V.

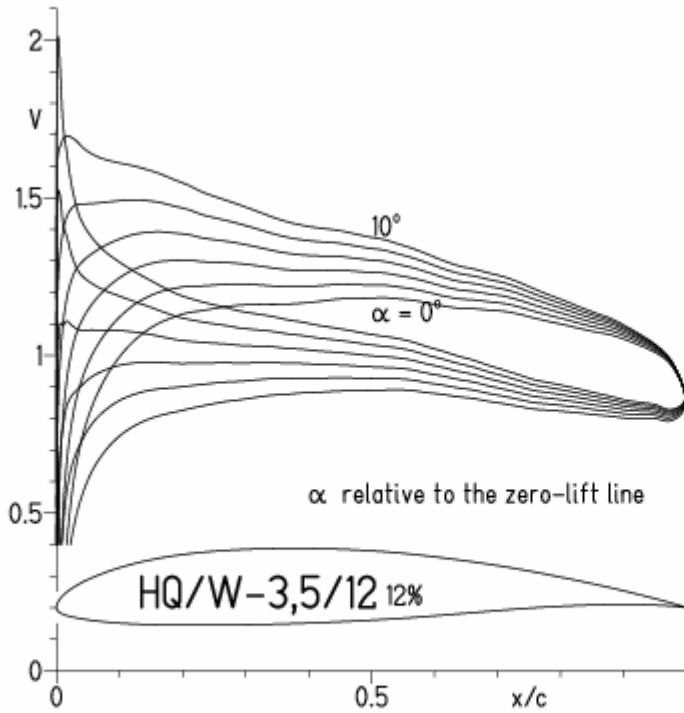
HQ/W-3,5/12 12%

- $Re = 0.1 \times 10^6$, $N=11$
- - - 0.2×10^6 , $N=11$
- · - 0.4×10^6 , $N=11$
- · - 0.8×10^6 , $N=11$
- · - 1.6×10^6 , $N=11$



HQ/W-3,5/12, N=9

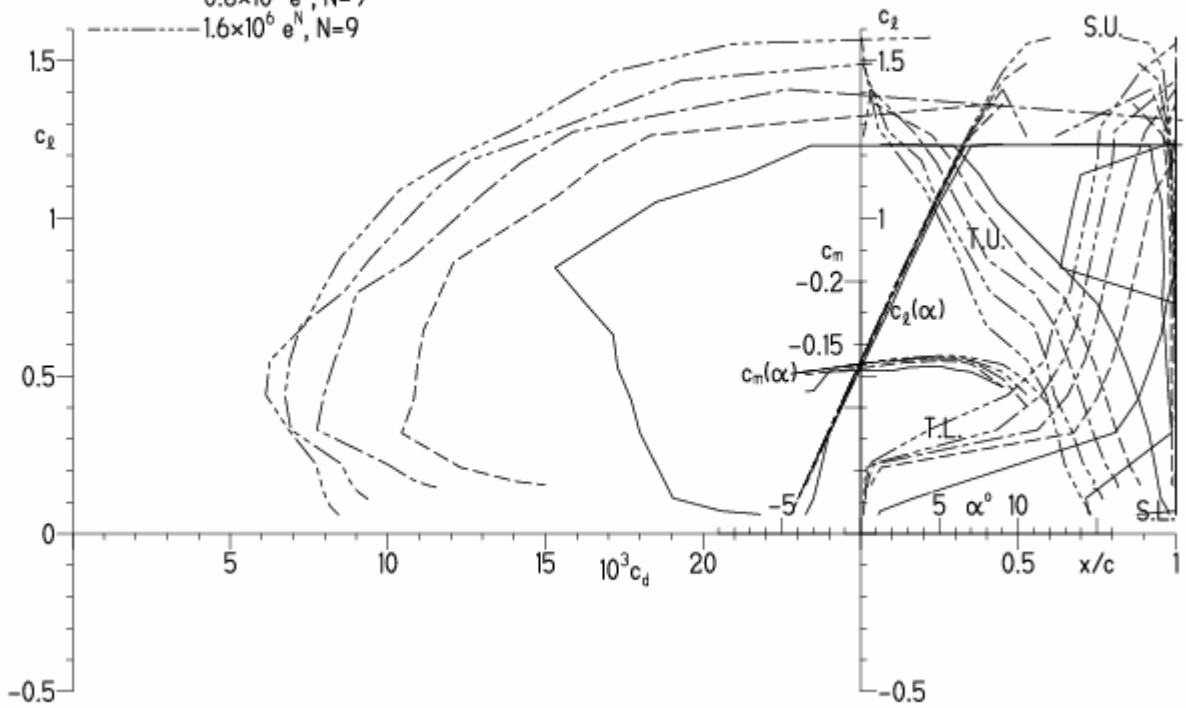
EPPLER 2005 V. 8.5.07 RUN 24.1.11 18:03



EPPLER 2005 V. 8.5.0

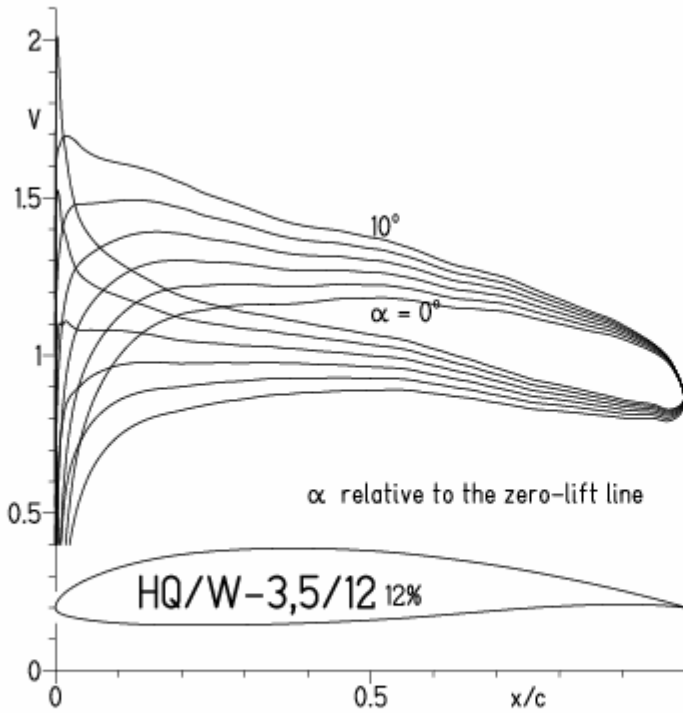
HQ/W-3,5/12 12%

- $Re = 0.1 \times 10^6 e^N, N=9$
- - - $0.2 \times 10^6 e^N, N=9$
- · - $0.4 \times 10^6 e^N, N=9$
- · - · $0.8 \times 10^6 e^N, N=9$
- · - · - $1.6 \times 10^6 e^N, N=9$



HQ/W-3/12, N=9, Turbulatoreffekt bei niedrigen Re-Zahlen

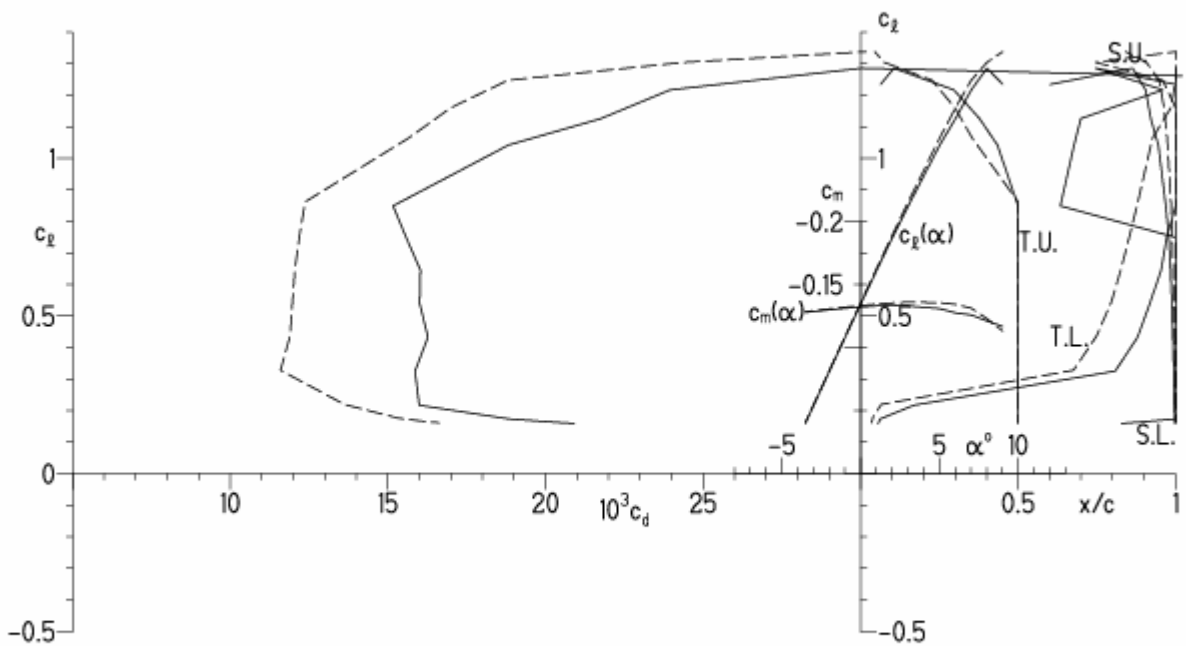
EPPLER 2005 V. 8.5.07 RUN 24.1.11 18:18



EPPLER 2005 V. 8.5.07 RUN 24.1.11 18:18

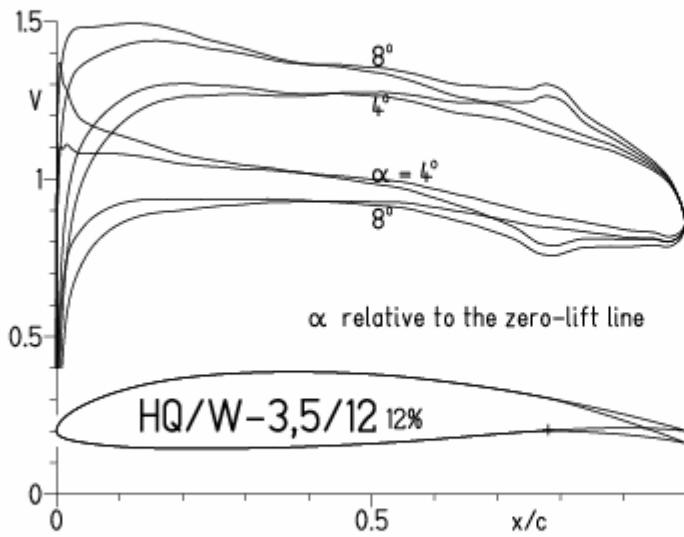
HQ/W-3,5/12 12%

— $Re = 0.1 \times 10^6$, Turb. upper 50% e^N , N=9
 - - - 0.2×10^6 , Turb. upper 50% e^N , N=9

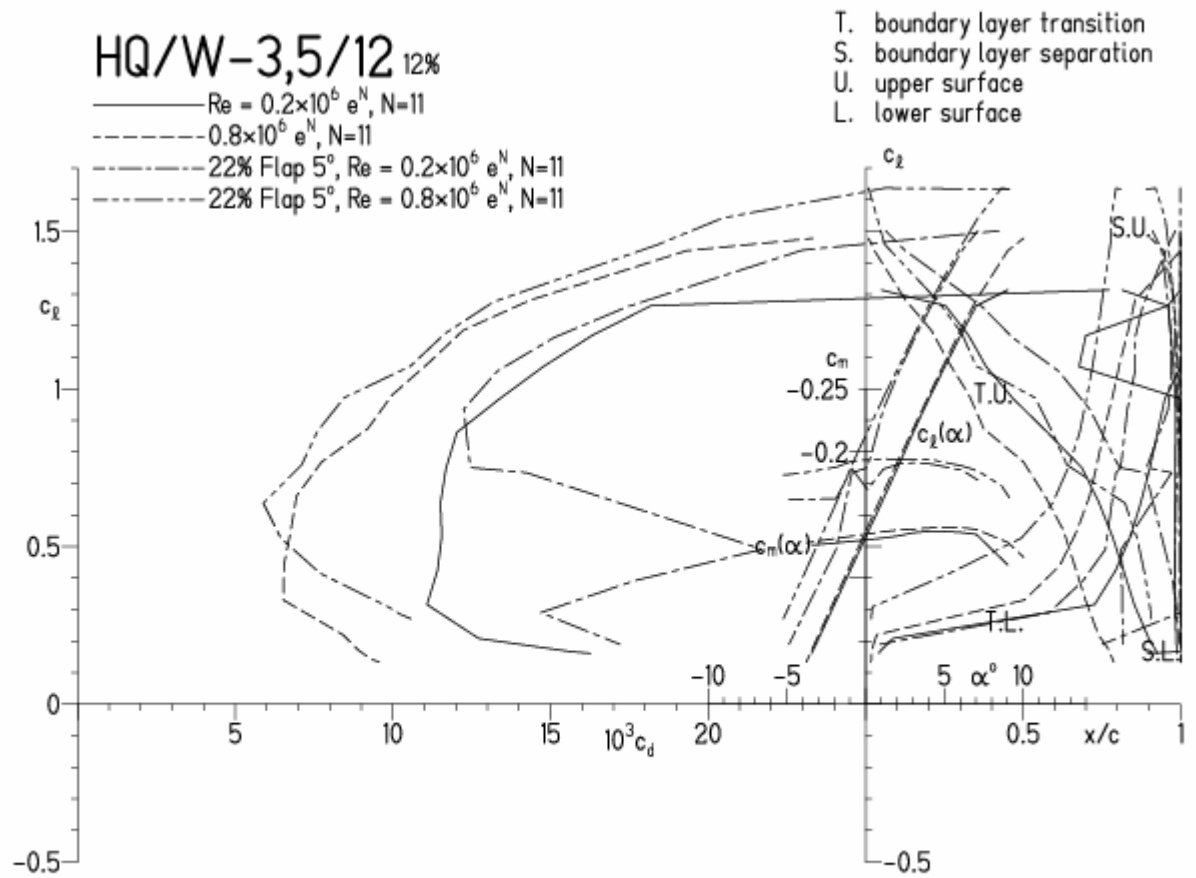


HQ/W-3,5/12, N=11, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 24.1.11 18:44

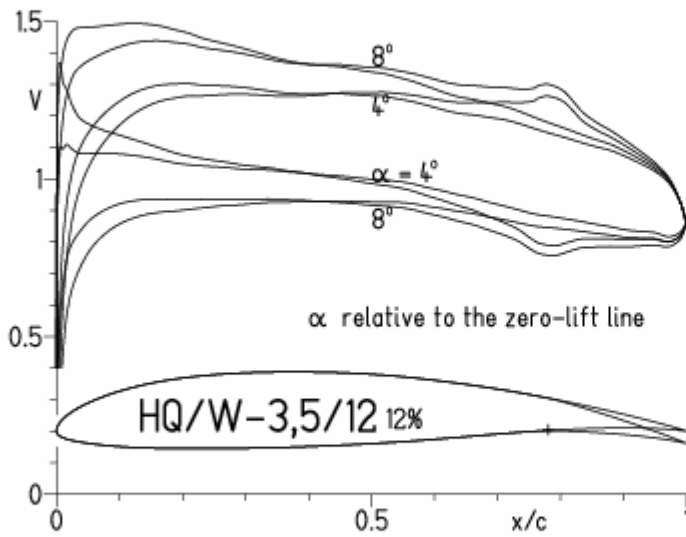


EPPLER 200

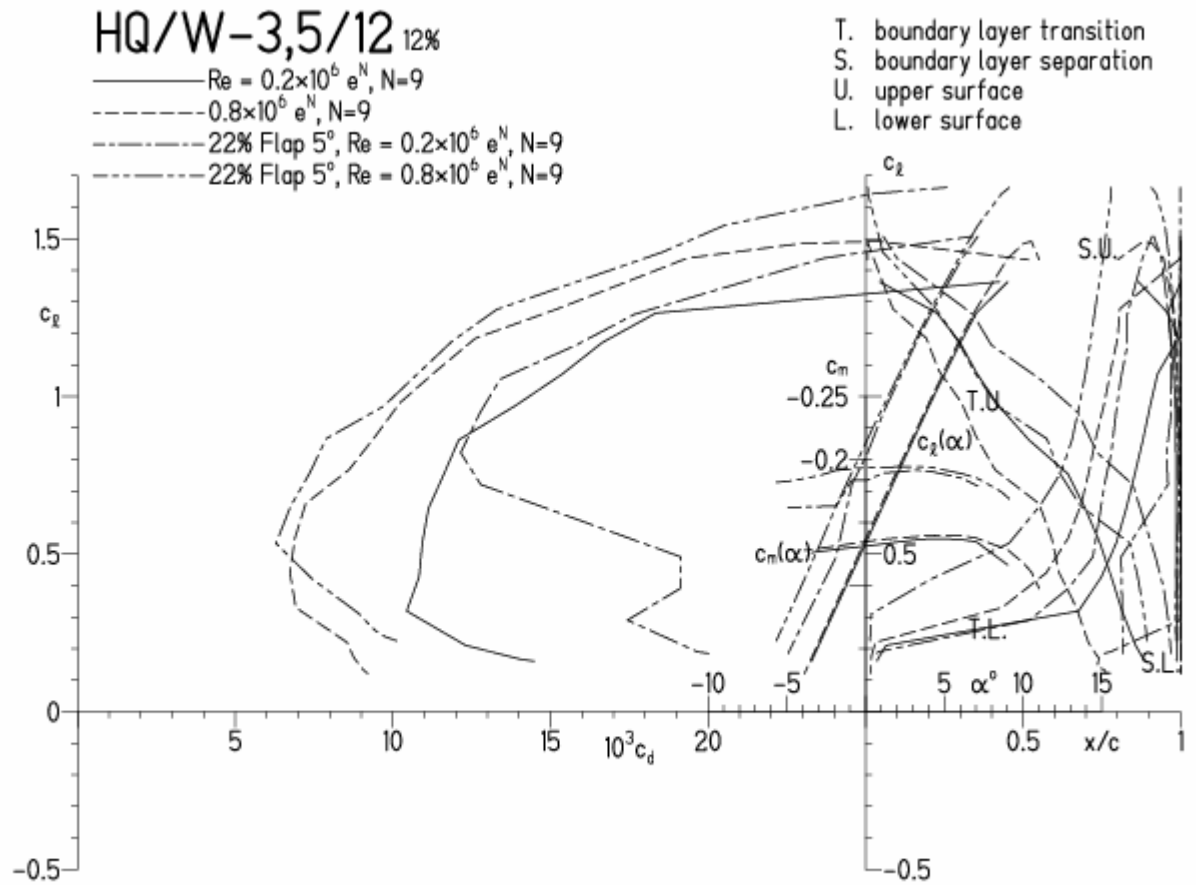


HQ/W-3,5/12, N=9, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 24.1.11 18:57

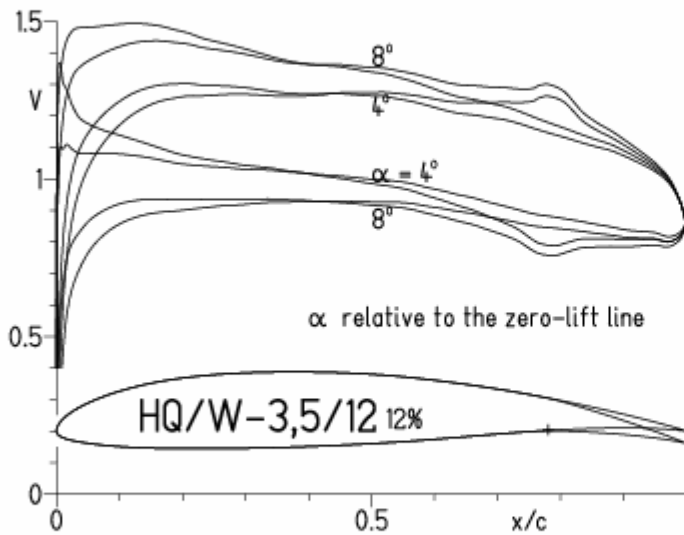


EPPLER 2005 V. 8.5.07 RUN 24.1.11 18:57

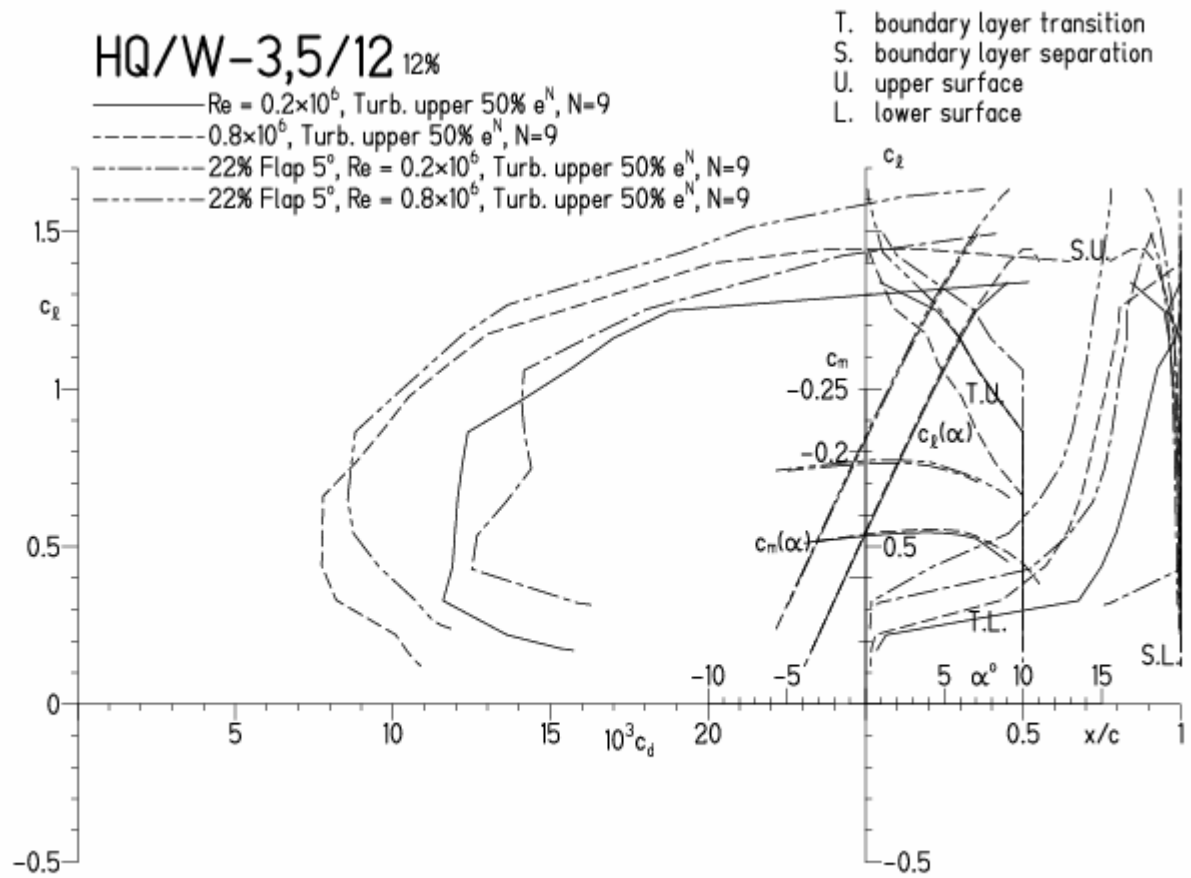


HQ/W-3/12, N=9, mit 5° Wölbklappenausschlag, Turbulatoreffekt
 (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 24.1.11 18:59

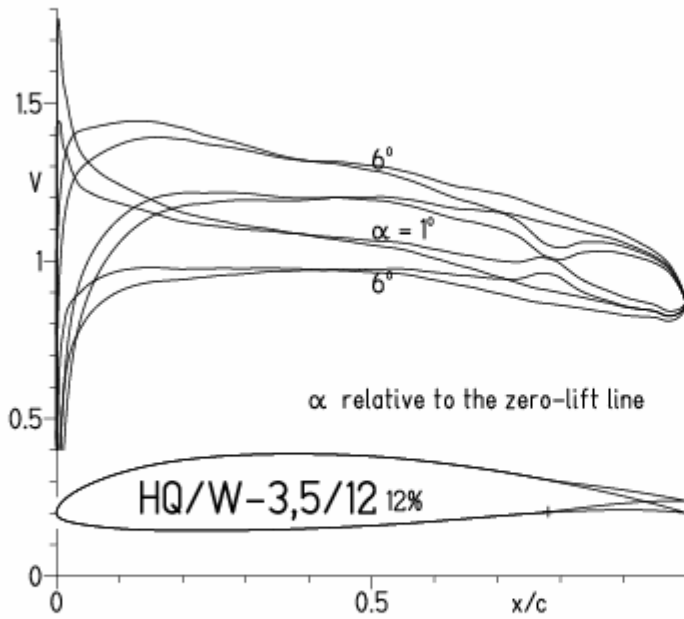


EPPLER 2005 V. 8.5.07 RUN 24.1.11 18:59

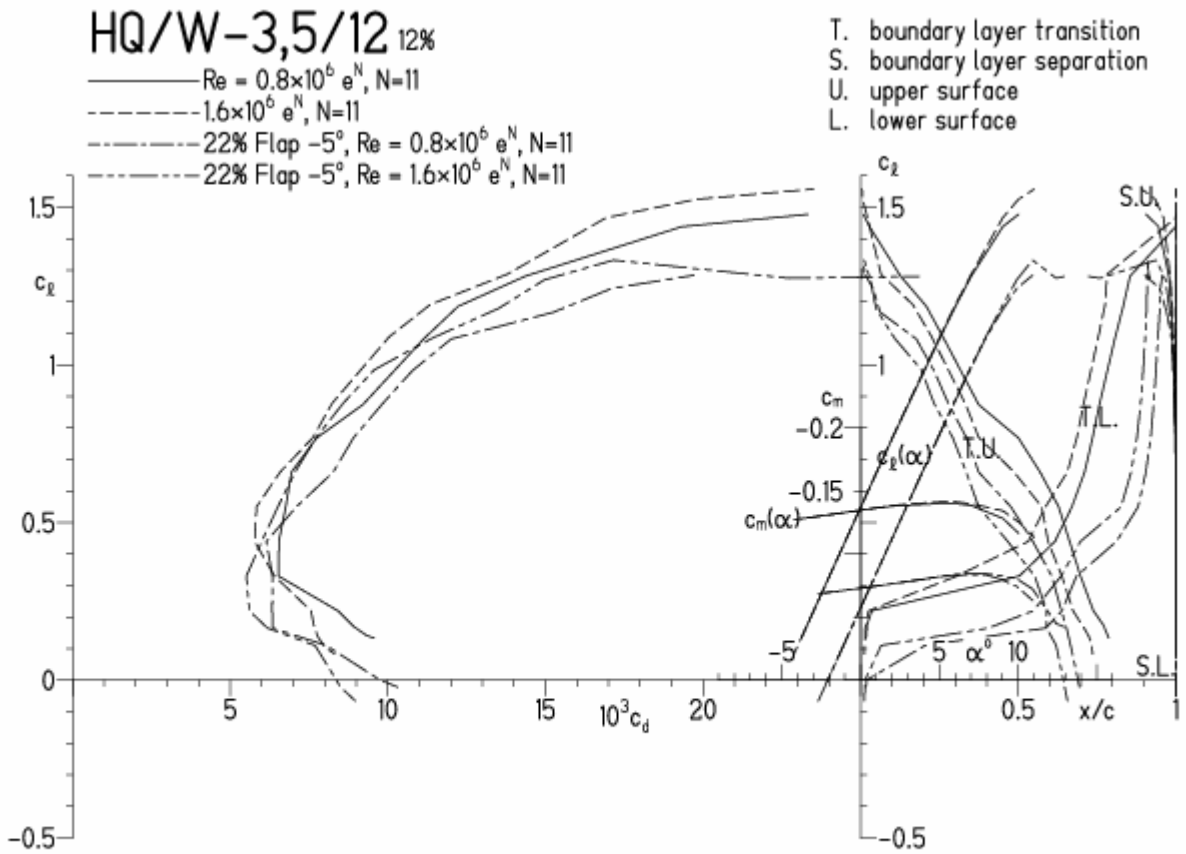


HQ/W-3,5/12, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 24.1.11 19:30

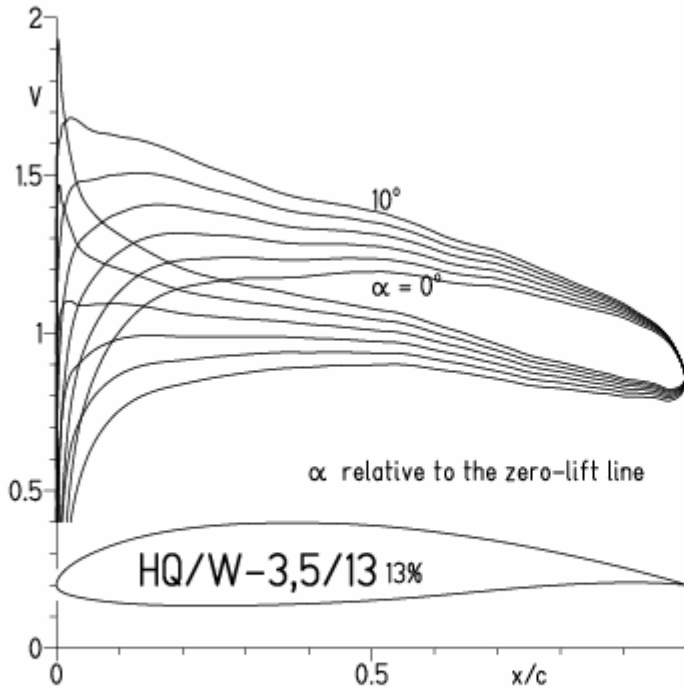


EPPLER 2005



HQ/W-3,5/13, N=11

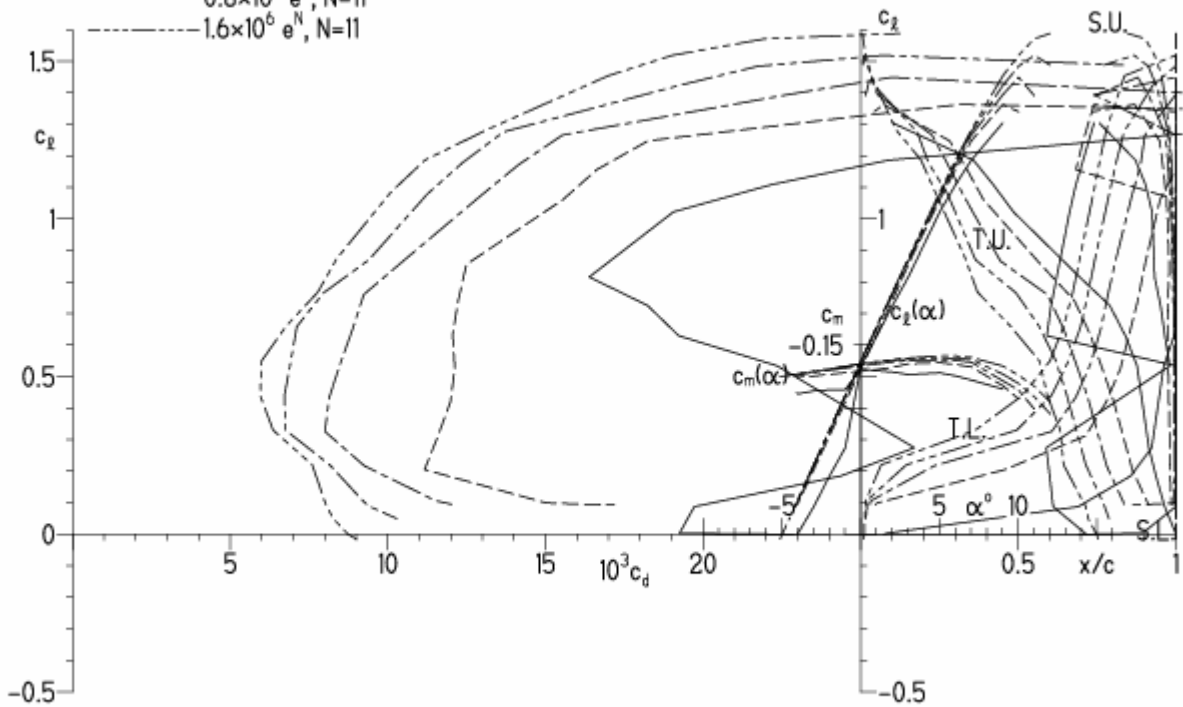
EPPLER 2005 V. 8.5.07 RUN 17.11.11 13:18



EPPLER 2005 V. 8.5.07 RUN 17.11.11 13:18

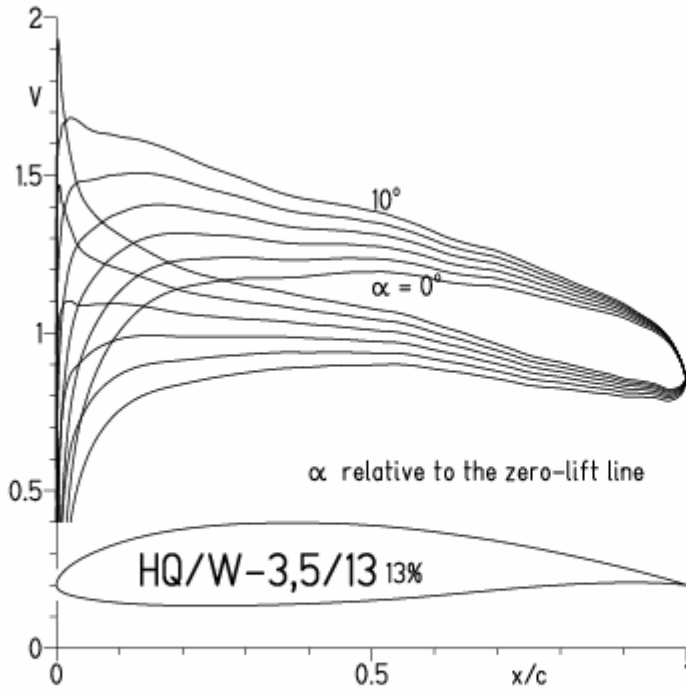
HQ/W-3,5/13 13%

- $Re = 0.1 \times 10^6 e^N, N=11$
- - - $0.2 \times 10^6 e^N, N=11$
- · - $0.4 \times 10^6 e^N, N=11$
- · · - $0.8 \times 10^6 e^N, N=11$
- · · · - $1.6 \times 10^6 e^N, N=11$



HQ/W-3,5/13, N=9

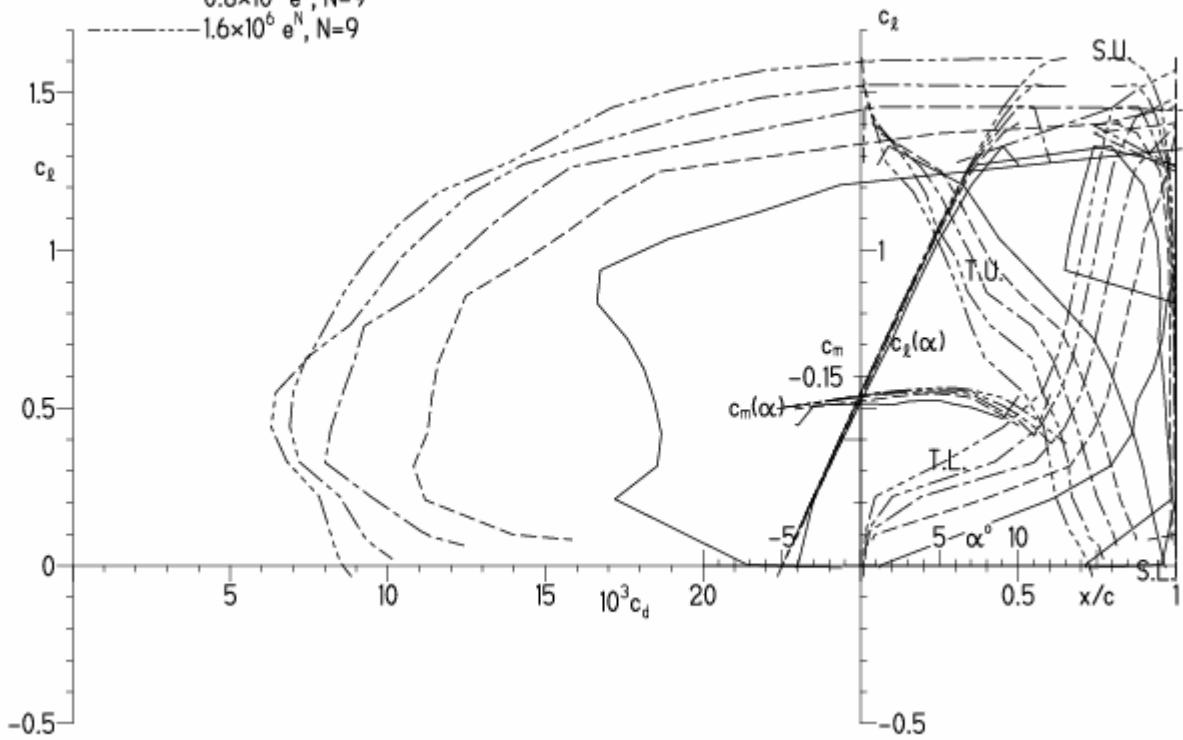
EPPLER 2005 V. 8.5.07 RUN 17.1.11 15:41



EPPLER 20

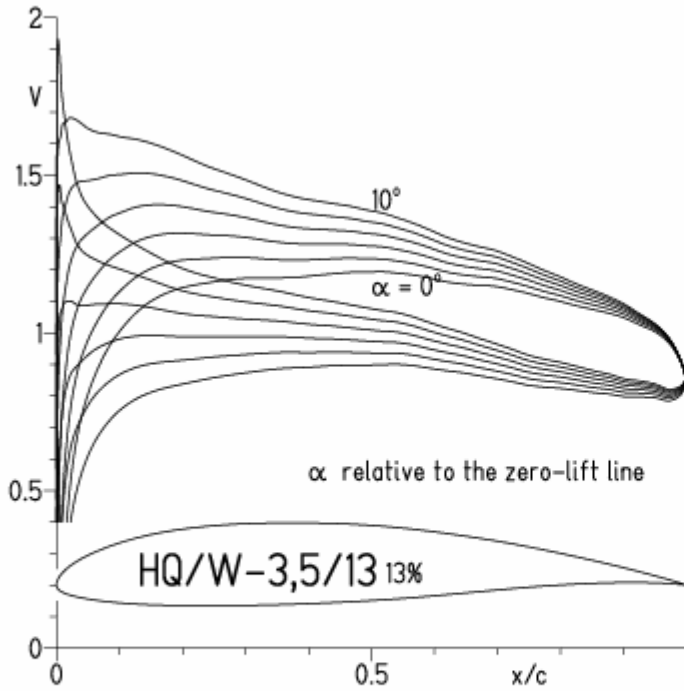
HQ/W-3,5/13 13%

- $Re = 0.1 \times 10^6 e^N, N=9$
- - - $0.2 \times 10^6 e^N, N=9$
- · - $0.4 \times 10^6 e^N, N=9$
- · · - $0.8 \times 10^6 e^N, N=9$
- · · · - $1.6 \times 10^6 e^N, N=9$



HQ/W-3,5/13, N=9, Turbulatoreffekt bei niedrigen Re-Zahlen

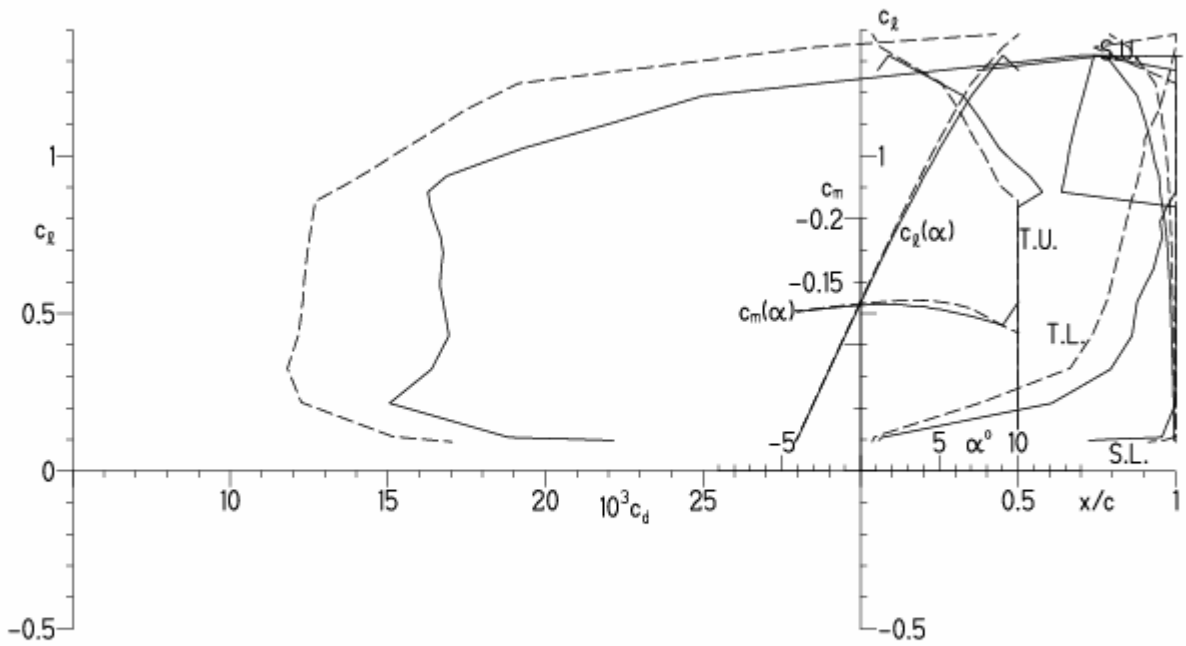
EPPLER 2005 V. 8.5.07 RUN 17.111 15:58



EPPLER 2005 V. 8.5.07 RUN 1

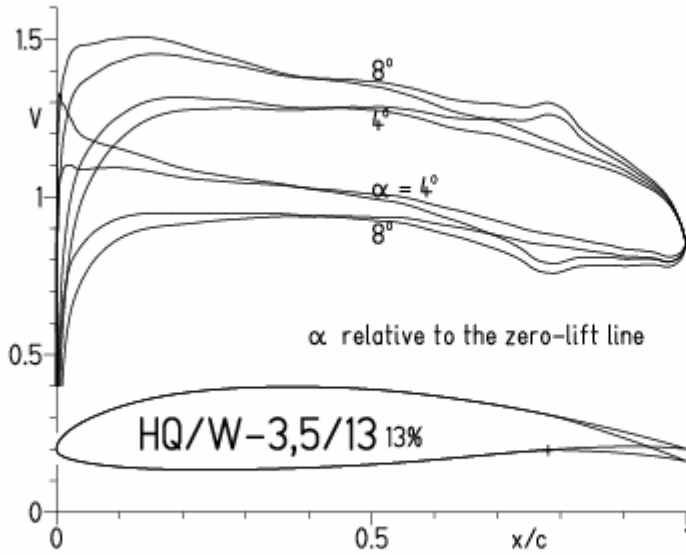
HQ/W-3,5/13 13%

— $Re = 0.1 \times 10^6$, Turb. upper 50% e^N , N=9
 - - - 0.2×10^6 , Turb. upper 50% e^N , N=9

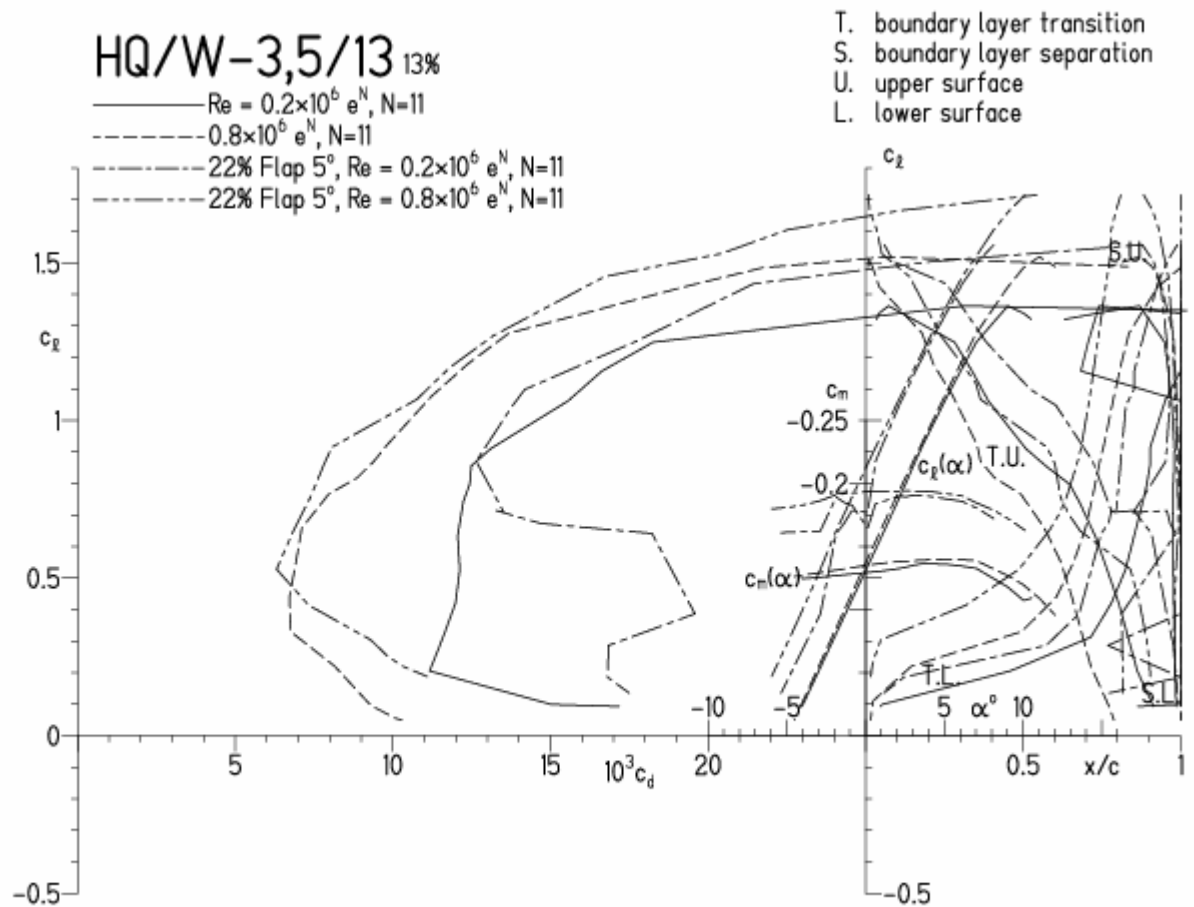


HQ/W-3,5/13, N=11, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 17.11 16:33

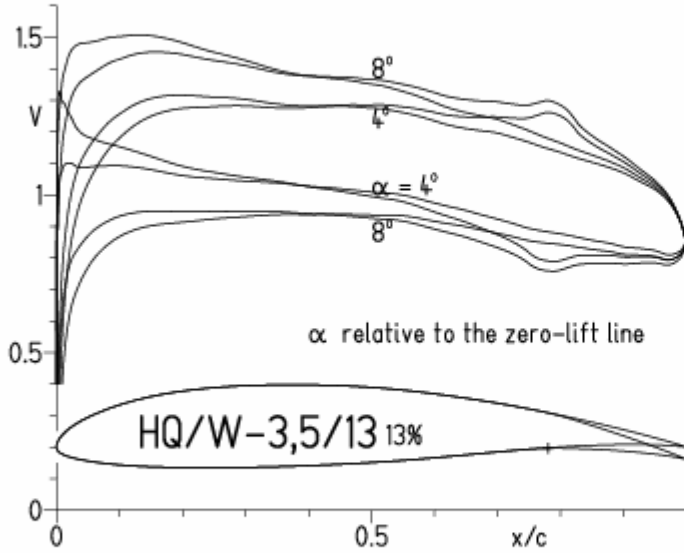


EPPLER 2005 V.

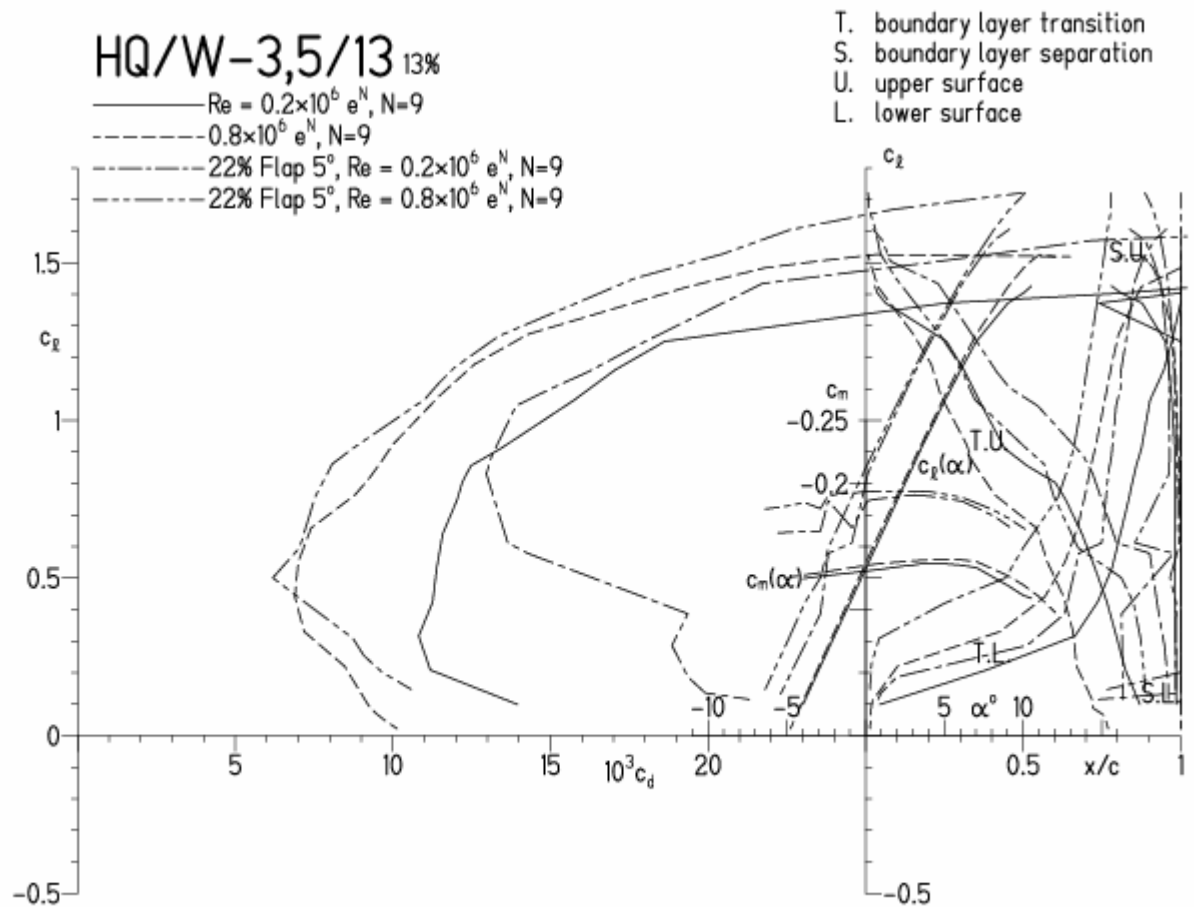


HQ/W-3/13, N=9, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 17.111 16:46

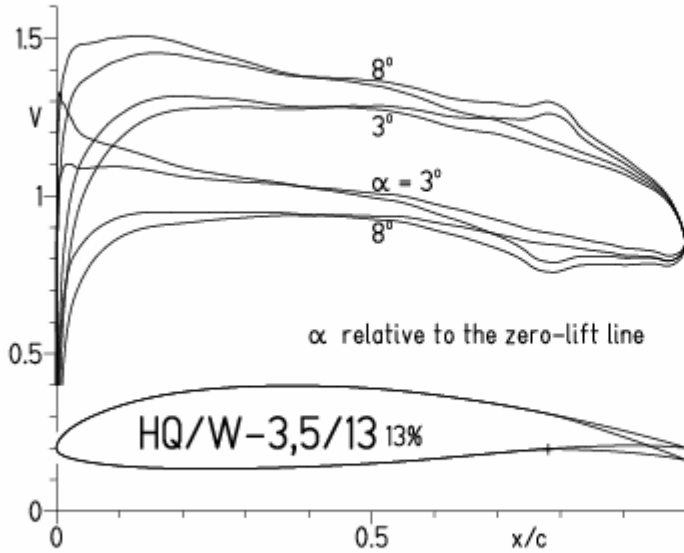


EPPLER 20

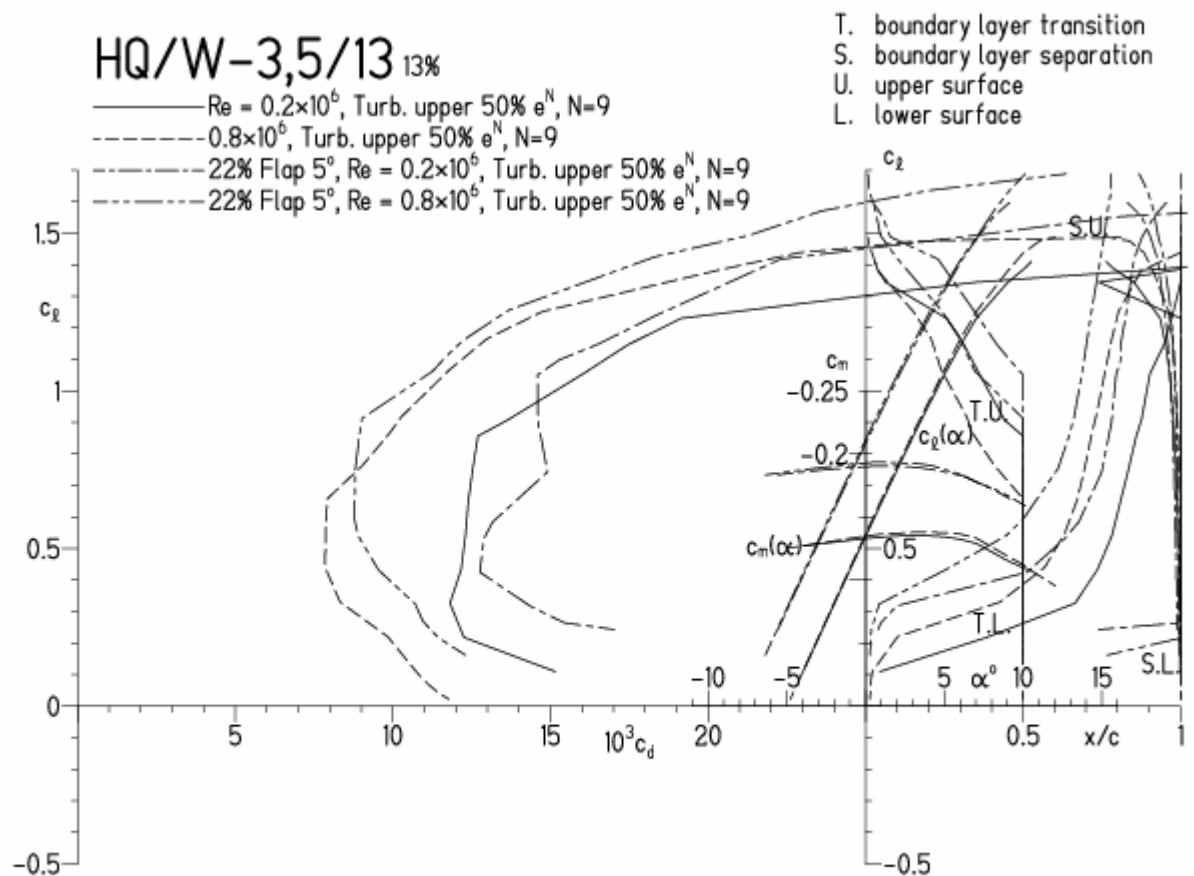


HQ/W-3/13, N=9, mit 5° Wölbklappenausschlag, Turbulatoreffekt
 (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 17.11 17:10

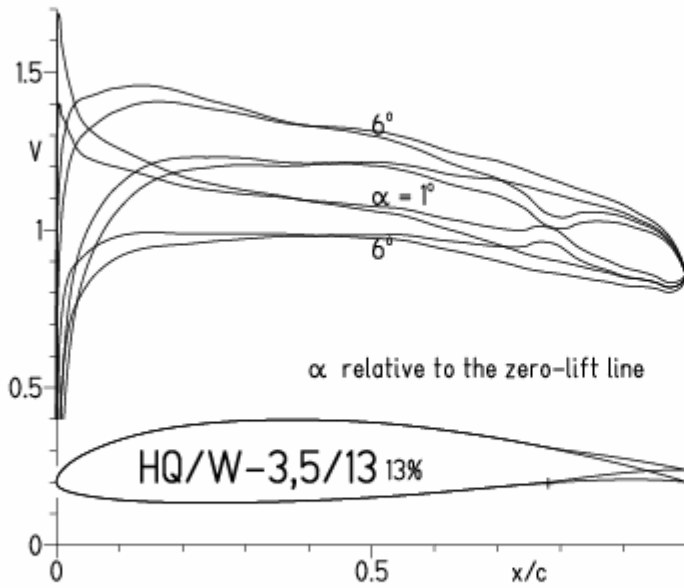


EPPLER 200

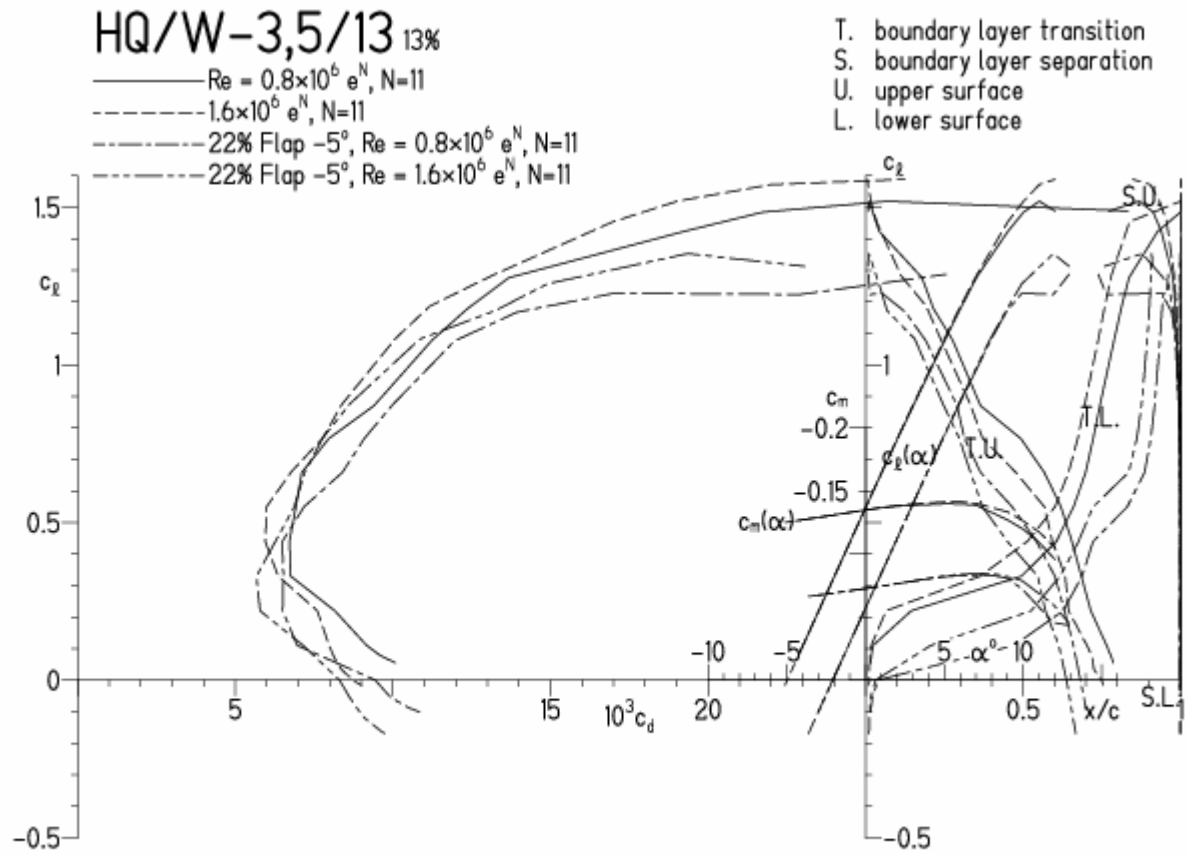


HQ/W-3,5/13, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 17.11.11 17:55

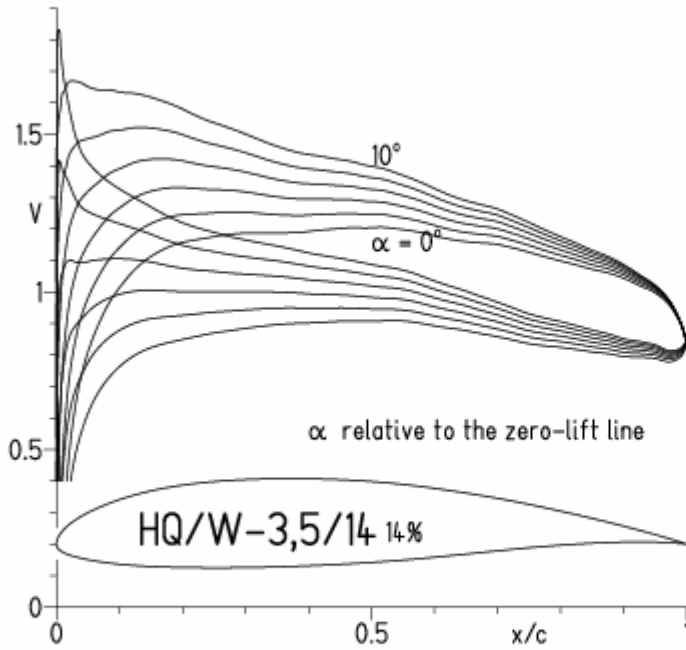


EPPLER

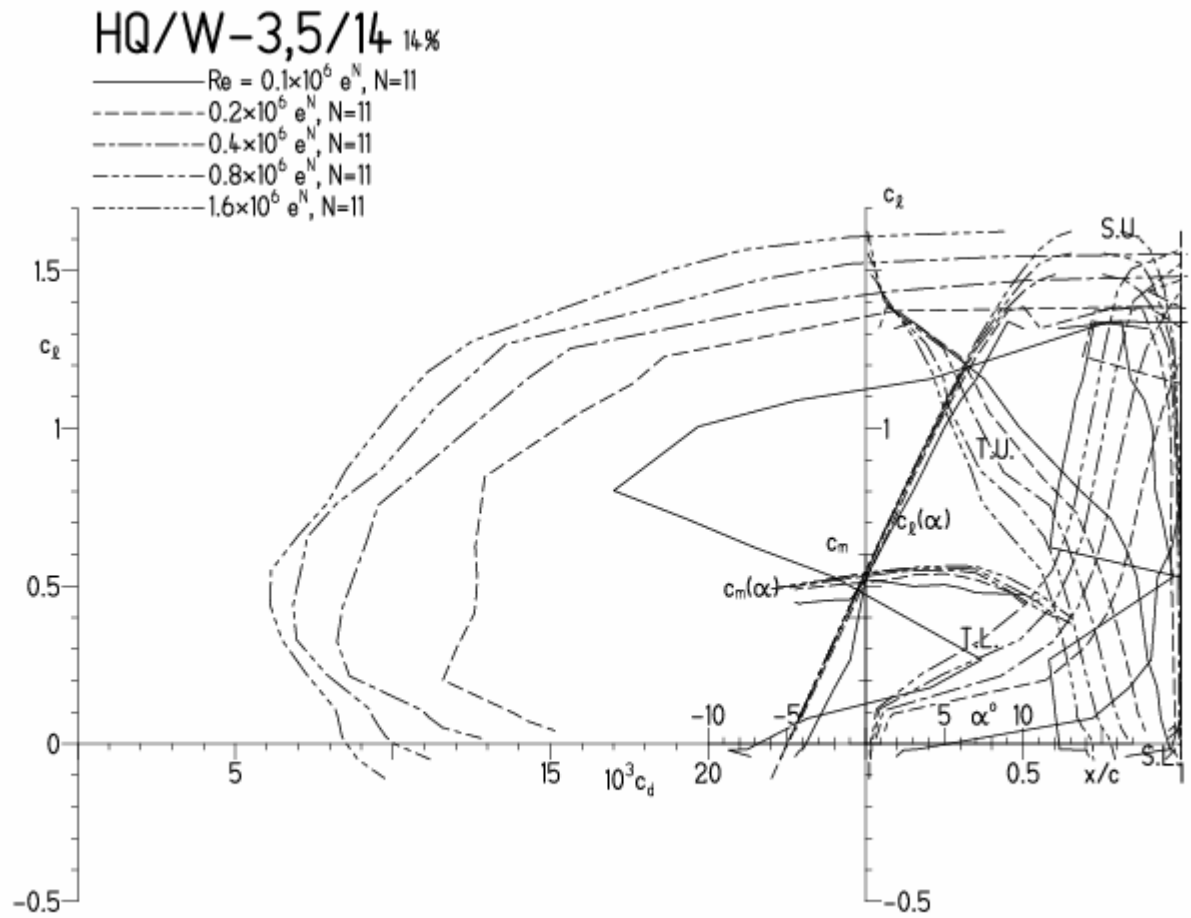


HQ/W-3,5/14, N=11

EPPLER 2005 V. 8.5.07 RUN 18.11 12:12

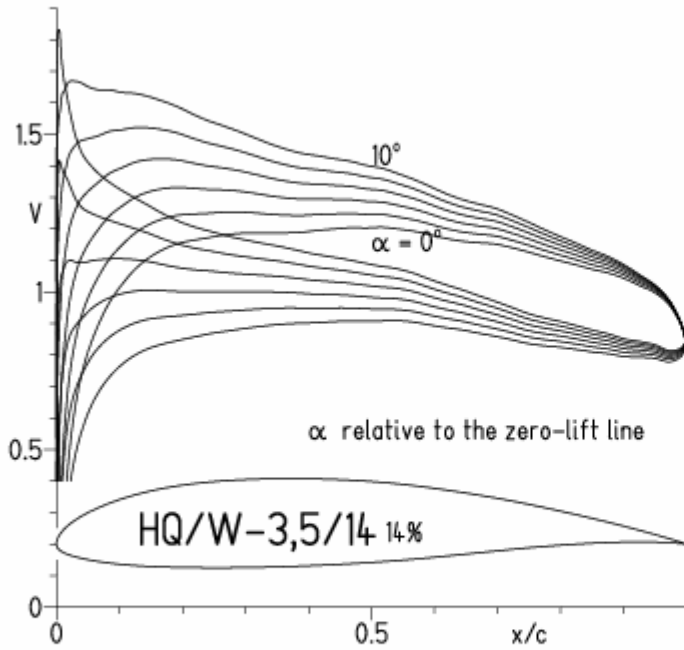


EPPLER 2005 V. 8.5.07 RUN 18.11 12:12

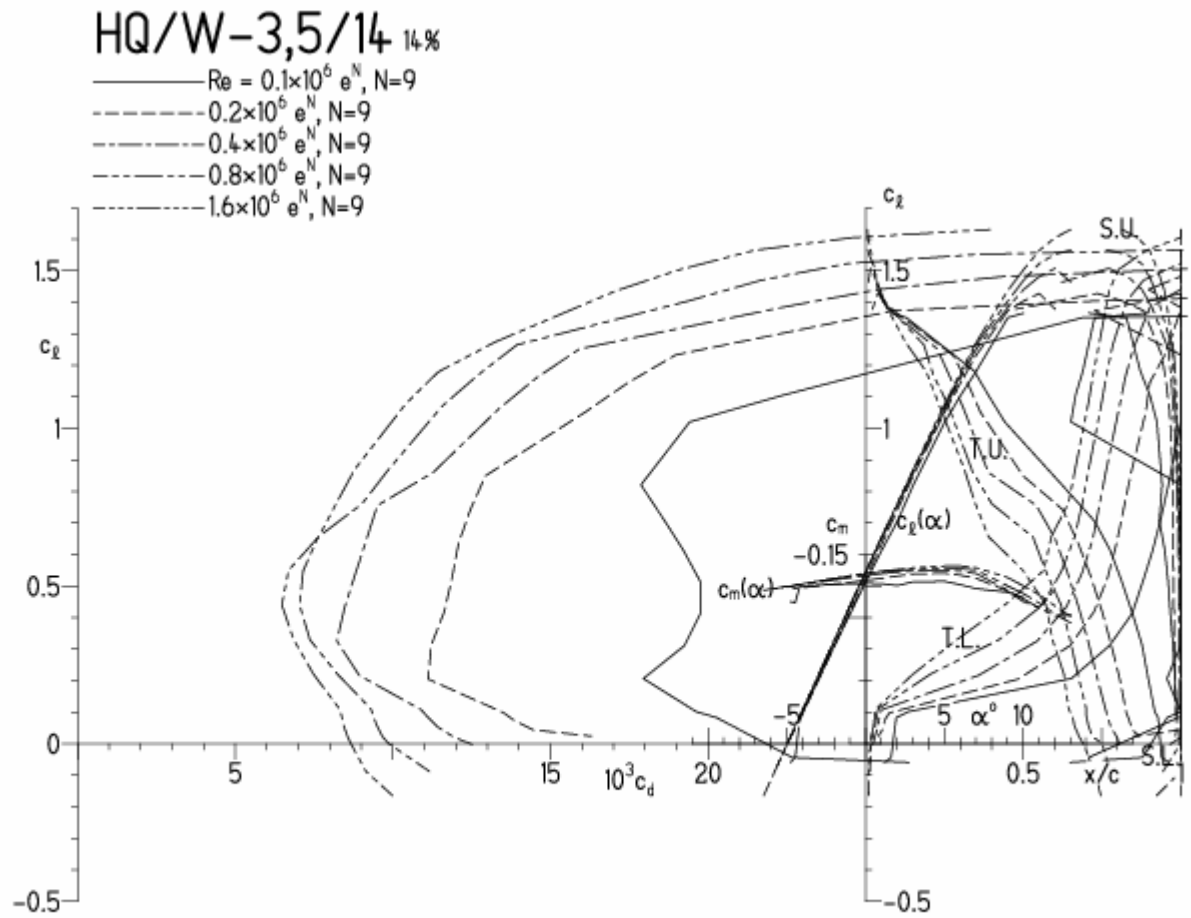


HQ/W-3,5/14, N=9

EPPLER 2005 V. 8.5.07 RUN 18.111 12:30

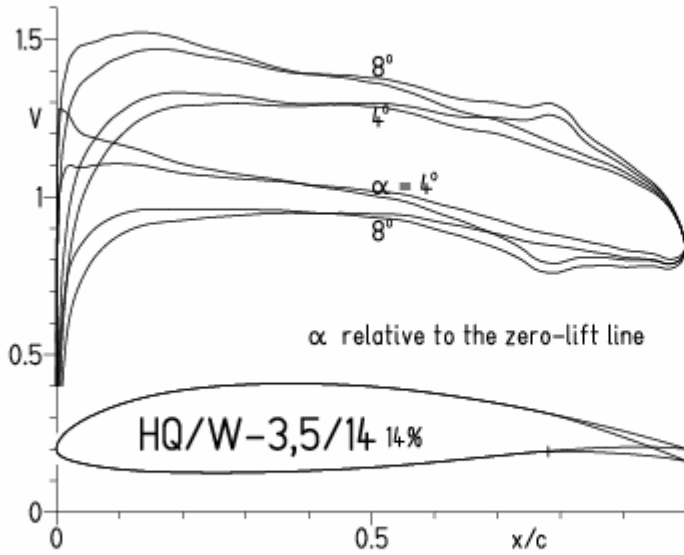


EPPLER 2005 V. 8.5.07 RUN 18.111 12:

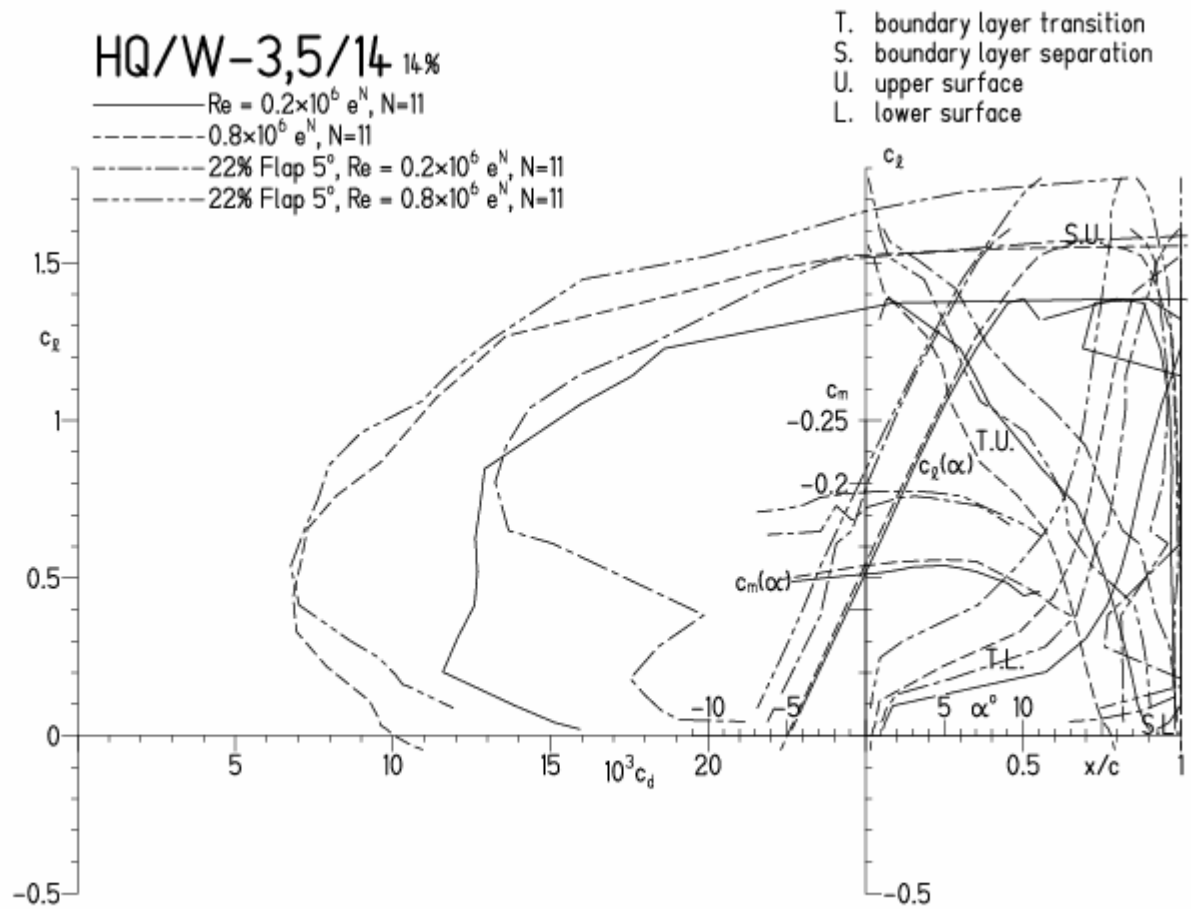


HQ/W-3/14, N=11, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 19.11.11 11:54

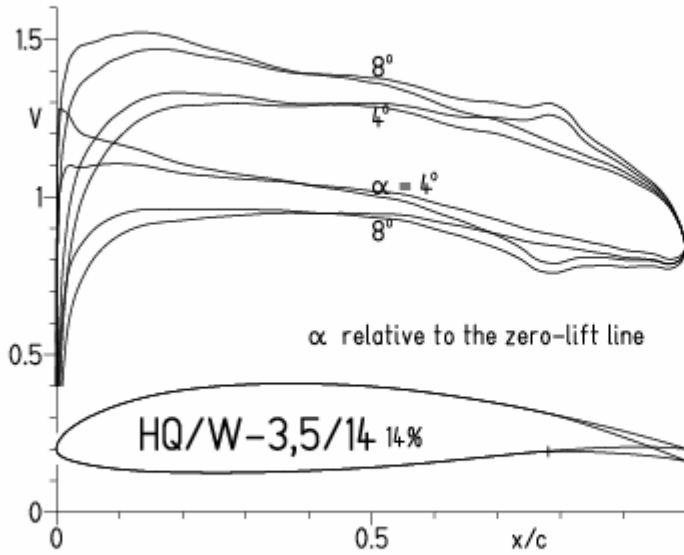


EPPLER 2005 V. 8.5

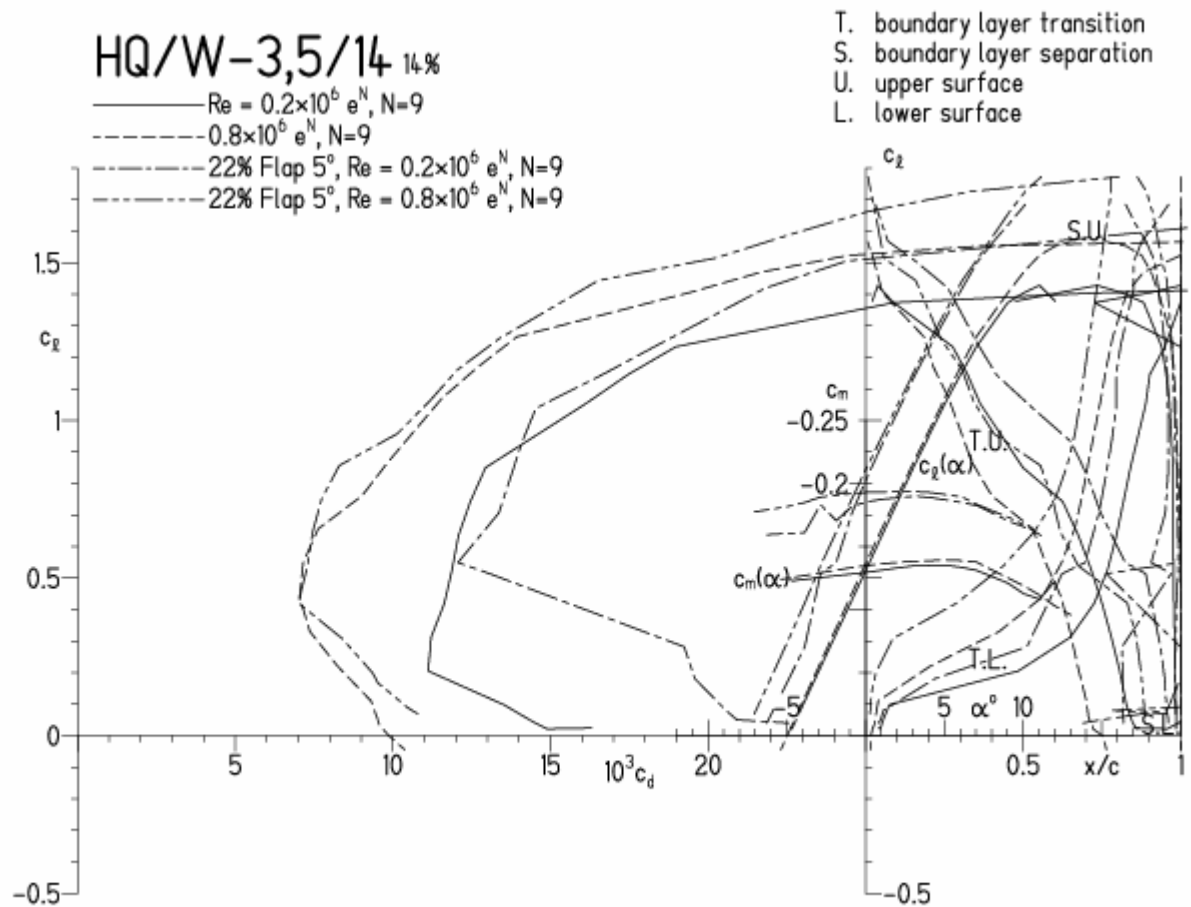


HQ/W-3/14, N=9, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 19.1.11 12:01

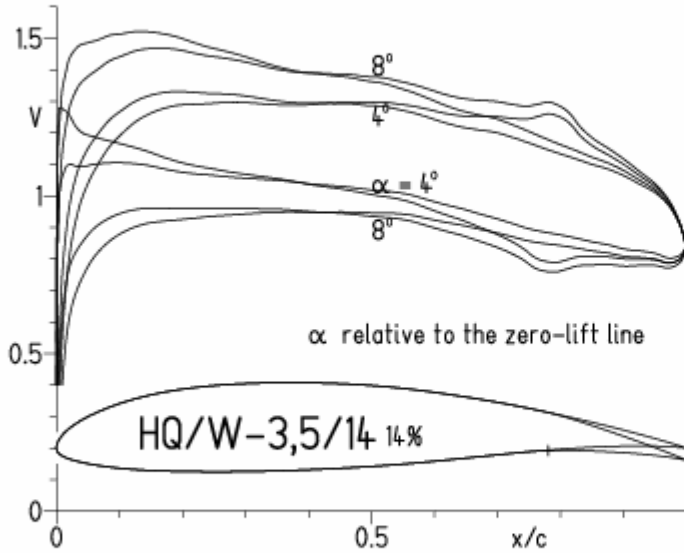


EPPLER 20

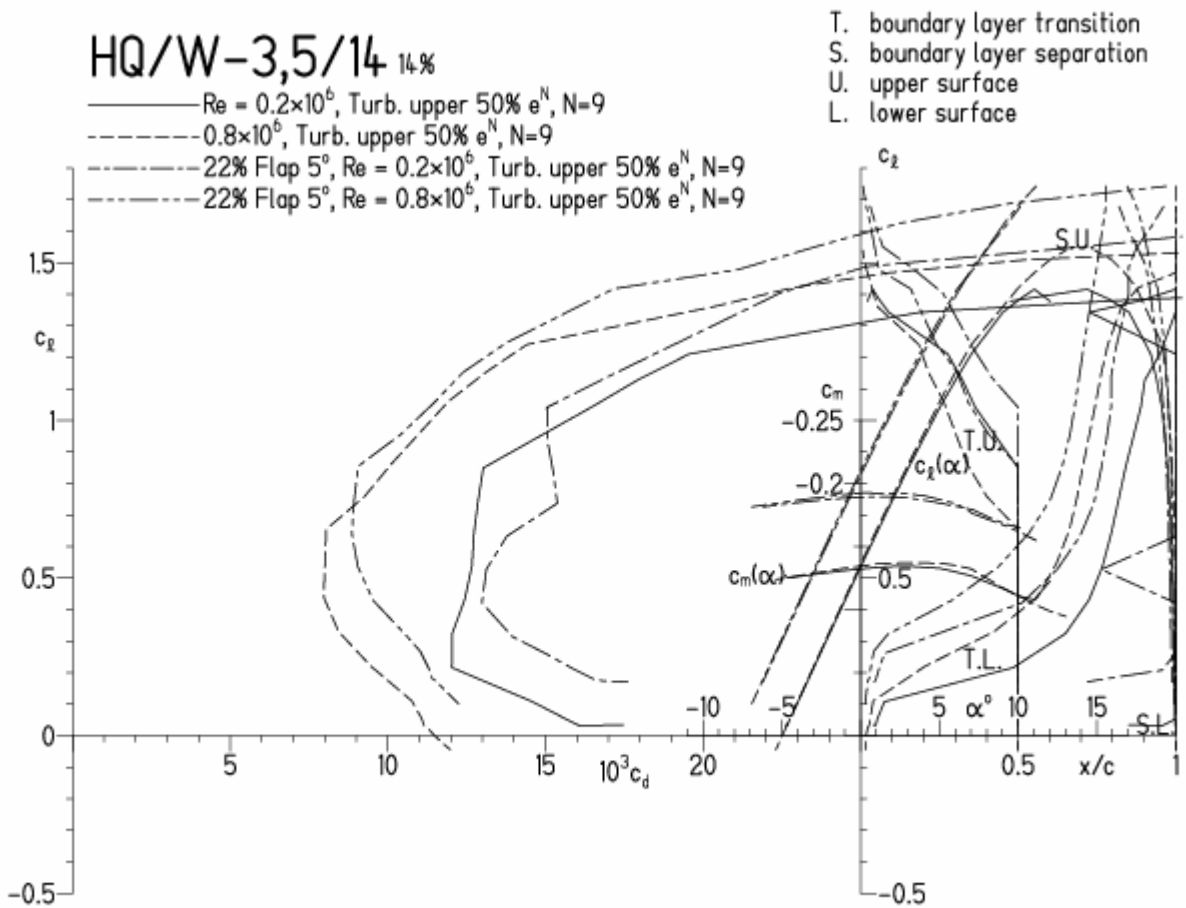


HQ/W-3/14, N=9, mit 5° Wölbklappenausschlag, Turbulatoreffekt
 (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 19.1.11 12:28

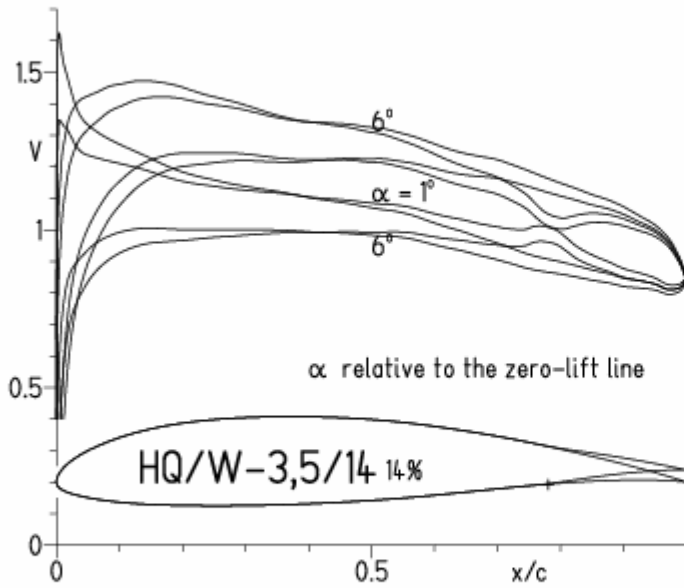


EPPLER 2005 V. 8.5.07 RUN 19.1.11 12:2

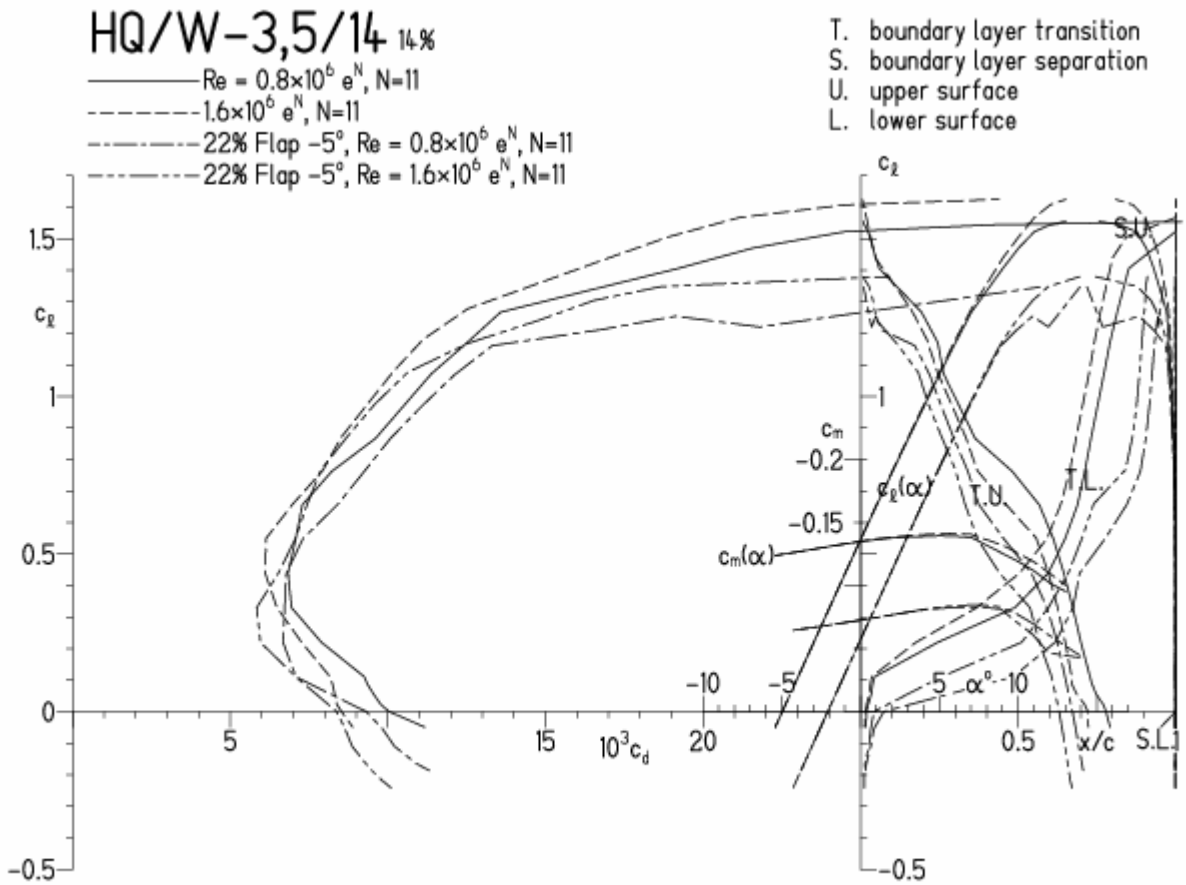


HQ/W-3,5/14, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 19.1.11 12:20

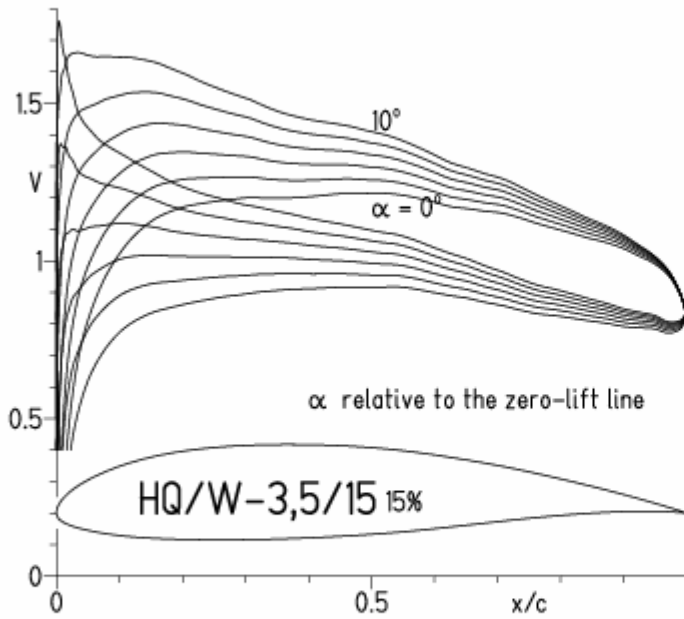


EPPLER 2005 V. 8.5.07 RUN 19.1.11 1



HQ/W-3,5/15, N=11

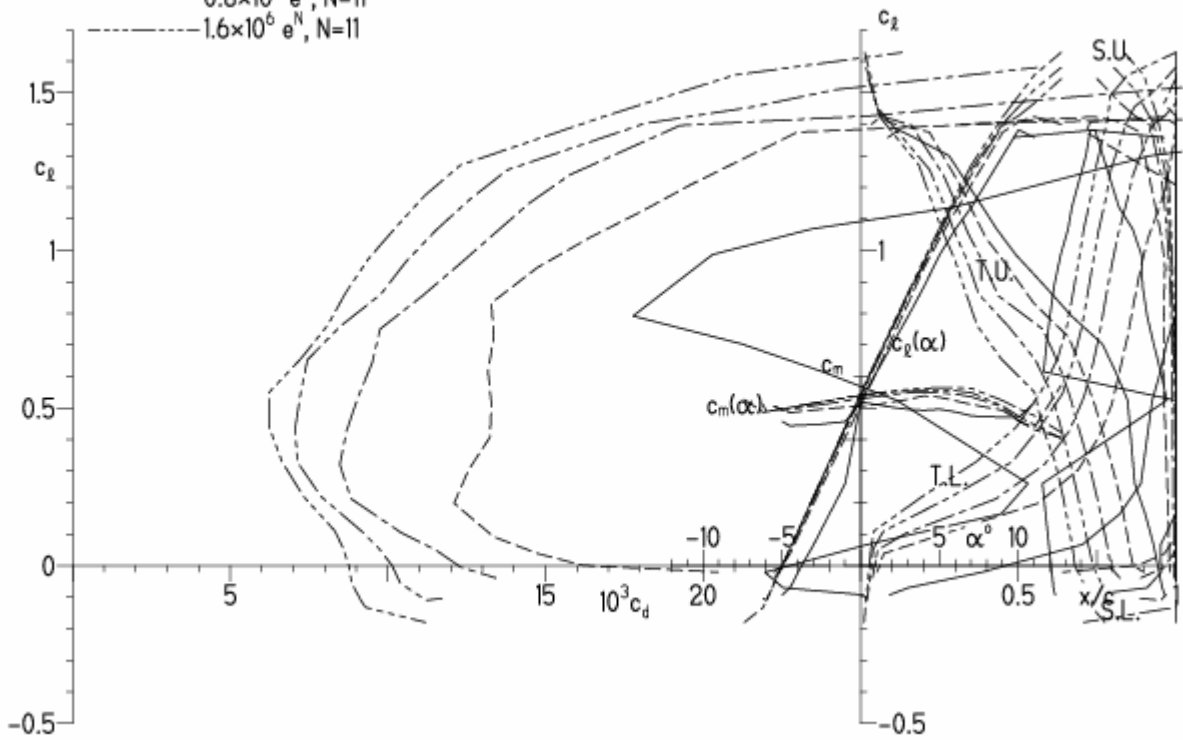
EPPLER 2005 V. 8.5.07 RUN 20.1.11 16:27



EPPLER 2005 V.

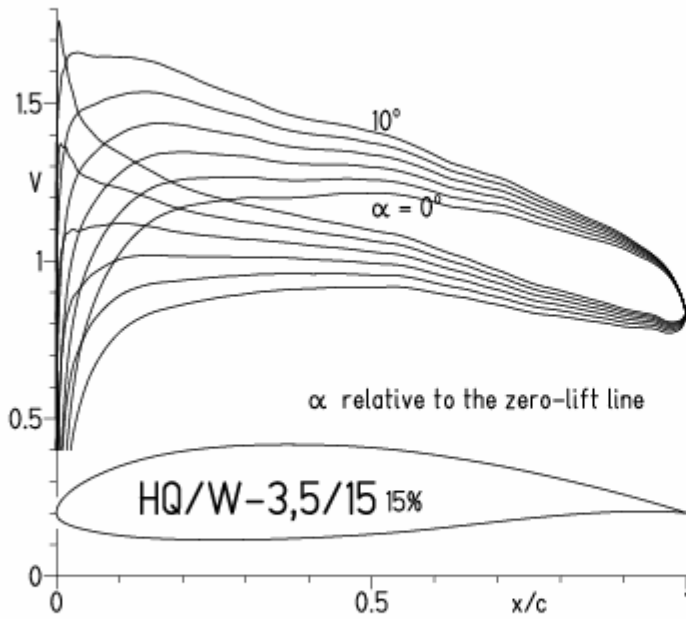
HQ/W-3,5/15 15%

- $Re = 0.1 \times 10^6 e^N, N=11$
- - - $0.2 \times 10^6 e^N, N=11$
- · - $0.4 \times 10^6 e^N, N=11$
- · - · $0.8 \times 10^6 e^N, N=11$
- · - · - $1.6 \times 10^6 e^N, N=11$



HQ/W-3/15, N=9

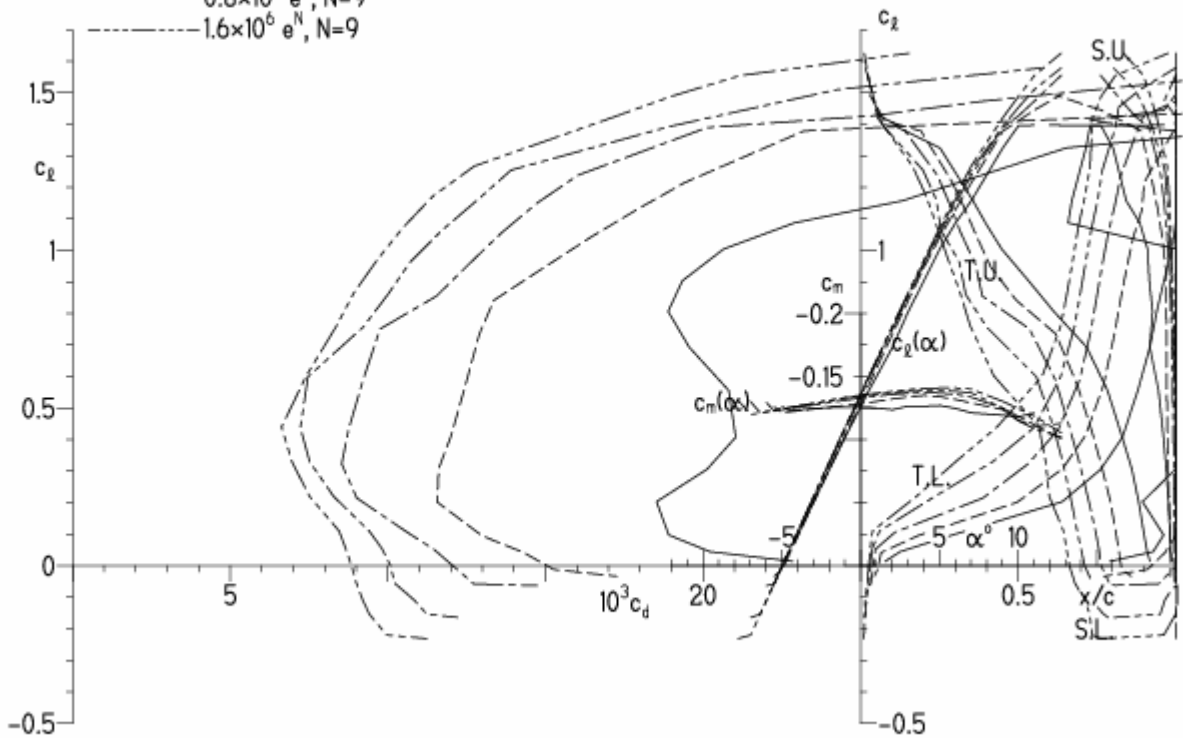
EPPLER 2005 V. 8.5.07 RUN 20.111 16:49



EPPLER 2005 V. 8.5.07 RUN 2

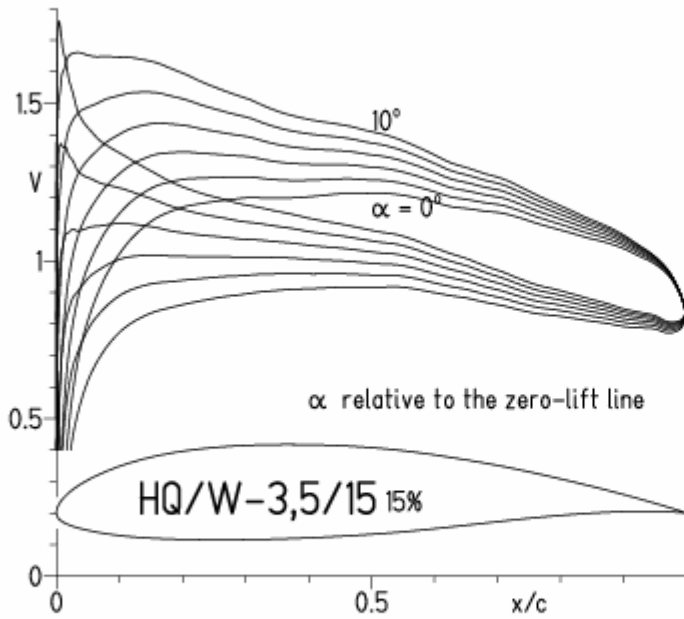
HQ/W-3,5/15 15%

- $Re = 0.1 \times 10^6 e^N, N=9$
- - - $0.2 \times 10^6 e^N, N=9$
- · - $0.4 \times 10^6 e^N, N=9$
- · - · $0.8 \times 10^6 e^N, N=9$
- · - · - $1.6 \times 10^6 e^N, N=9$



HQ/W-3,5/15, N=9, Turbulatoreffekt

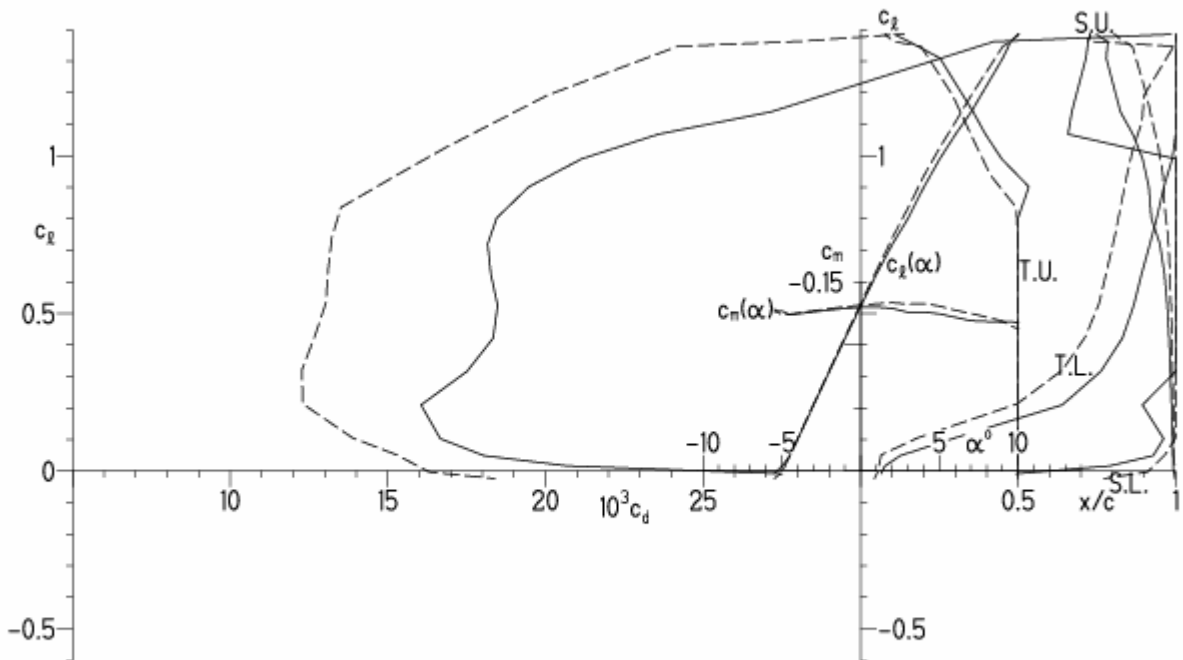
EPPLER 2005 V. 8.5.07 RUN 20.1.11 17:03



EPPLER 2005 V. 8.5.07 RUN 20.1.11 17:0

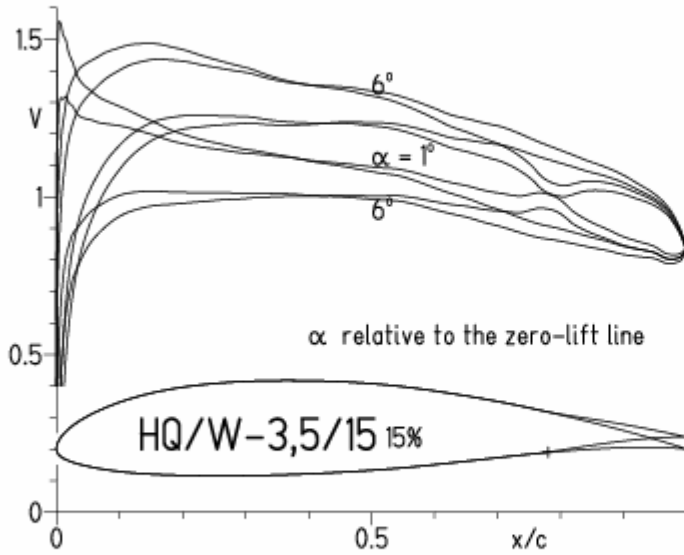
HQ/W-3,5/15 15%

— $Re = 0.1 \times 10^6$, Turb. upper 50% e^N , N=9
 - - - 0.2×10^6 , Turb. upper 50% e^N , N=9

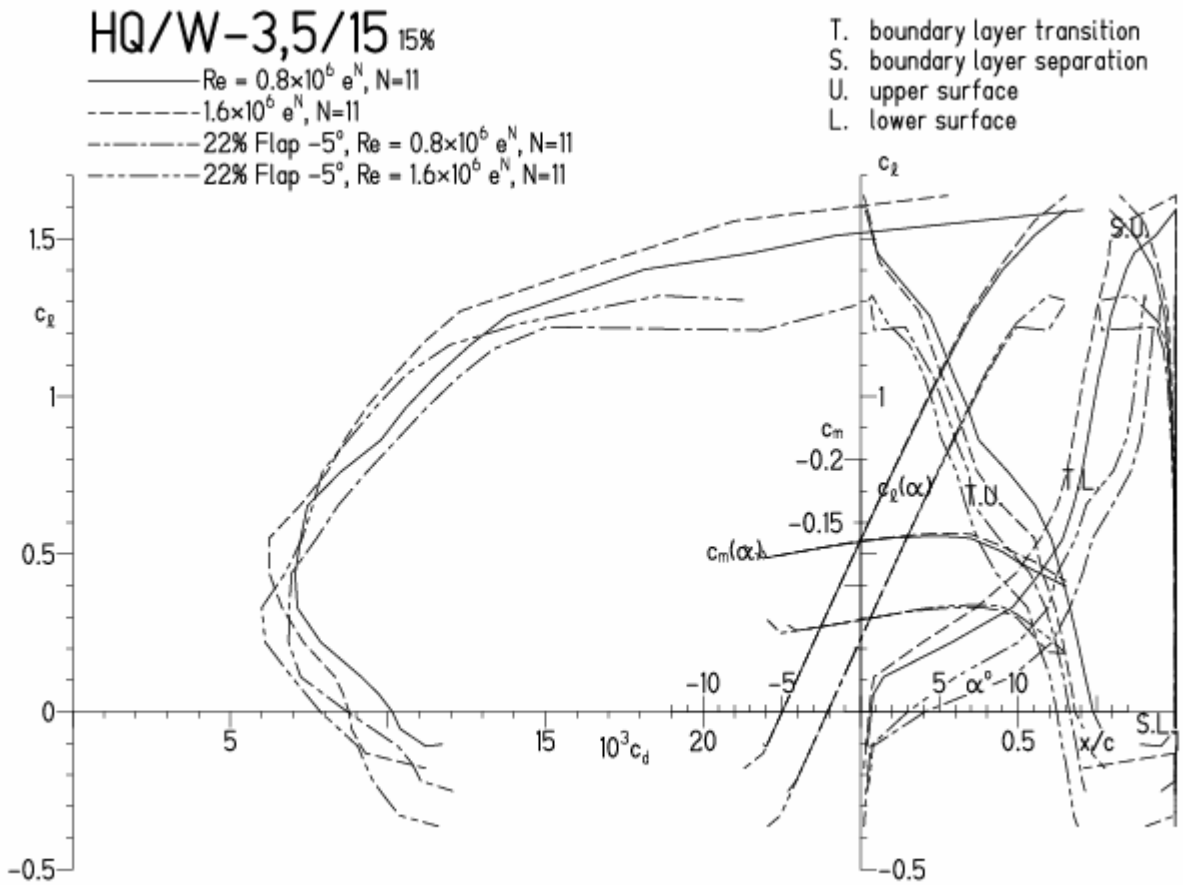


HQ/W-3/15, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 20.1.11 17:20

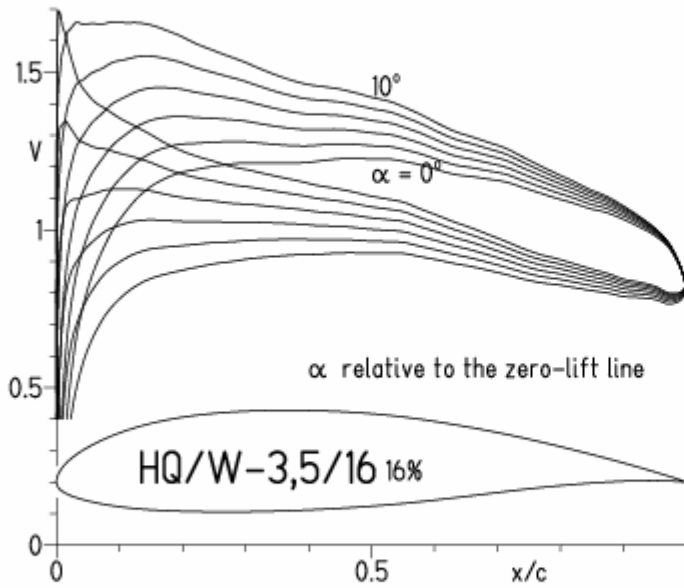


EPPLER 2005 V. 8.5.07

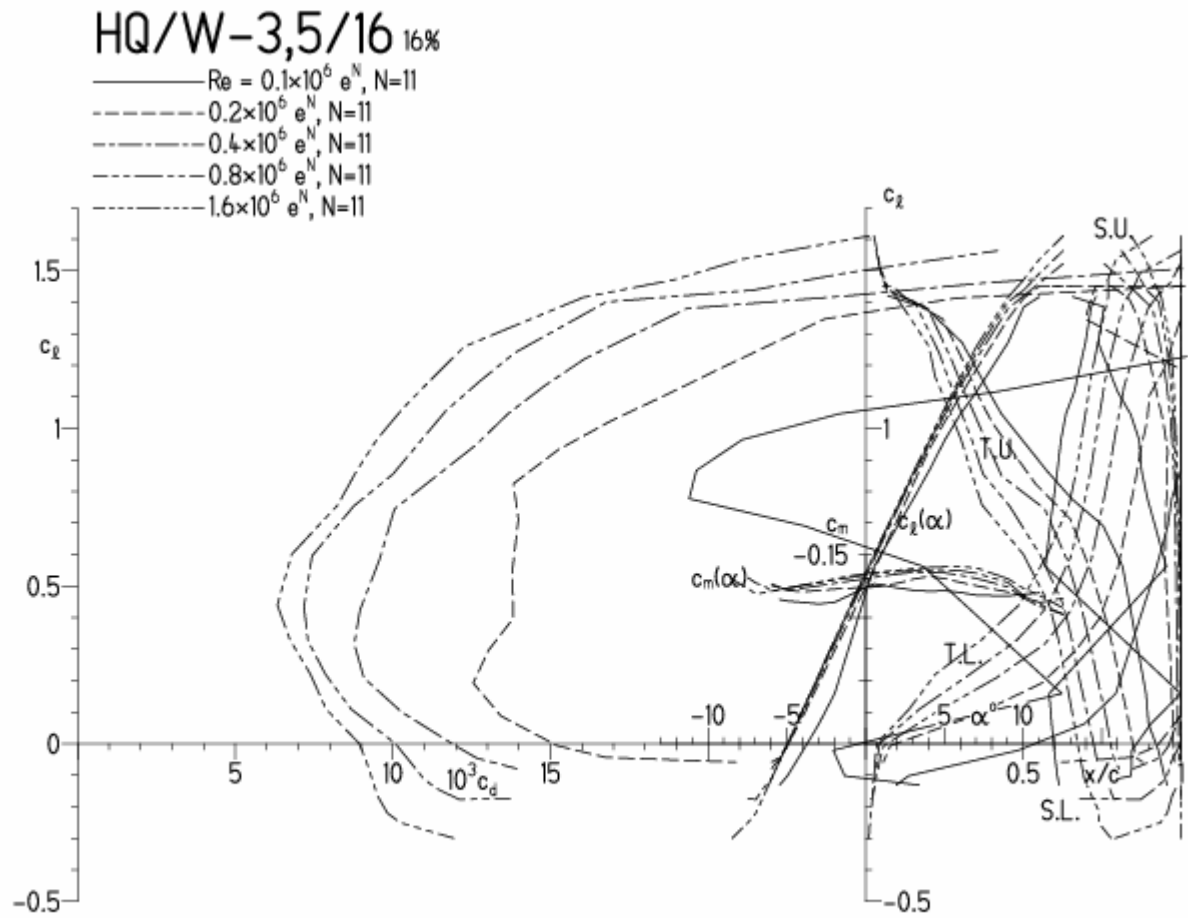


HQ/W-3,5/16, N=11

EPPLER 2005 V. 8.5.07 RUN 20.1.11 17:45

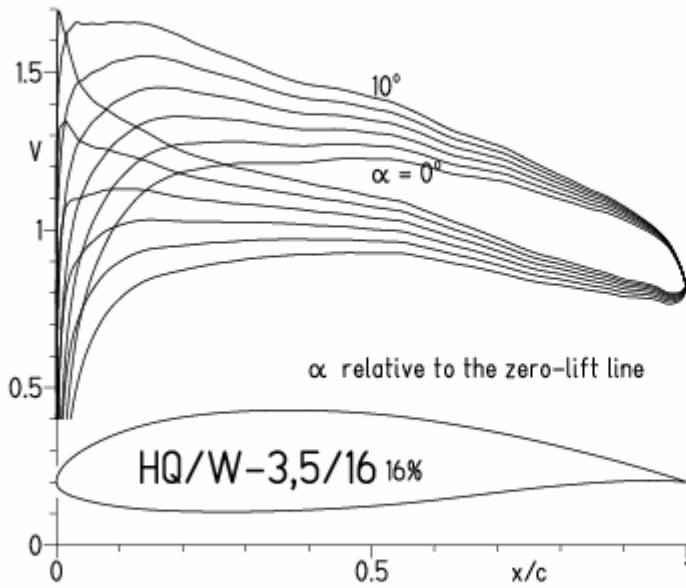


EPPLER 2005 V. 8.5.07 RUN 20.1.11 17:45



HQ/W-3/16, N=9

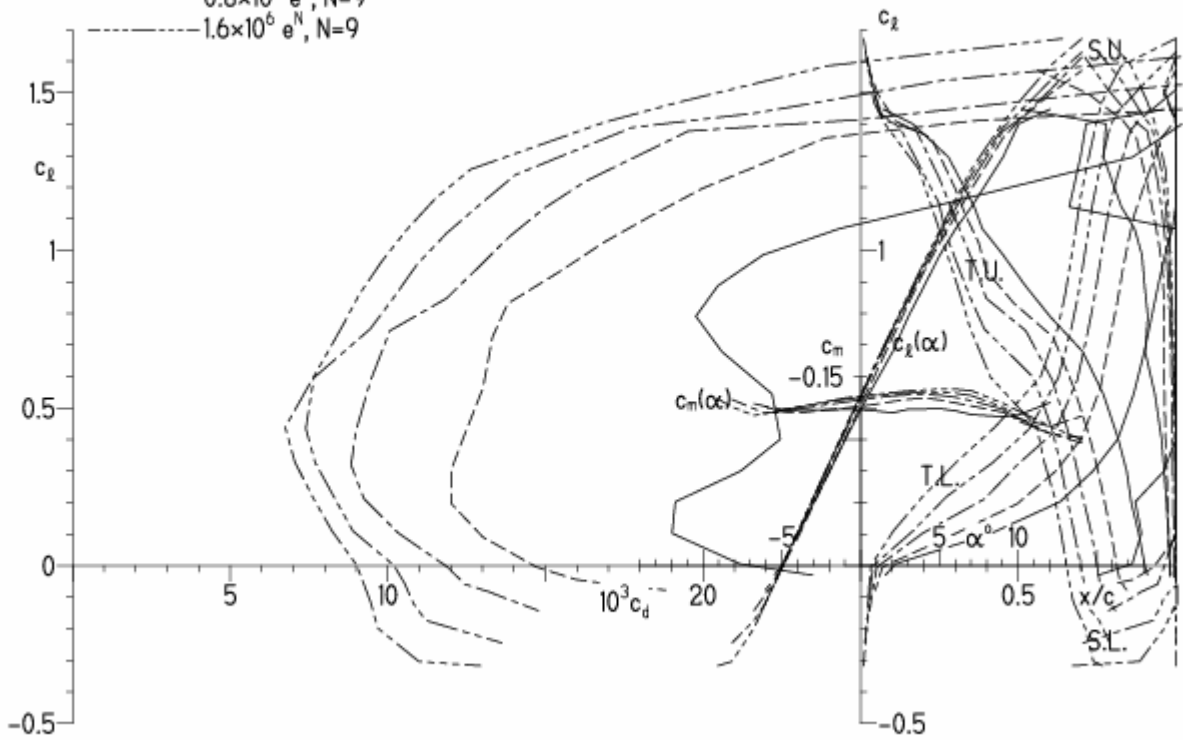
EPPLER 2005 V. 8.5.07 RUN 20.1.11 18:00



EPPLER 200

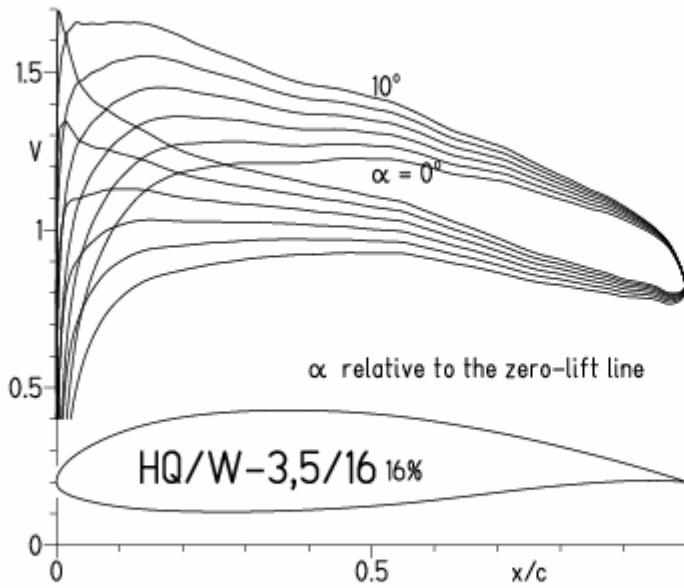
HQ/W-3,5/16 16%

- $Re = 0.1 \times 10^6 e^N, N=9$
- - - $0.2 \times 10^6 e^N, N=9$
- · - $0.4 \times 10^6 e^N, N=9$
- · - · $0.8 \times 10^6 e^N, N=9$
- · - · - $1.6 \times 10^6 e^N, N=9$



HQ/W-3/16, N=9, Turbulatoreffekt

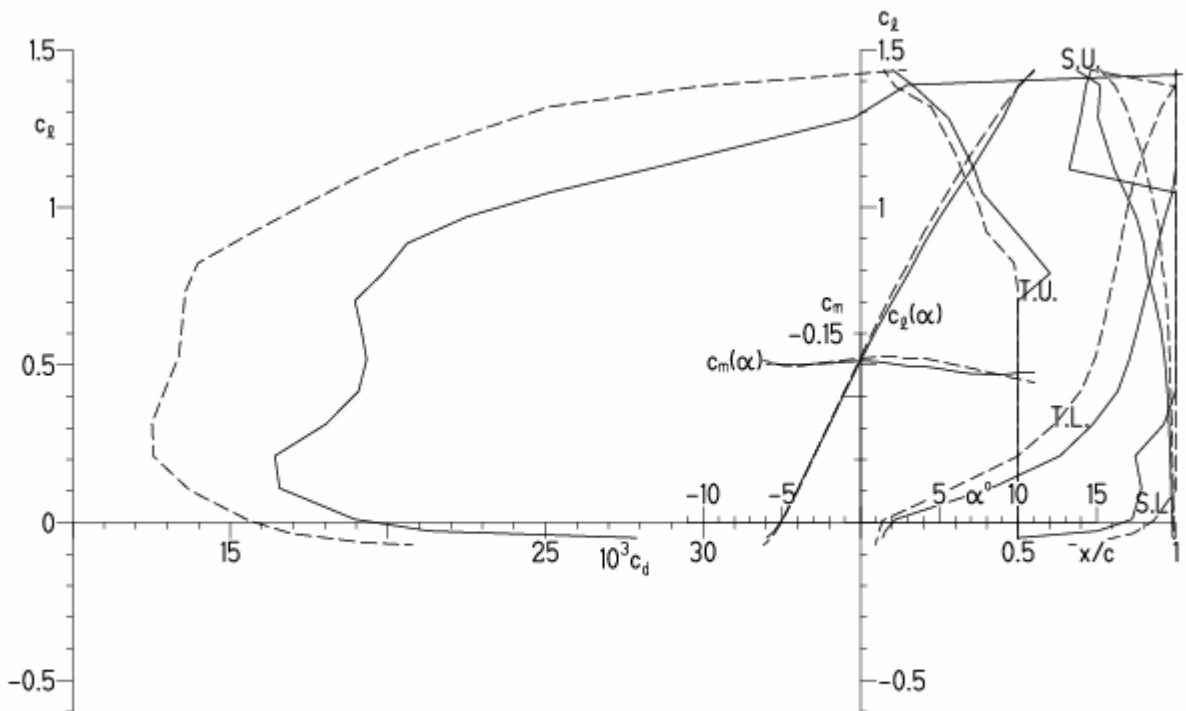
EPPLER 2005 V. 8.5.07 RUN 20.1.11 18:09



EPPLER 2005 V. 8.5.07 RUN 20.1.11 18:09

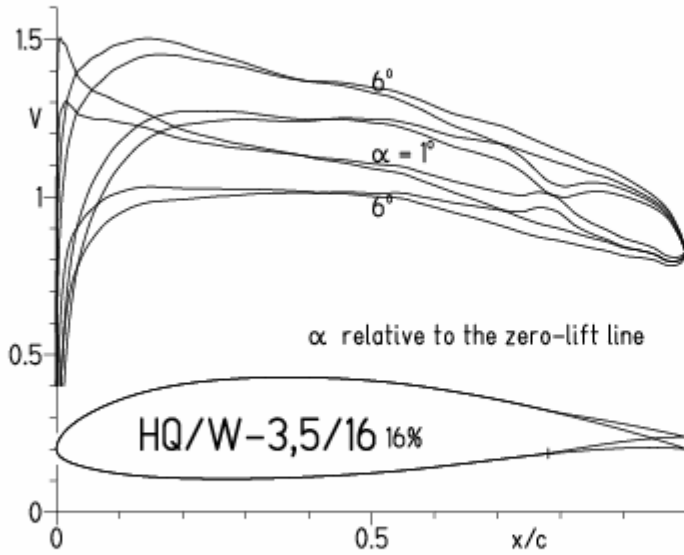
HQ/W-3,5/16 16%

— $Re = 0.1 \times 10^6$, Turb. upper 50% e^N , N=9
 - - - 0.2×10^6 , Turb. upper 50% e^N , N=9



HQ/W-3/16, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 20.1.11 18:25



EPPLER 2005 V. 8.5.07 RUN 20.1.11 18:2

