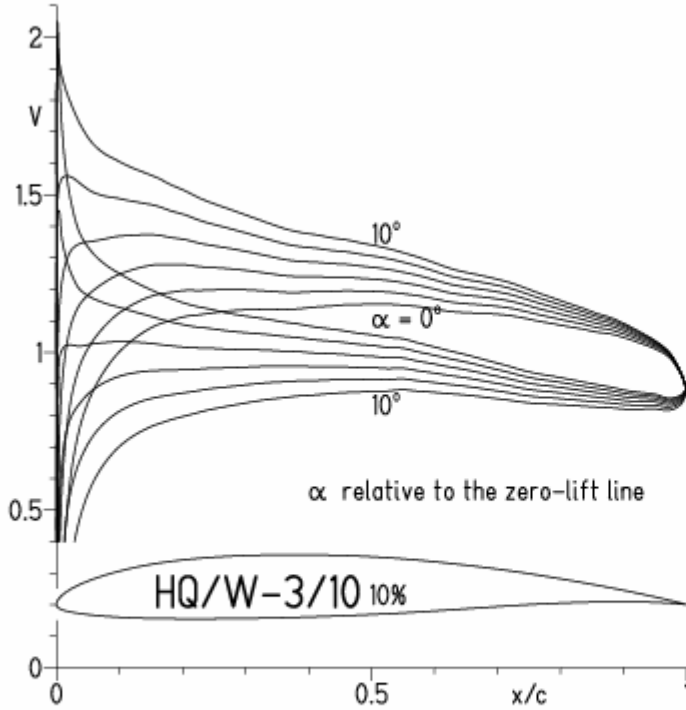
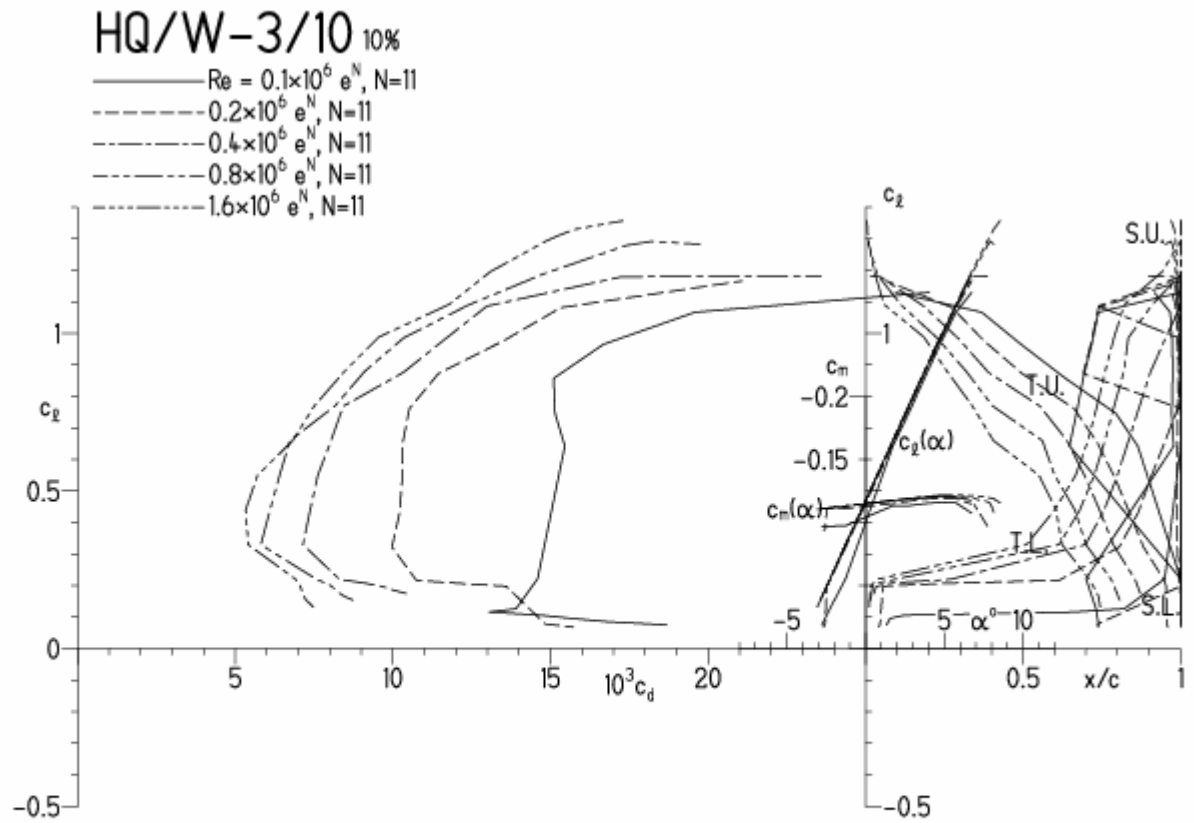


HQ/W-3/10, N=11

EPPLER 2005 V. 8.5.07 RUN 16.12.10 16:42

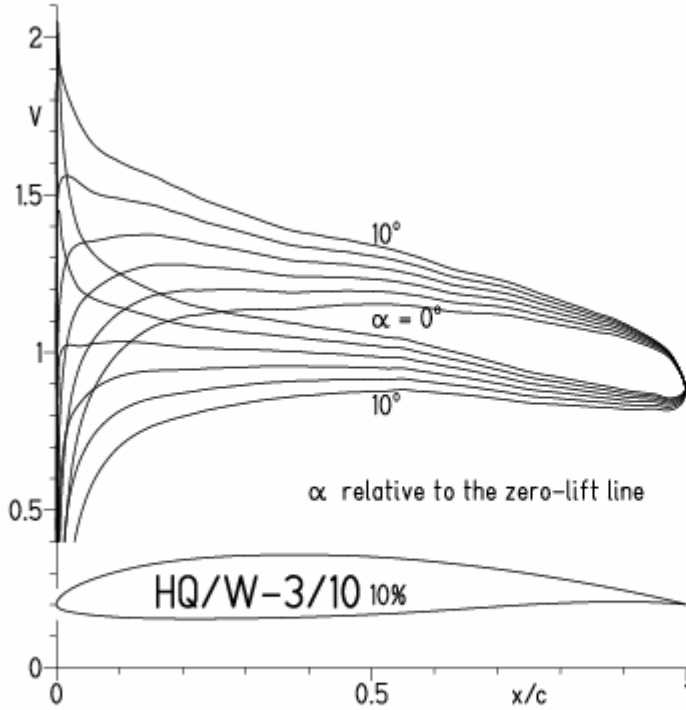


EPPLER 2005 V. 8.5.07 RUN 16.12.10 16:42

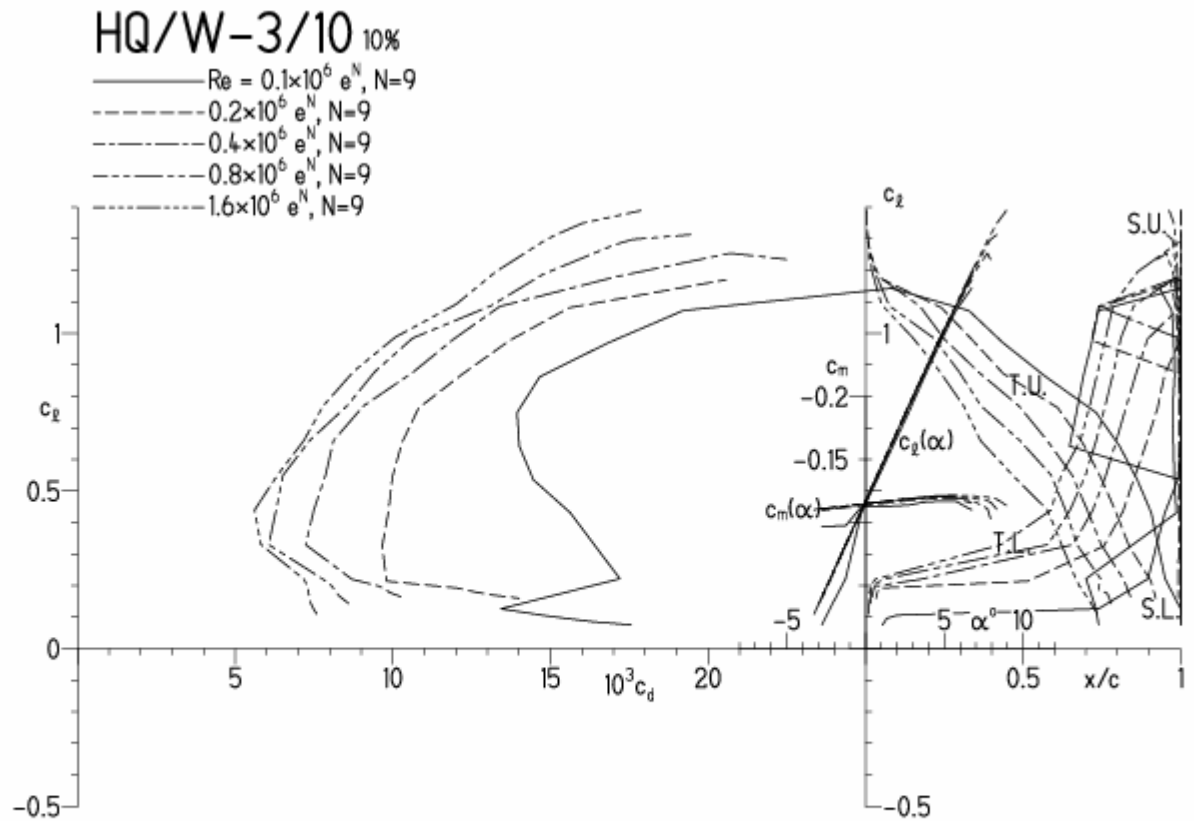


HQ/W-3/10, N=9

EPPLER 2005 V. 8.5.07 RUN 16.12.10 16:38

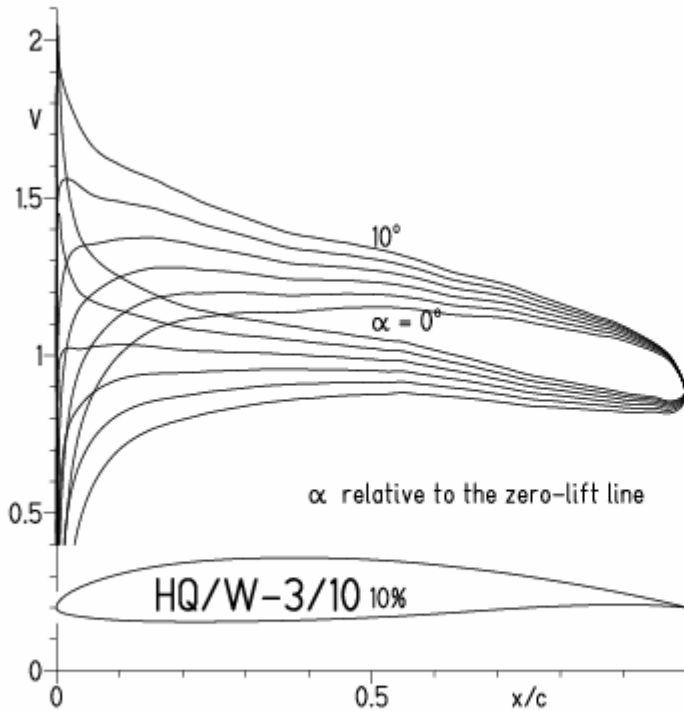


EPPLER 2005 V. 8.5.07 RUN 16.12.10 16:38



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

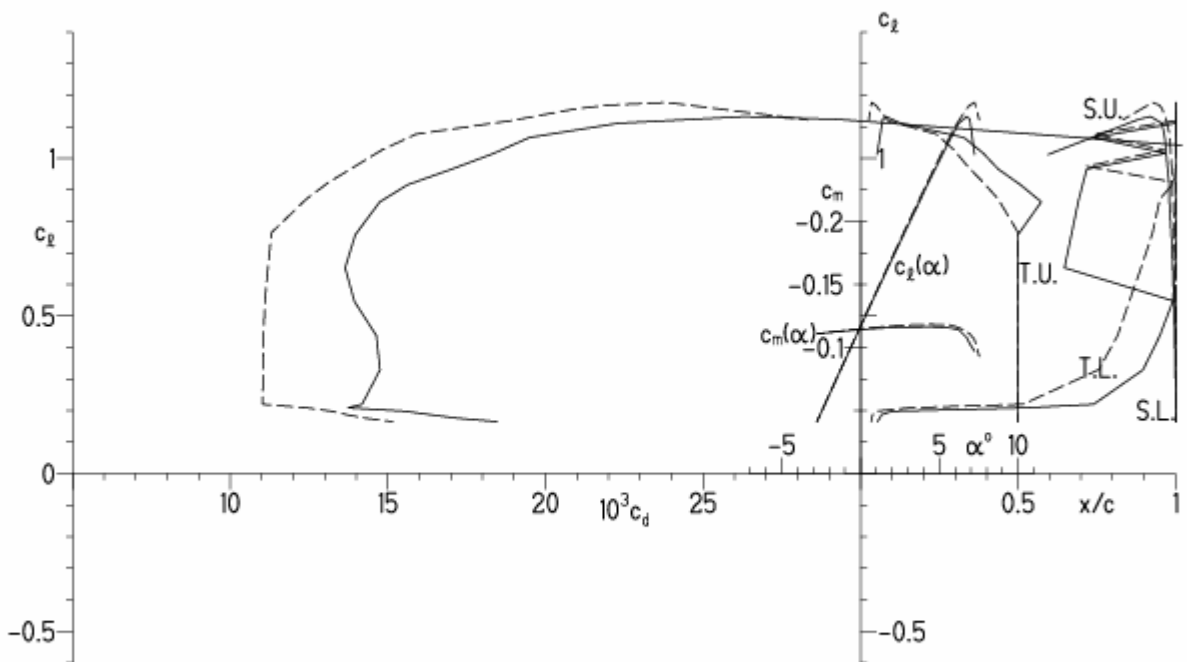
EPPLER 2005 V. 8.5.07 RUN 16.12.10 16:58



EPPLER 2005 V. 8.5.07 RUN 16.12

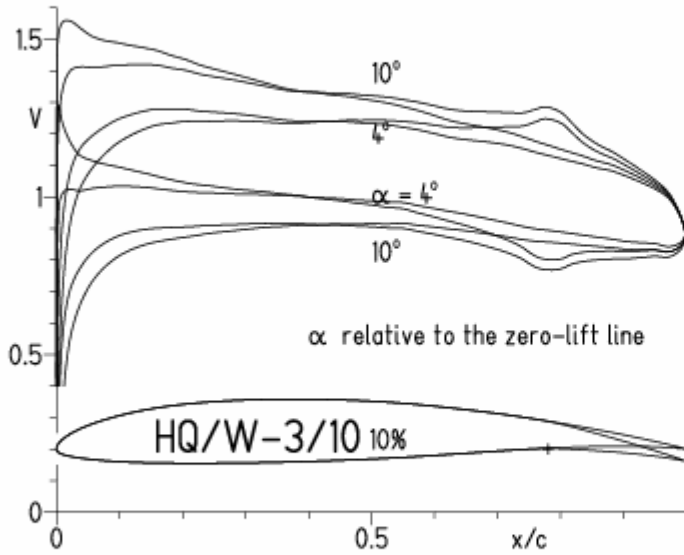
HQ/W-3/10 10%

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



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

EPPLER 2005 V. 8.5.07 RUN 16.12.10 17:40

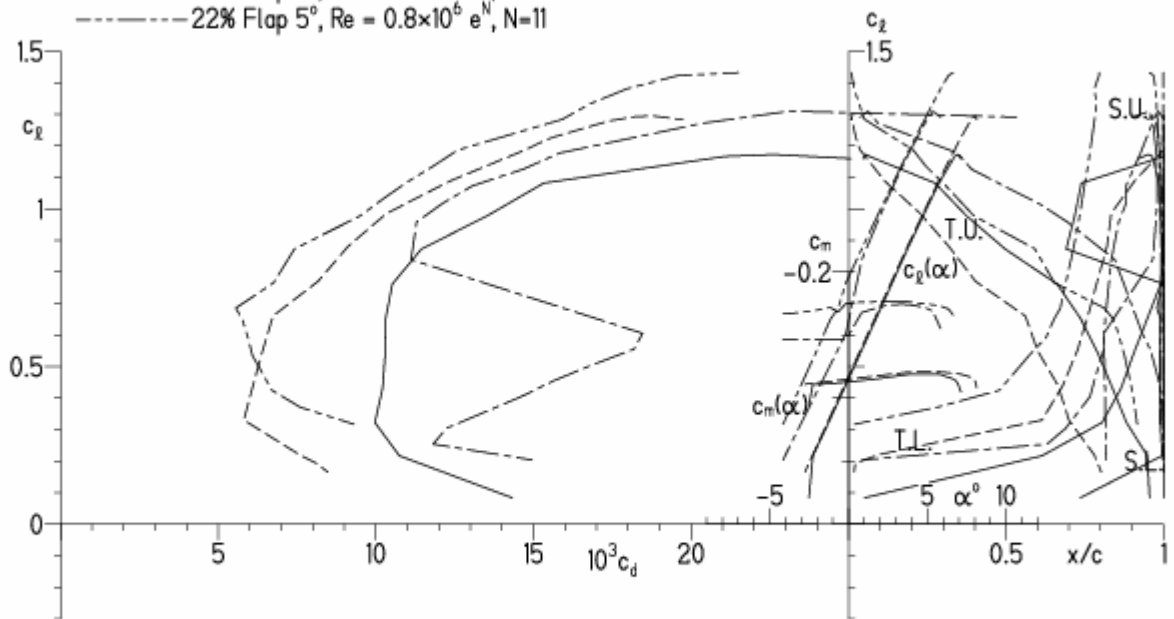


EPPLER 2005 V. 8.5.07 RUN 16.12.10 17:40

HQ/W-3/10 10%

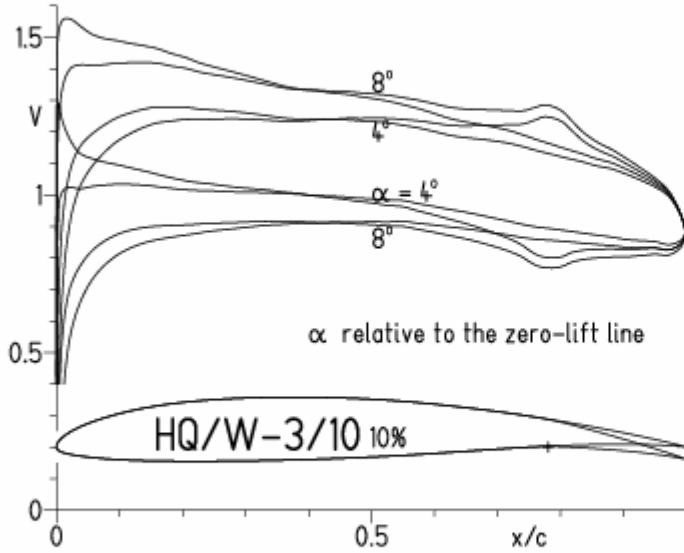
- $Re = 0.2 \times 10^6 e^N, N=11$
- - - $0.8 \times 10^6 e^N, N=11$
- · - $22\% \text{ Flap } 5^\circ, Re = 0.2 \times 10^6 e^N, N=11$
- · - $22\% \text{ Flap } 5^\circ, Re = 0.8 \times 10^6 e^N, N=11$

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



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

EPPLER 2005 V. 8.5.07 RUN 16.12.10 17:52

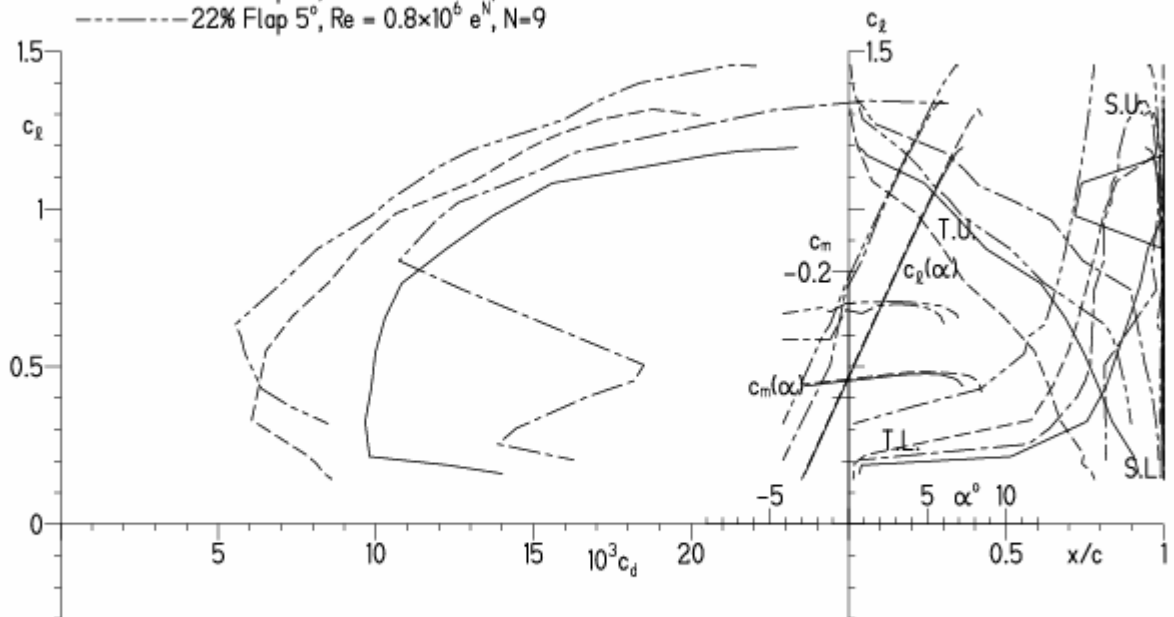


EPPLER 200

HQ/W-3/10 10%

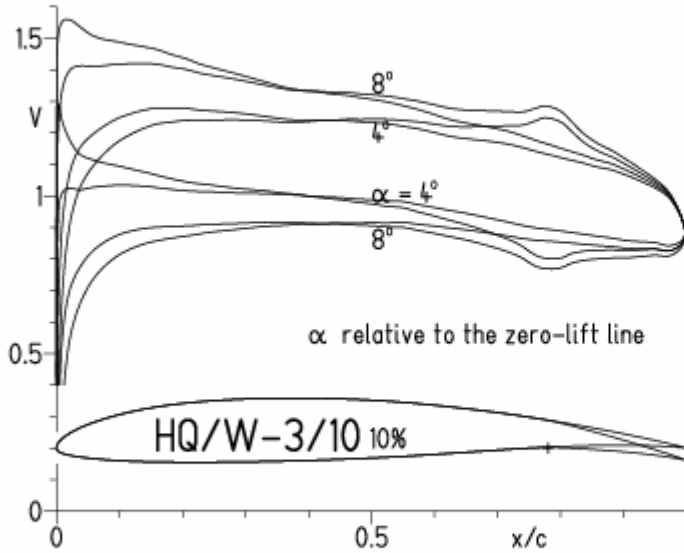
- $Re = 0.2 \times 10^6 e^N, N=9$
- - - $0.8 \times 10^6 e^N, N=9$
- · - · 22% Flap 5°, $Re = 0.2 \times 10^6 e^N, N=9$
- · - · 22% Flap 5°, $Re = 0.8 \times 10^6 e^N, N=9$

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



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

EPPLER 2005 V. 8.5.07 RUN 16.12.10 17:57

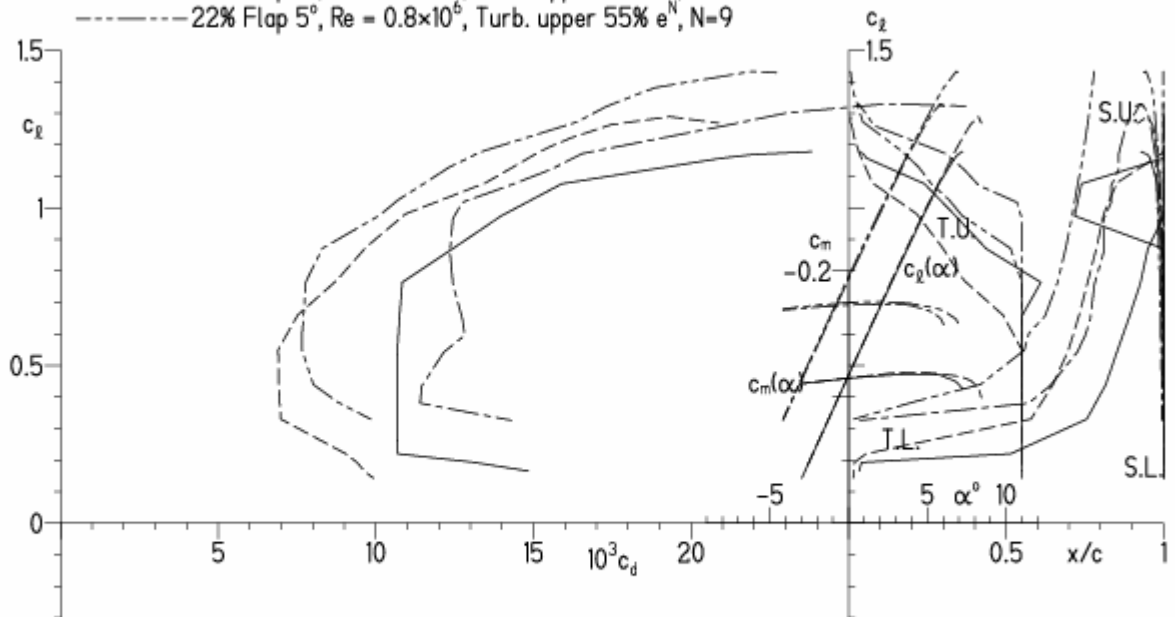


EPPLER 2005 V. 8.5.07 RUN 16.12.10 17:57

HQ/W-3/10 10%

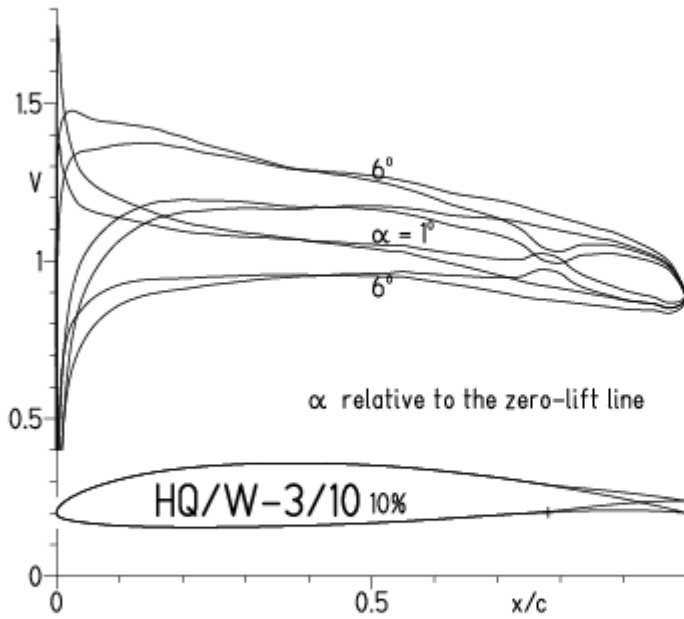
- Re = 0.2×10^6 , Turb. upper 55% e^N , N=9
- - - 0.8×10^6 , Turb. upper 55% e^N , N=9
- · - · 22% Flap 5°, Re = 0.2×10^6 , Turb. upper 55% e^N , N=9
- · - · 22% Flap 5°, Re = 0.8×10^6 , Turb. upper 55% e^N , N=9

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

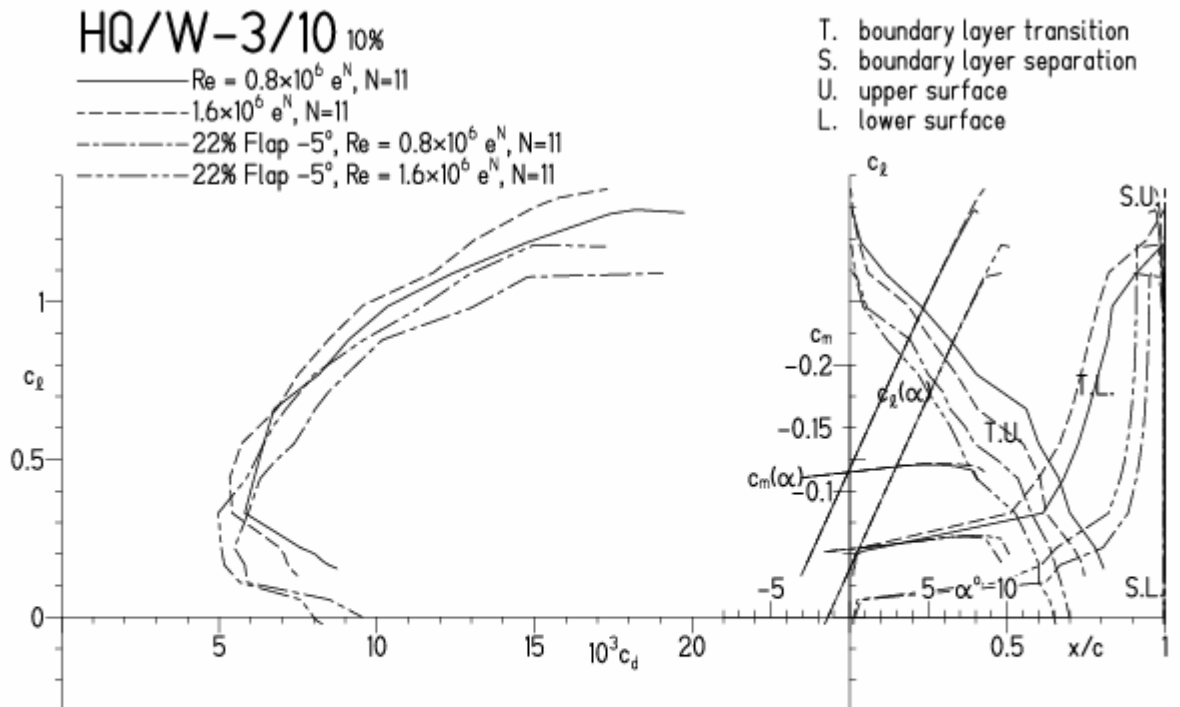


HQ/W-3/10, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 23.12.10 12:04

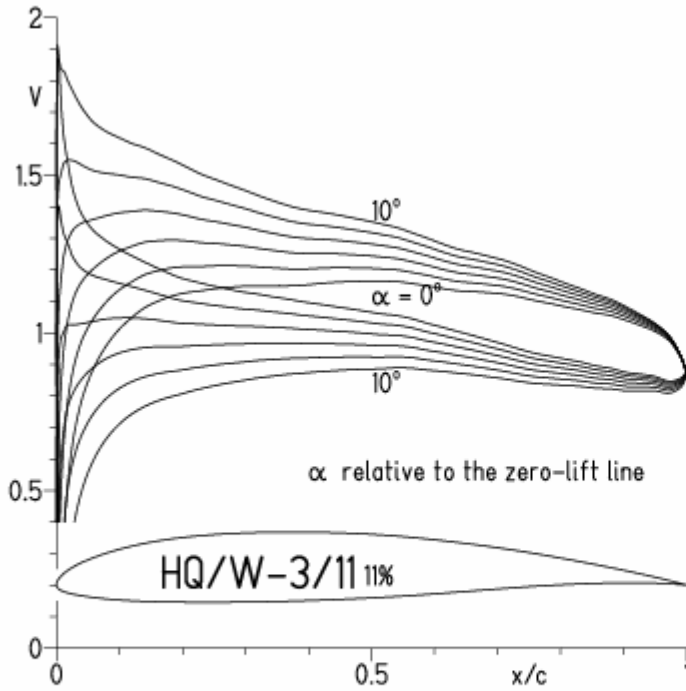


EPPLER 2005 V. 8.5.07 RUN 23.12.10 12:04



HQ/W-3/11, N=11

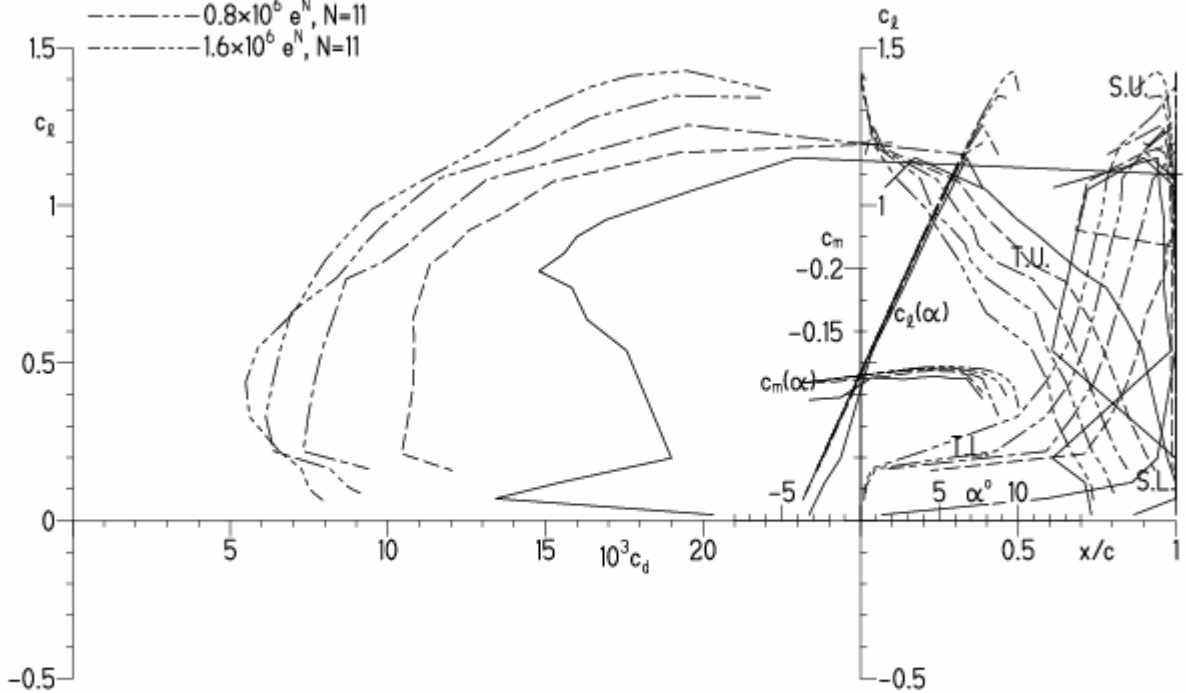
EPPLER 2005 V. 8.5.07 RUN 7.12.10 18:32



EPPLER 2005 V. 8.5.07 RUN 7.1

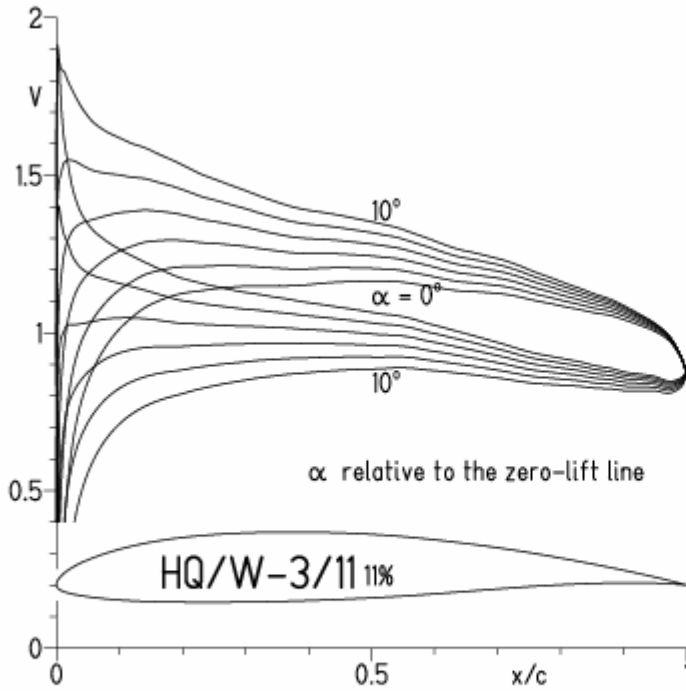
HQ/W-3/11 11%

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



HQ/W-3/11, N=11

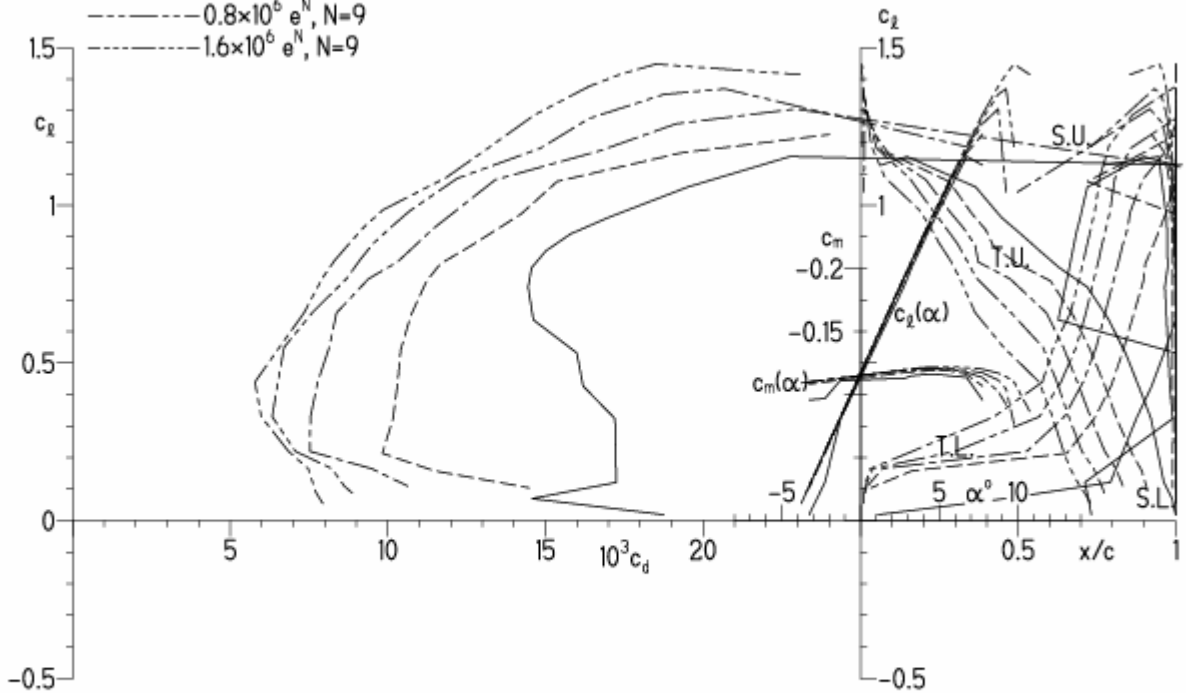
EPPLER 2005 V. 8.5.07 RUN 7.12.10 18:59



EPPLER 2005 V. 8.5.07 RUN 7.12.10 1

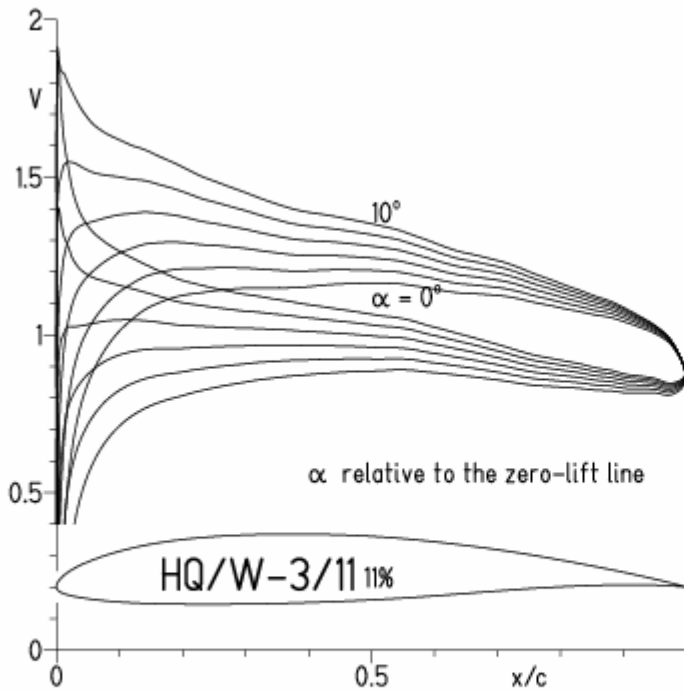
HQ/W-3/11 11%

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



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

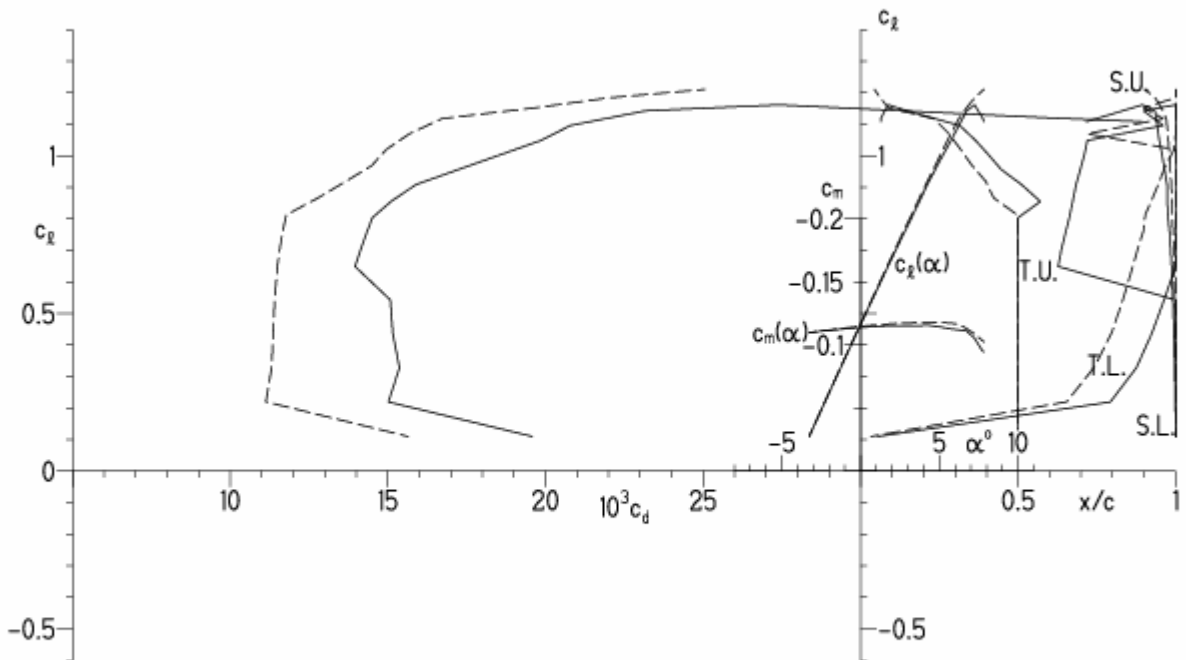
EPPLER 2005 V. 8.5.07 RUN 15.12.10 17:21



EPPLER 2005 V. 8.5.07 RUN 15.12.10 17:21

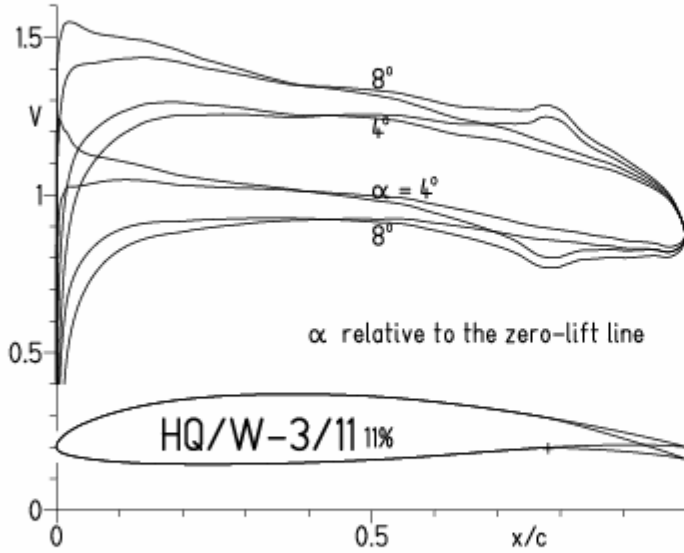
HQ/W-3/11 11%

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

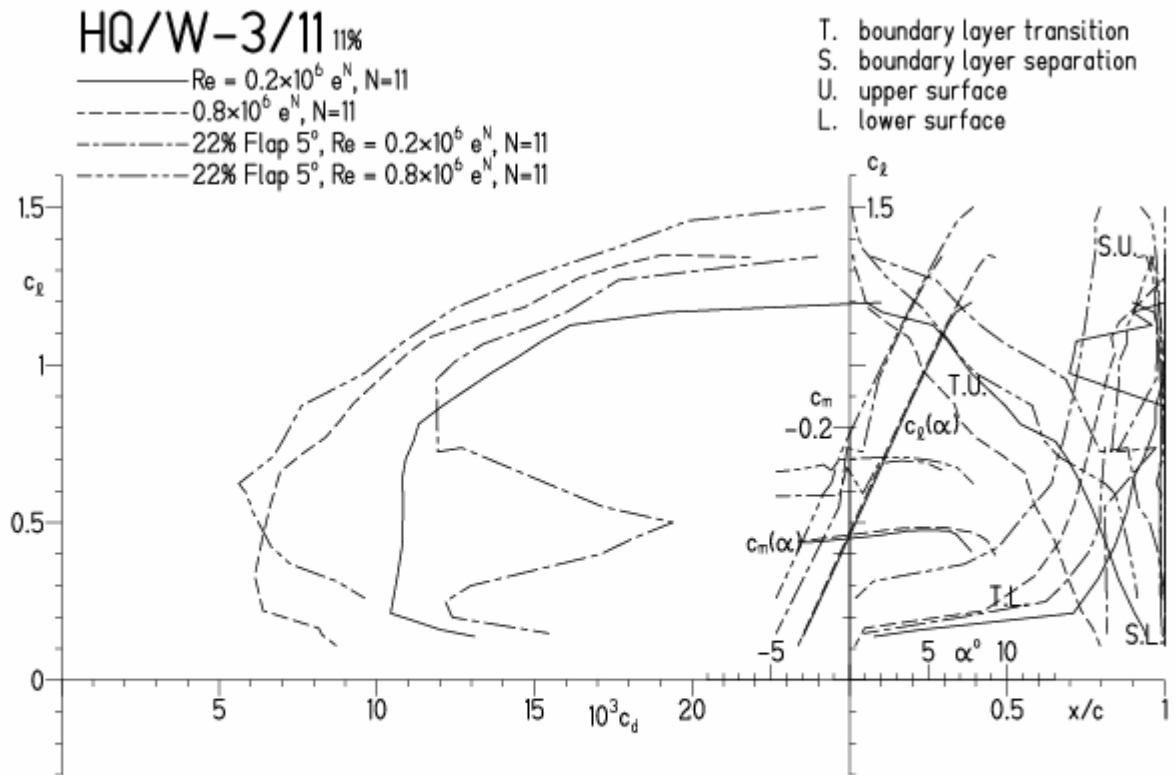


HQ/W-3/11, N=11, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 15.12.10 17:51

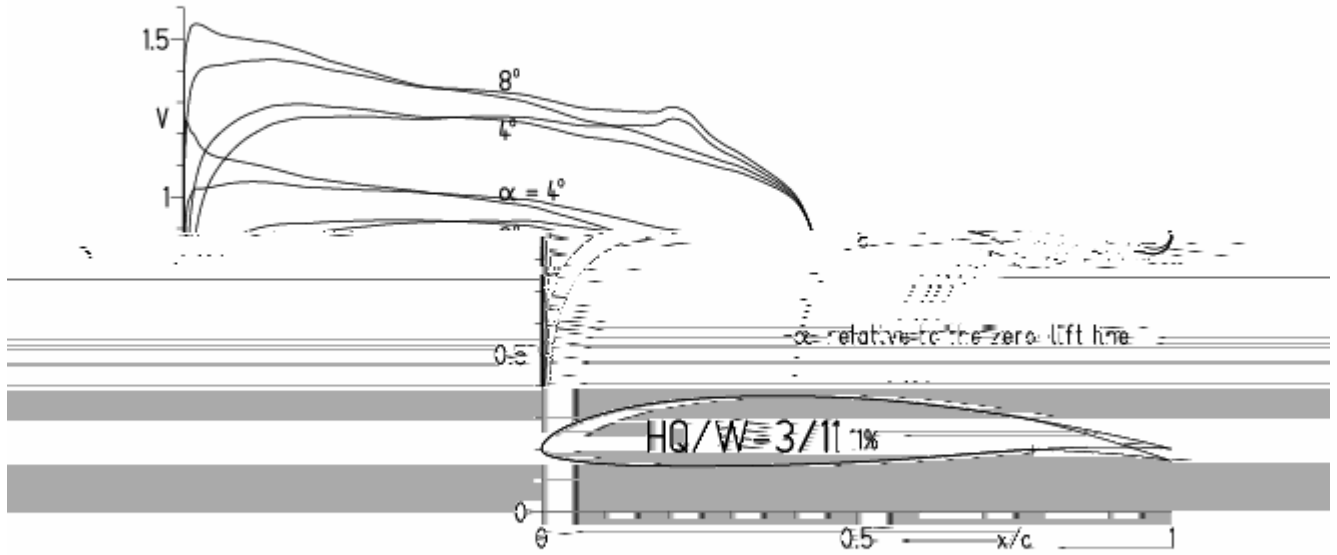


EPPLER 2005 V. 8.



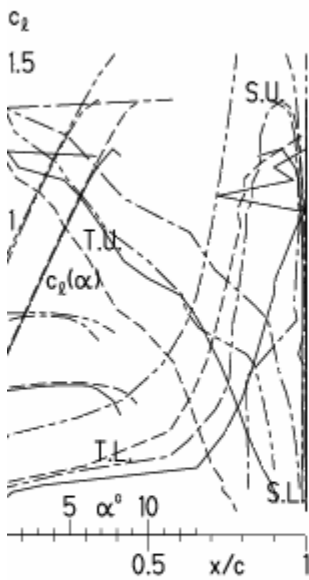
HQ/W-3/11, N=9, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 15.12.10 17:55



EPPLER-2005-V. 8.5.07-RUN 15.12.10

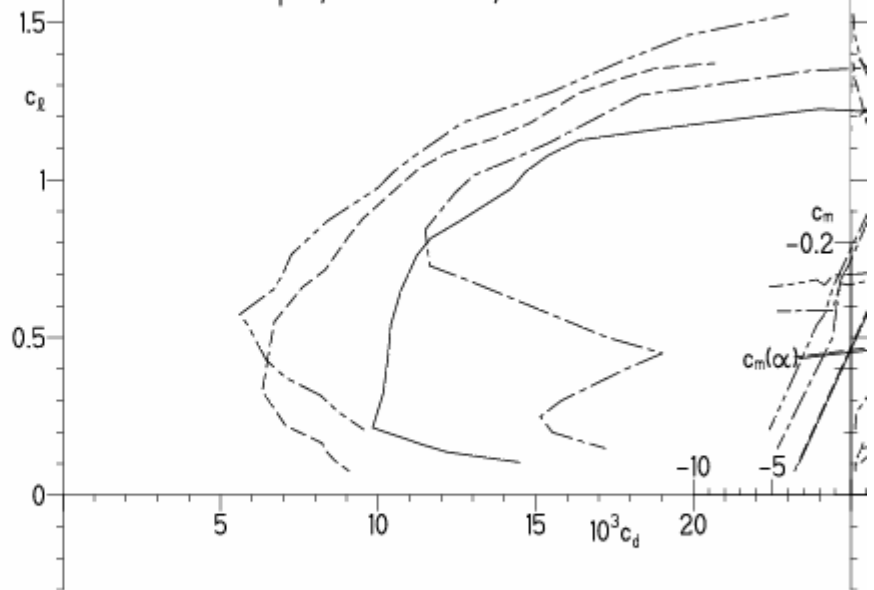
boundary layer transition
 boundary layer separation
 upper surface
 lower surface



HQ/W-3/11 11%

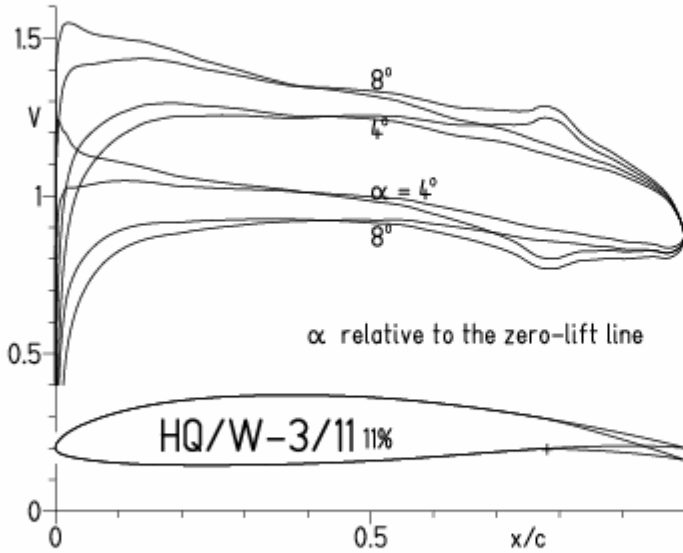
- $Re = 0.2 \times 10^6 e^N, N=9$
- - - $0.8 \times 10^6 e^N, N=9$
- · - · 22% Flap $5^\circ, Re = 0.2 \times 10^6 e^N, N=9$
- · - · 22% Flap $5^\circ, Re = 0.8 \times 10^6 e^N, N=9$

T. U.
 S. U.
 U. L.
 L. L.

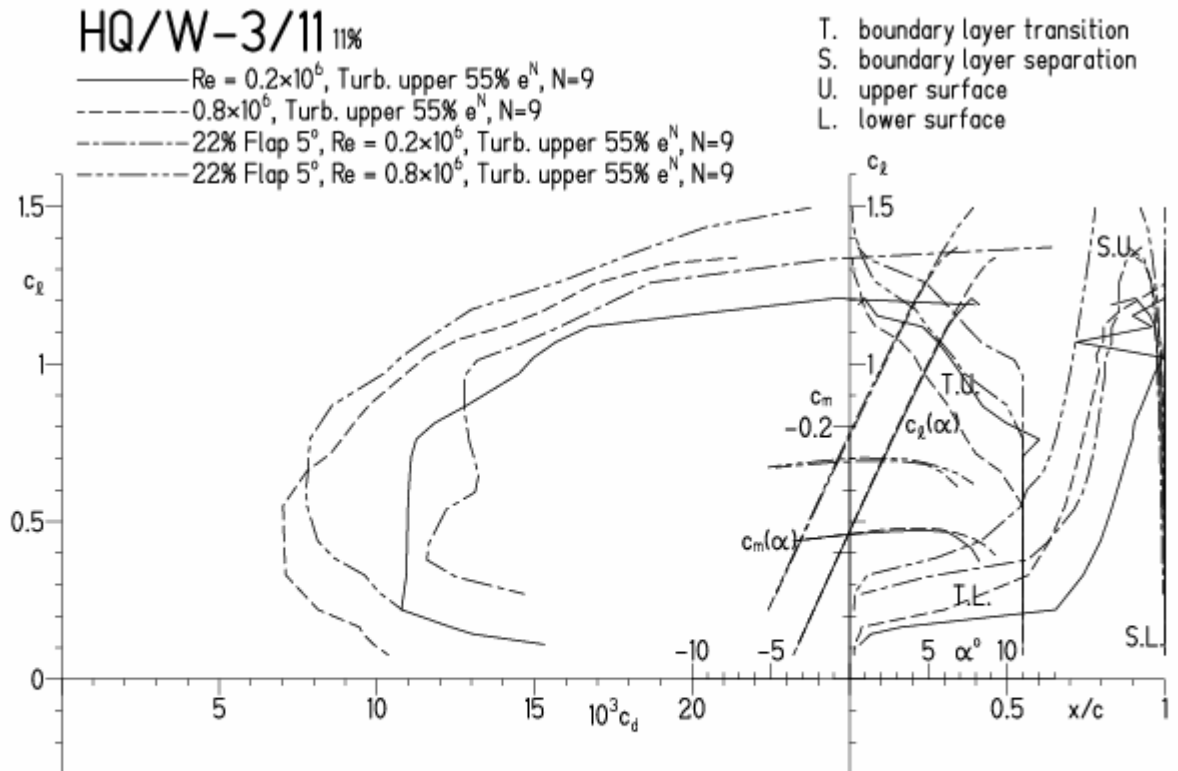


HQ/W-3/11, N=9, mit 5° Wölbklappenausschlag, Turbulatoreffekt
 (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 15.12.10 18:02

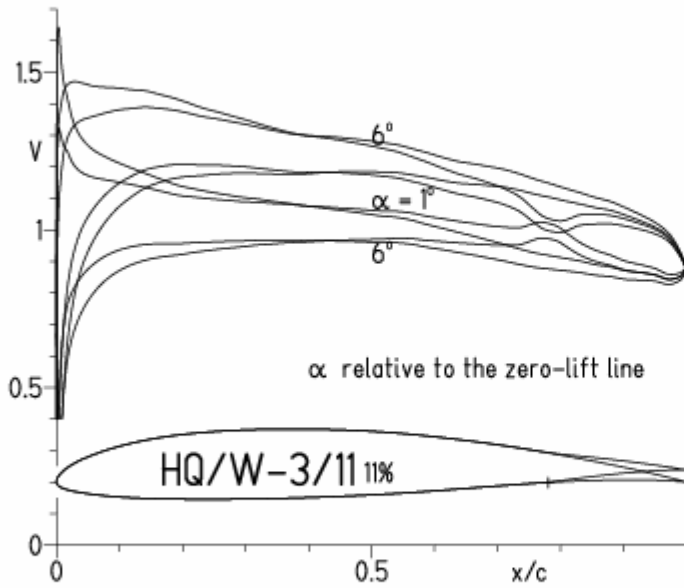


EPPLER 2005 V. 8.5.07 RUN 15.12.10 18:02

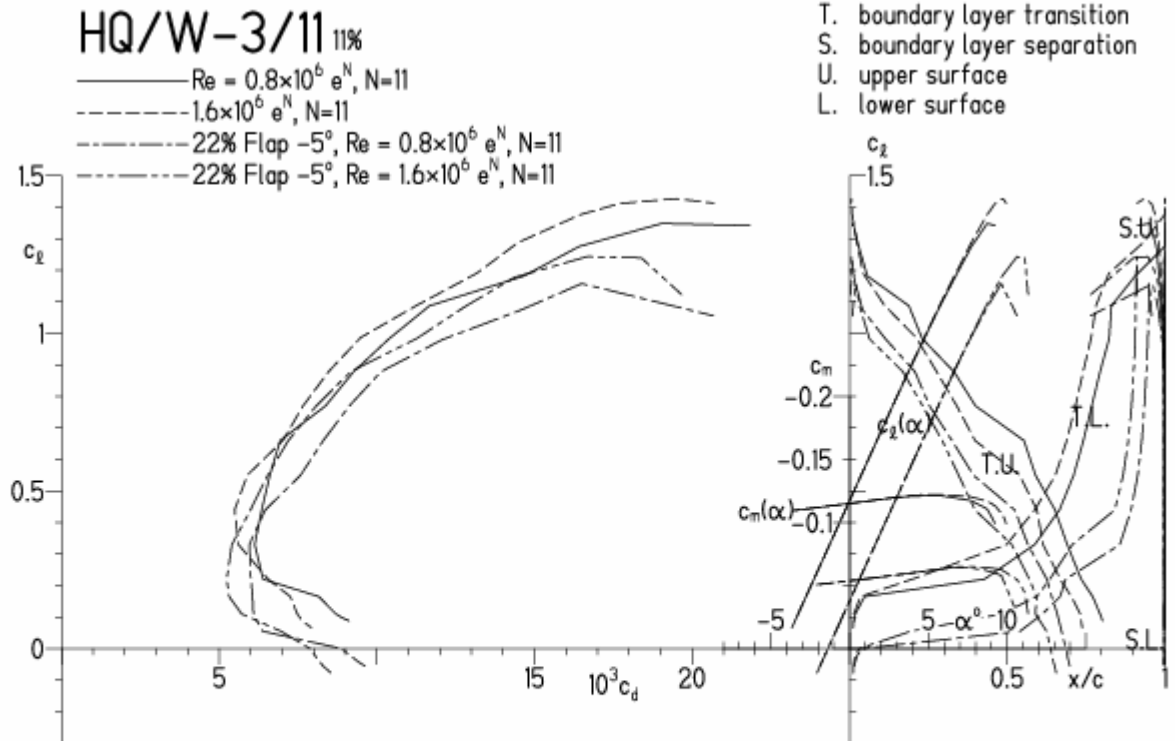


HQ/W-3/11, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 15.12.10 18:34

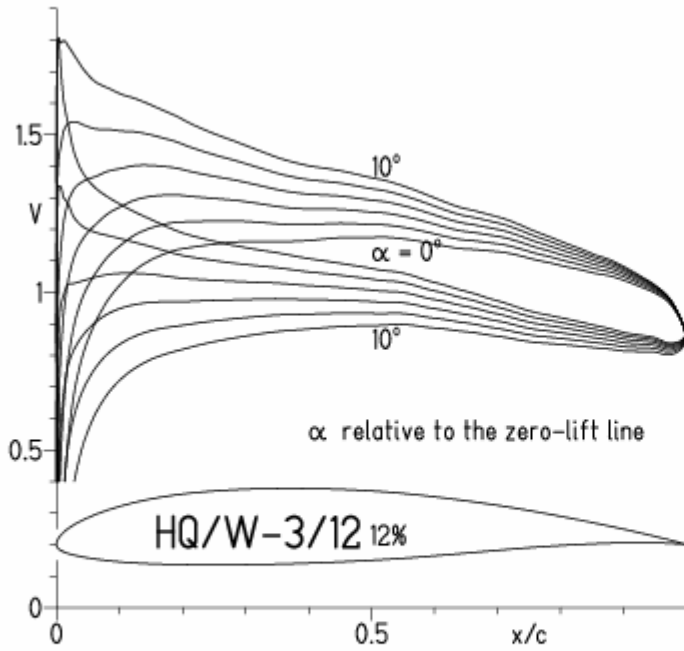


EPPLER 2005 V



HQ/W-3/12, N=11

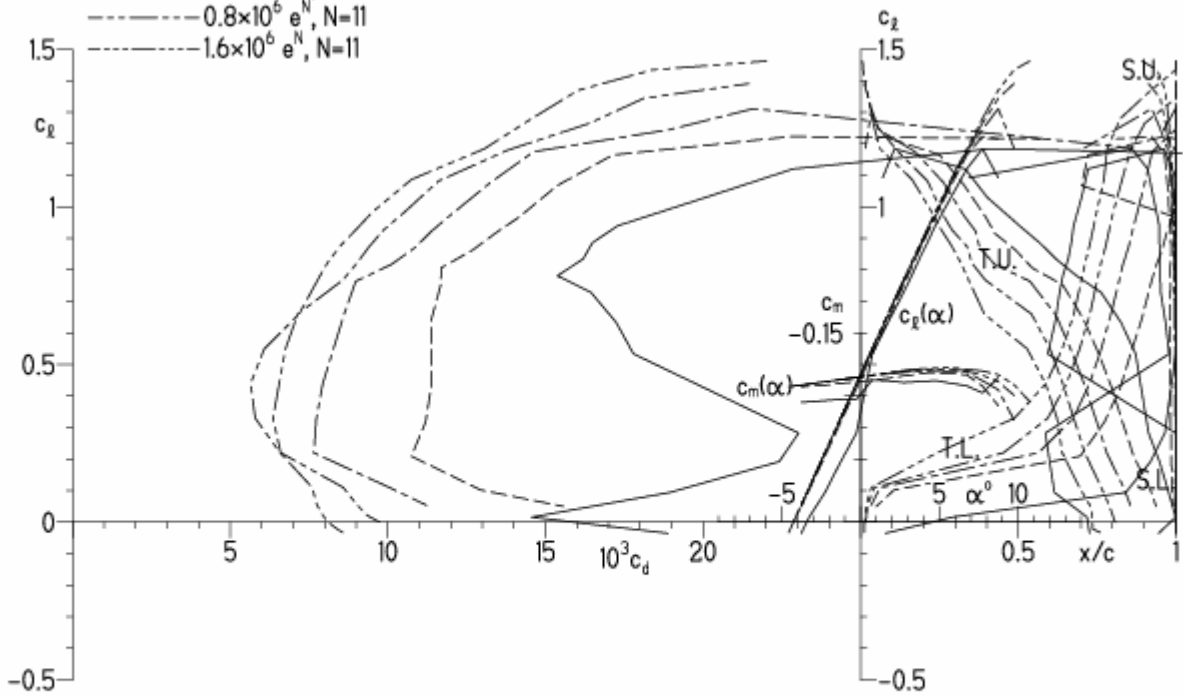
EPPLER 2005 V. 8.5.07 RUN 2.12.10 11:06



EPPLER 200

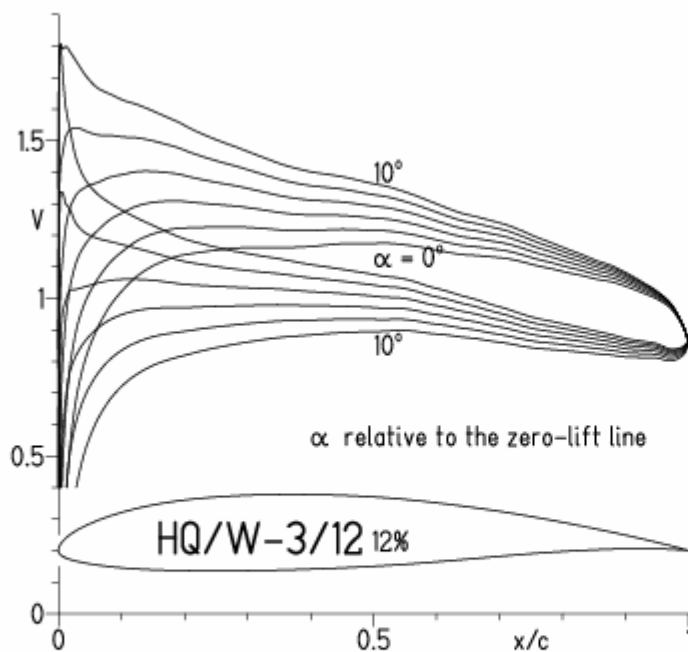
HQ/W-3/12 12%

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

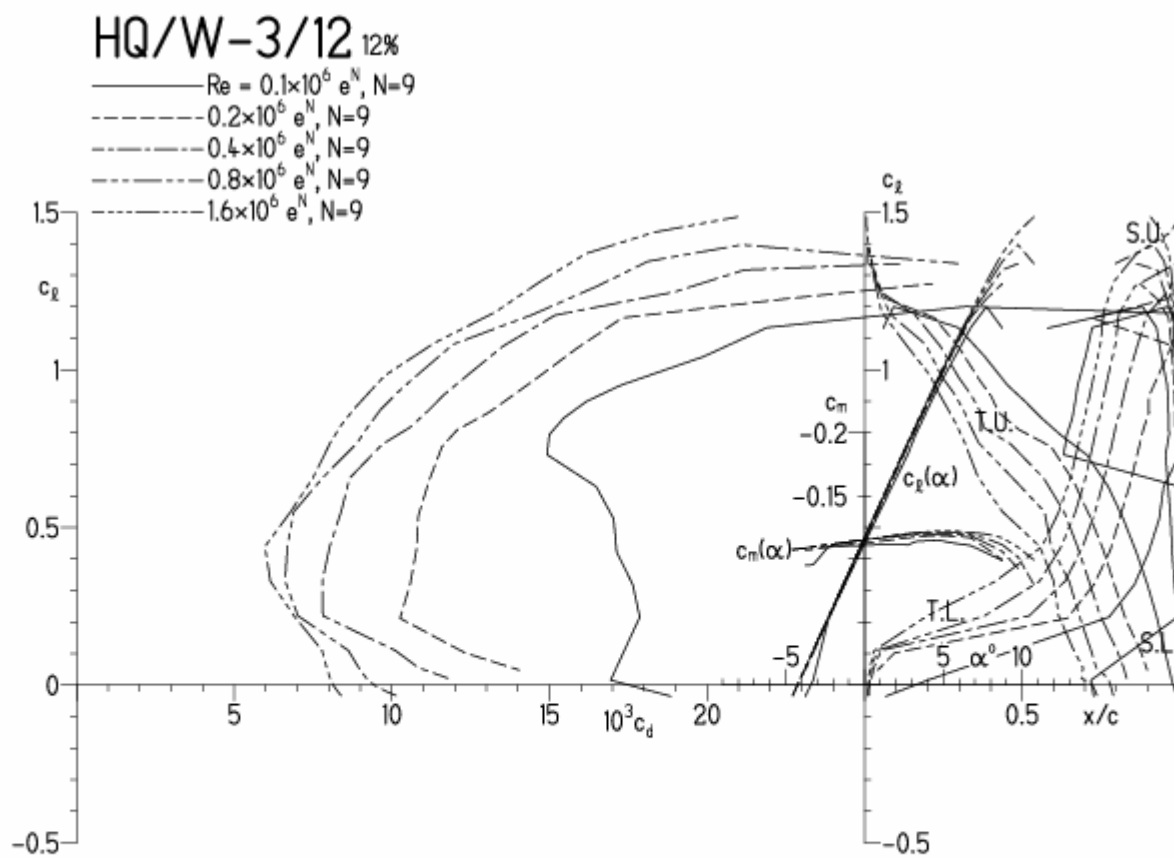


HQ/W-3-12, N=9

EPPLER 2005 V. 8.5.07 RUN 2.12.10 11:09

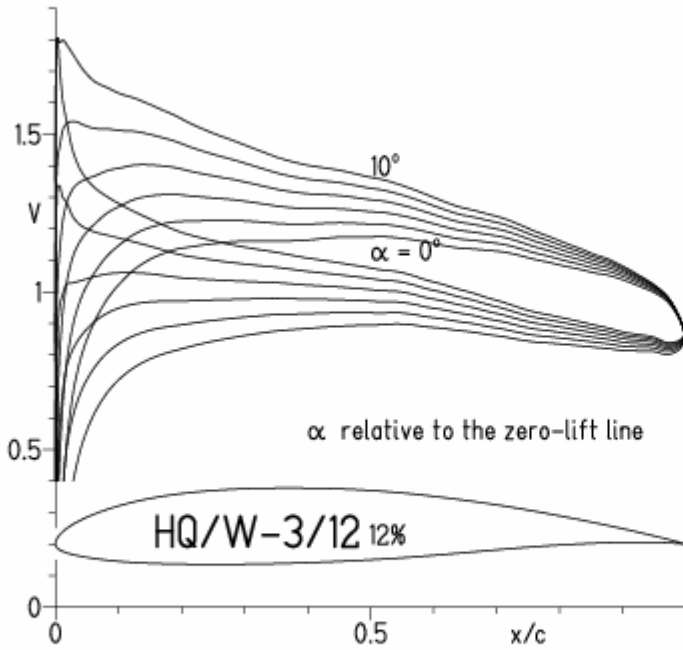


EPPLER 2005 V. 8.5.07 RUN



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

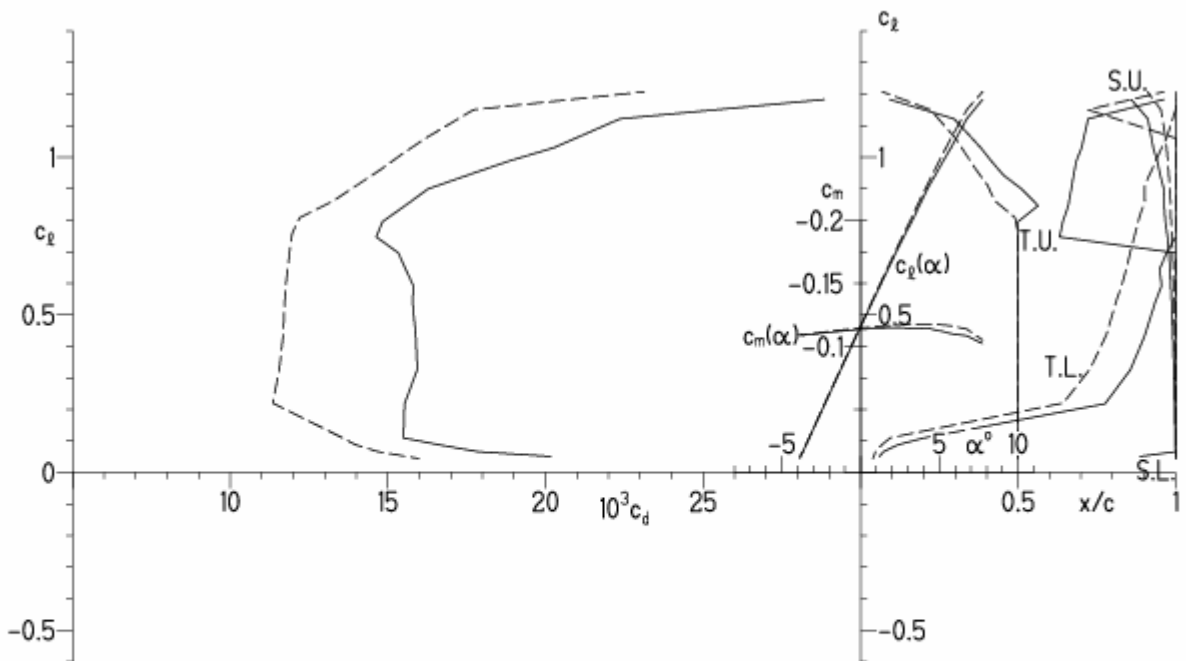
EPPLER 2005 V. 8.5.07 RUN 2.12.10 10:47



EPPLER 2005 V. 8.5.07 RUN 2.12.10 10:47

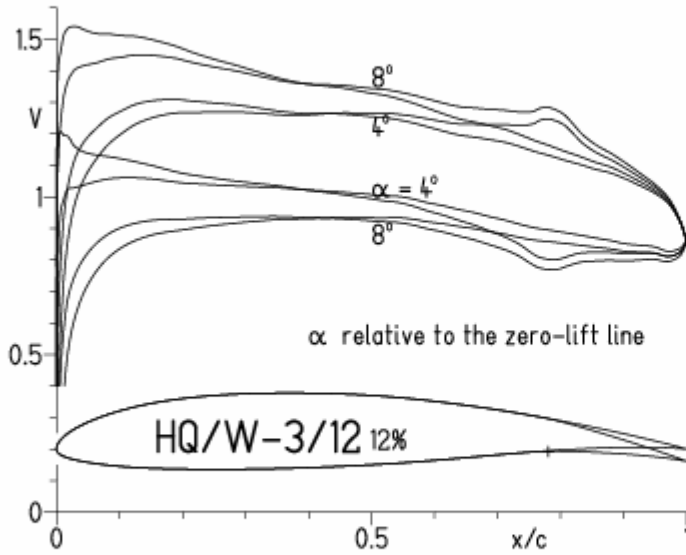
HQ/W-3/12 12%

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

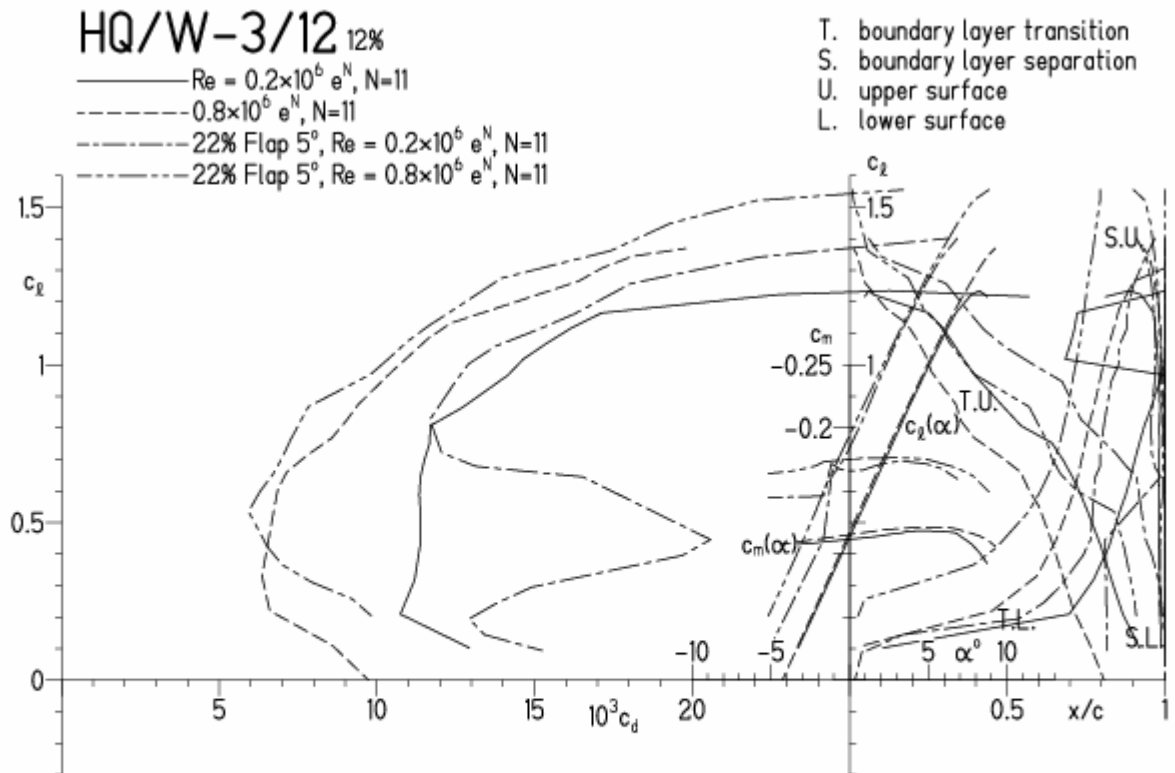


HQ/W-3/12, N=11, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 15.12.10 18:09

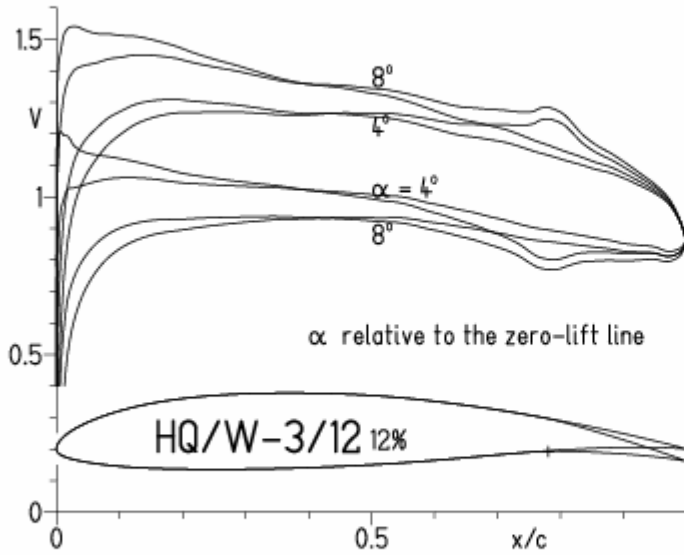


EPPLER 2005 V. 8.

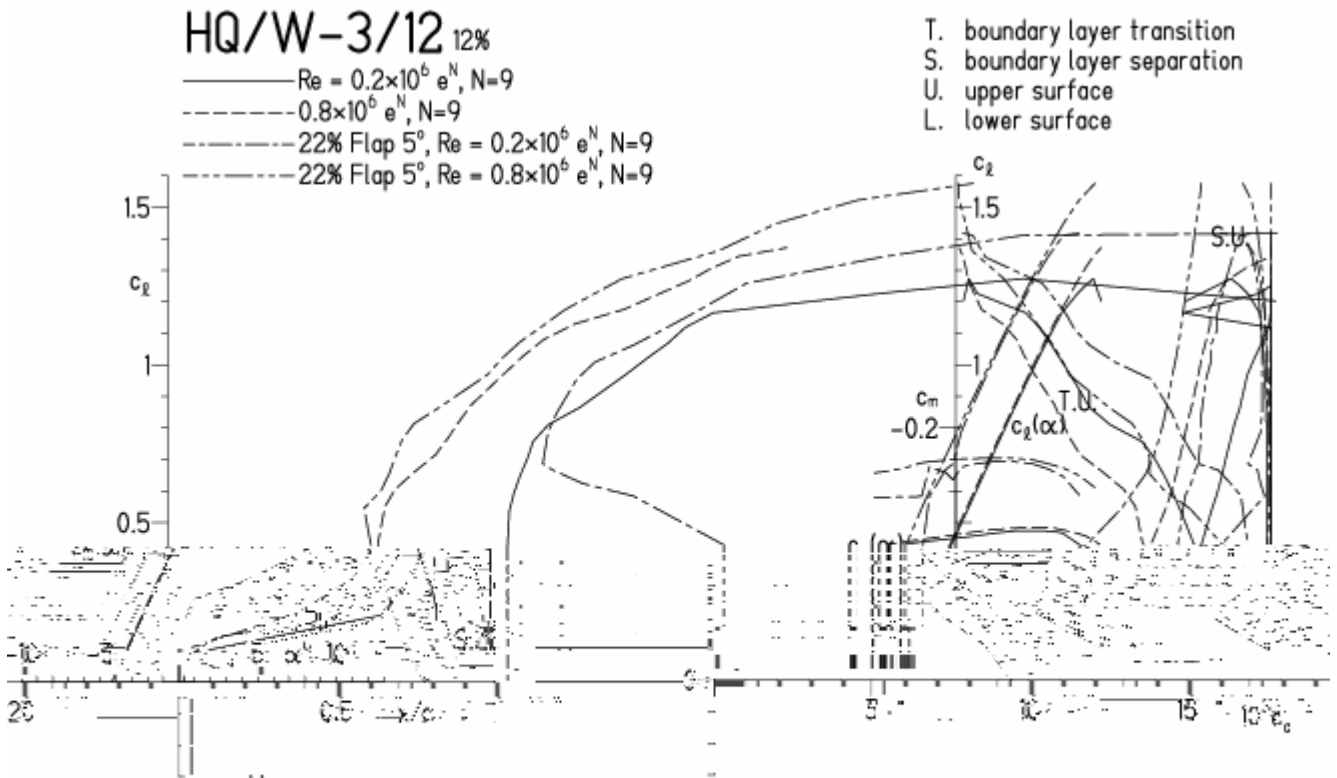


HQ/W-3/12, N=9, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 2.12.10 9:56

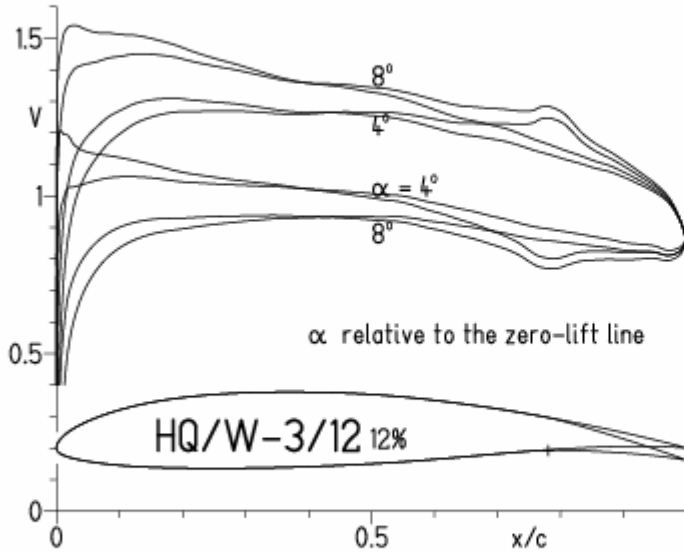


EPPLER 2005 V. 8.5.07 RUN 2.12.10 9:56

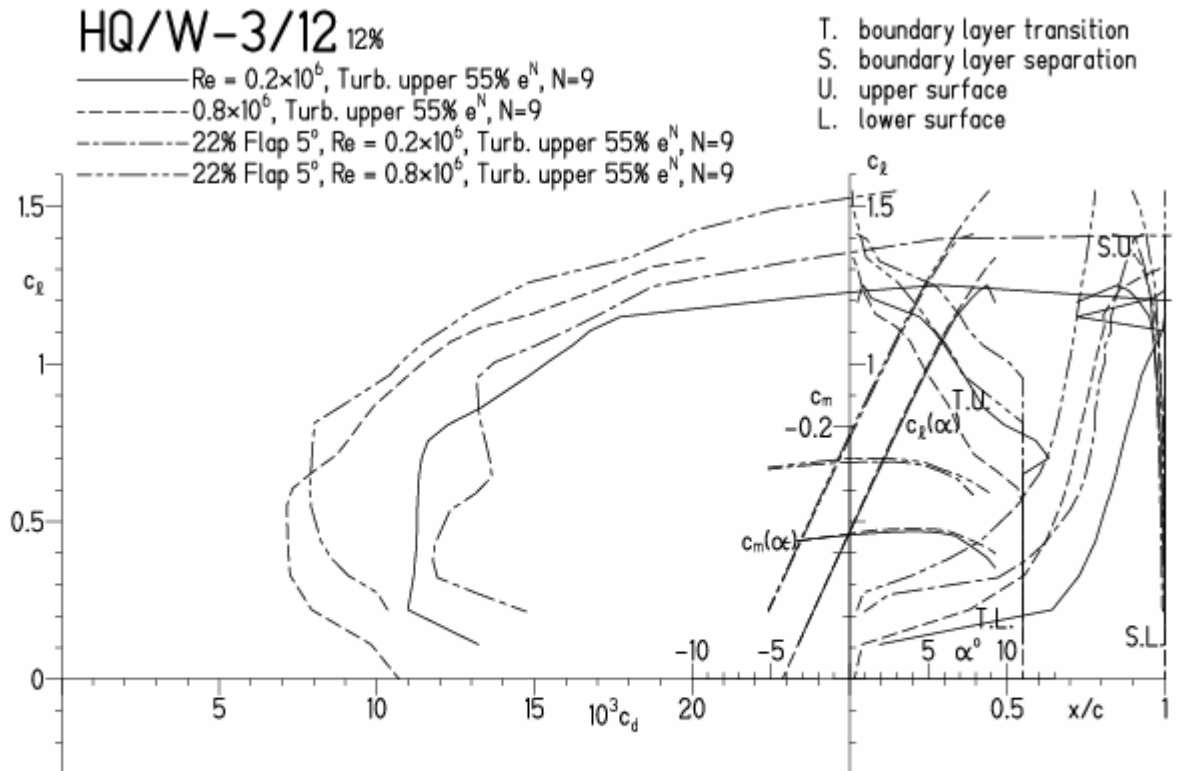


HQ/W-3/12, N=9, mit 5° Wölbklappenausschlag, Turbulatoreffekt
 (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 29.3.10 13:40

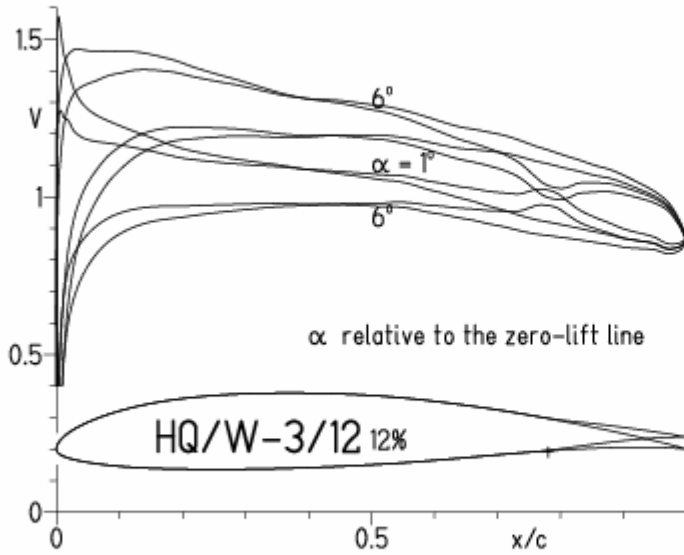


EPPLER 2005 V. 8.5.07 RUN 29.3.10 13:40

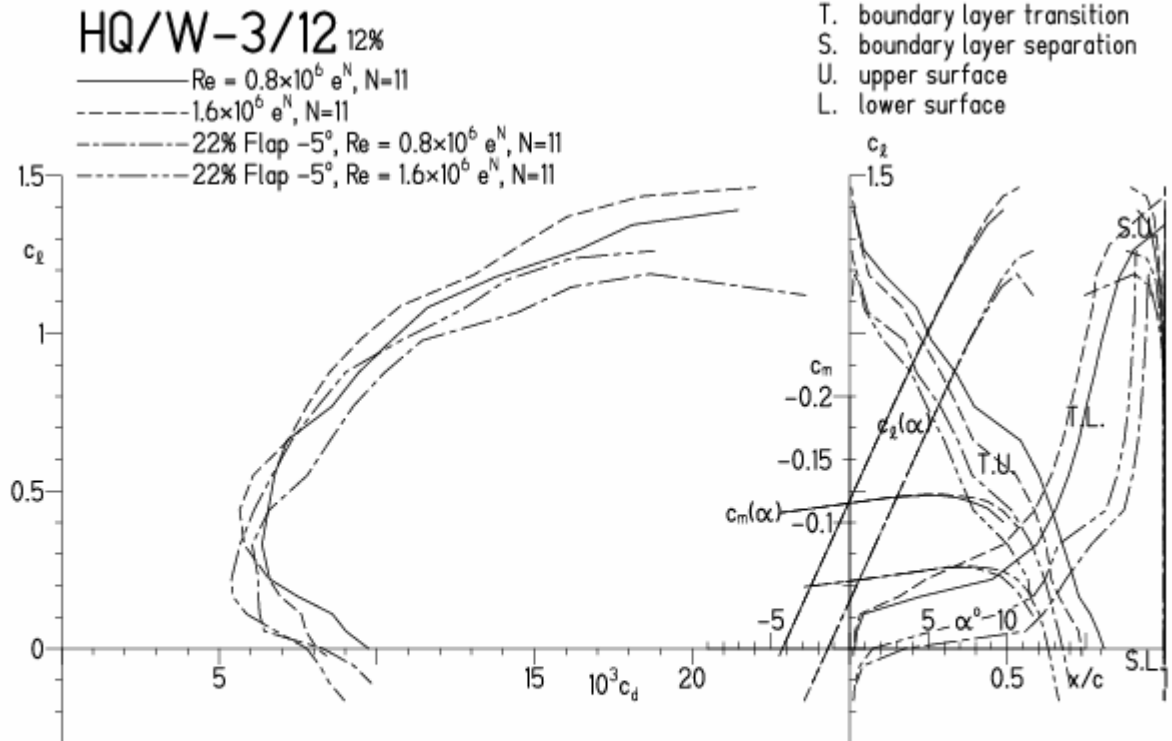


HQ/W-3/12, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 1.12.10 19:13

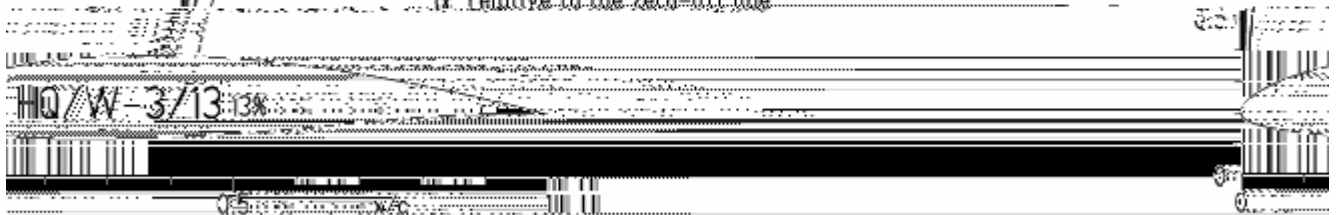
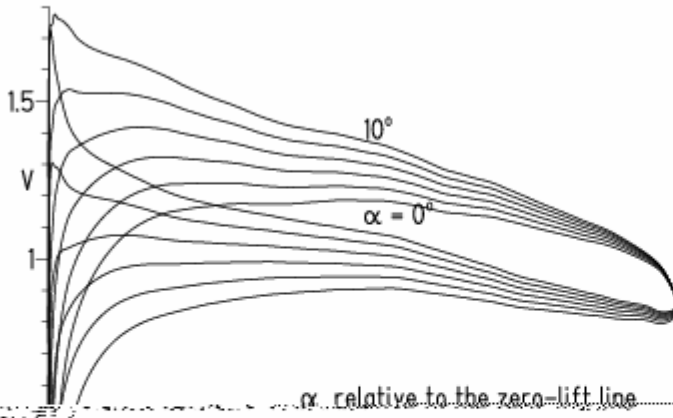


EPPLER



HQ/W-3/13, N=11

EPPLER 2005 V. 8.5.07 RUN 2.12.10 11:36



IN 2.12.10 11:36 APPLER 2005 V. 8.5.07.13

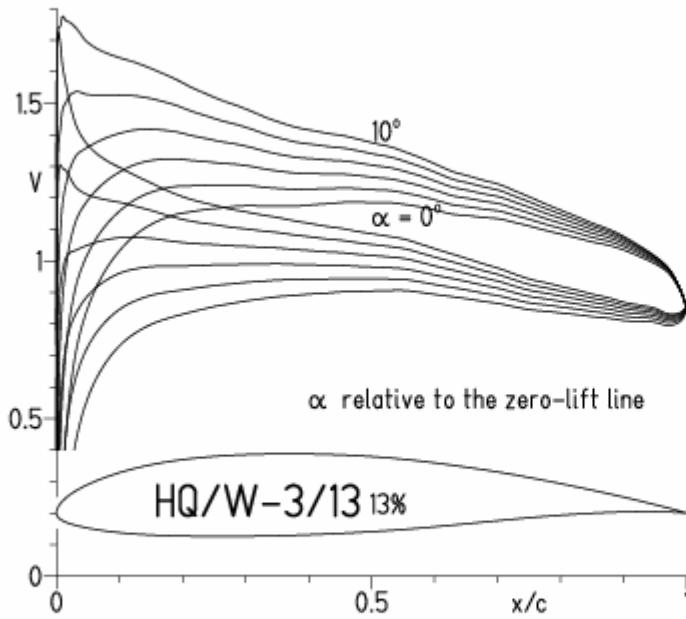
W-3/13-138 HQ

- $Re = 0.12 \cdot 10^6$, $N=11$
- $0.2 \cdot 10^6$, $N=100$
- $0.4 \cdot 10^6$, $N=1000$
- $0.8 \cdot 10^6$, $N=11000$
- $1.6 \cdot 10^6$, $N=110000$

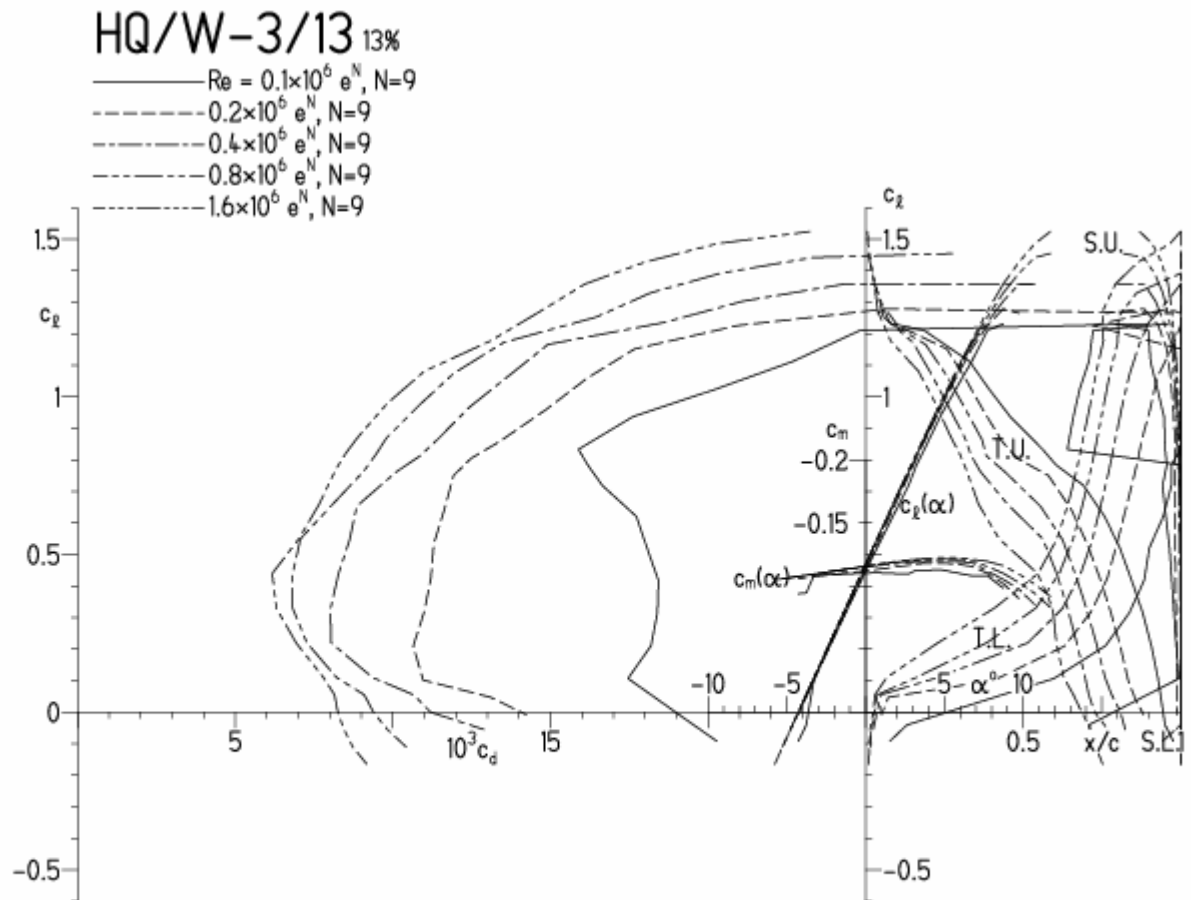


HQ/W-3/13, N=9

EPPLER 2005 V. 8.5.07 RUN 2.12.10 11:39

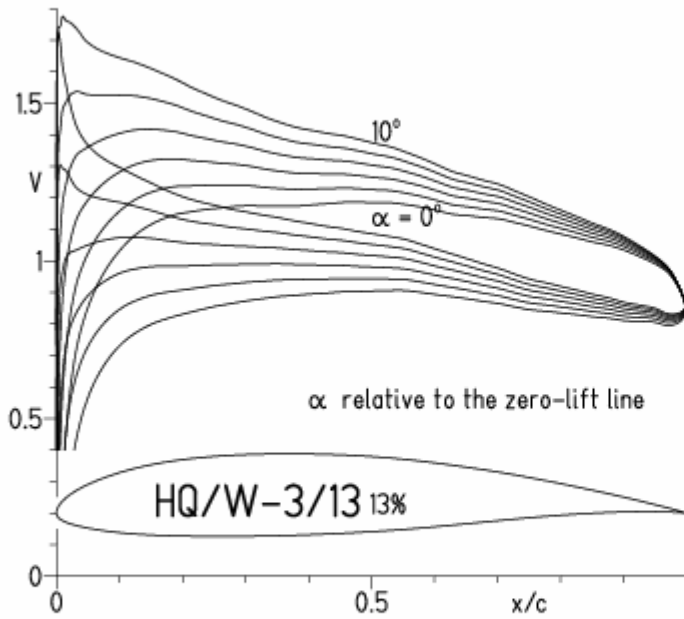


EPPLER 2005 V. 8.5.07 RUN 2.12.10 11:39



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

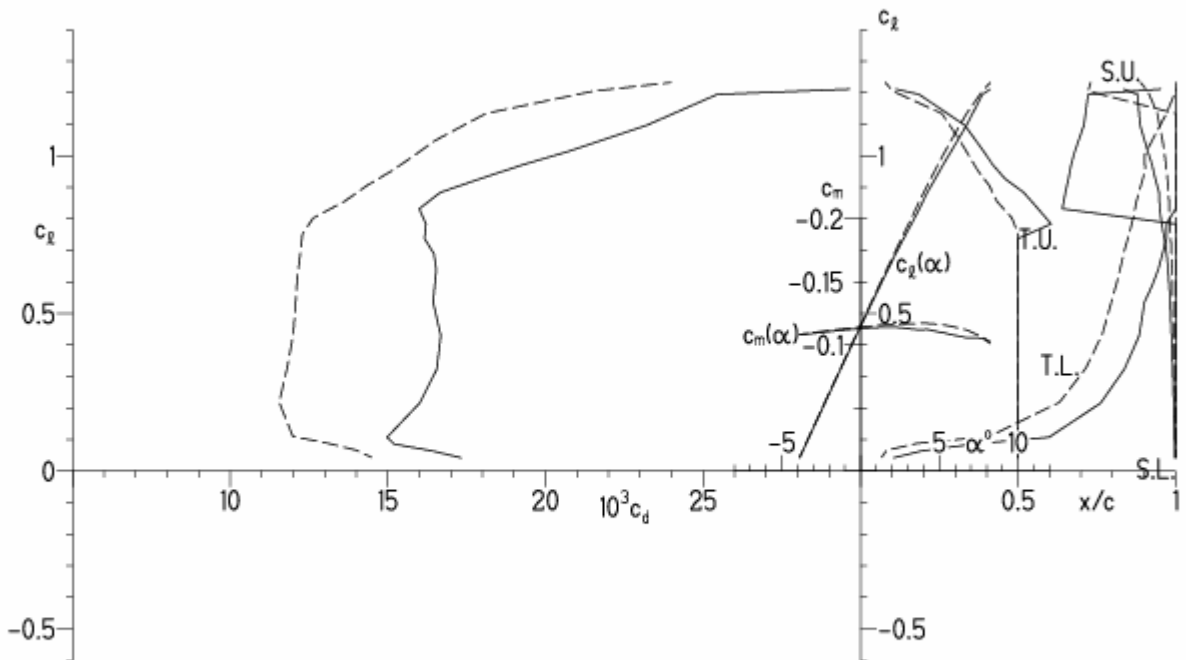
EPPLER 2005 V. 8.5.07 RUN 2.12.10 10:54



EPPLER 2005 V. 8.5.07 RUN 2.12.10 1

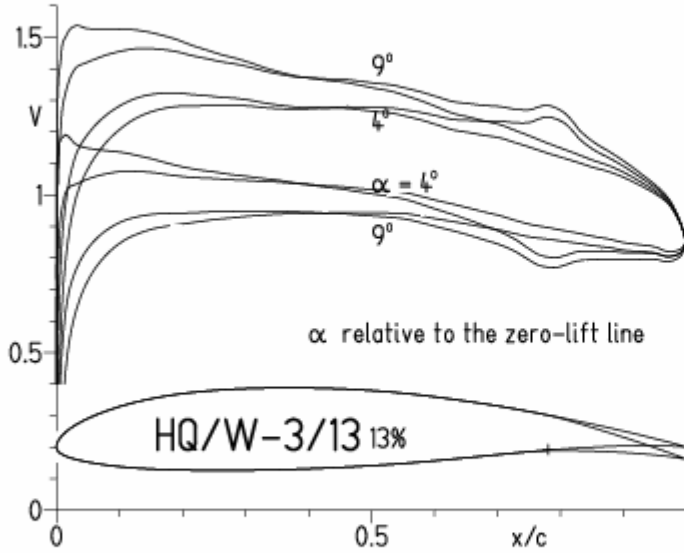
HQ/W-3/13 13%

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

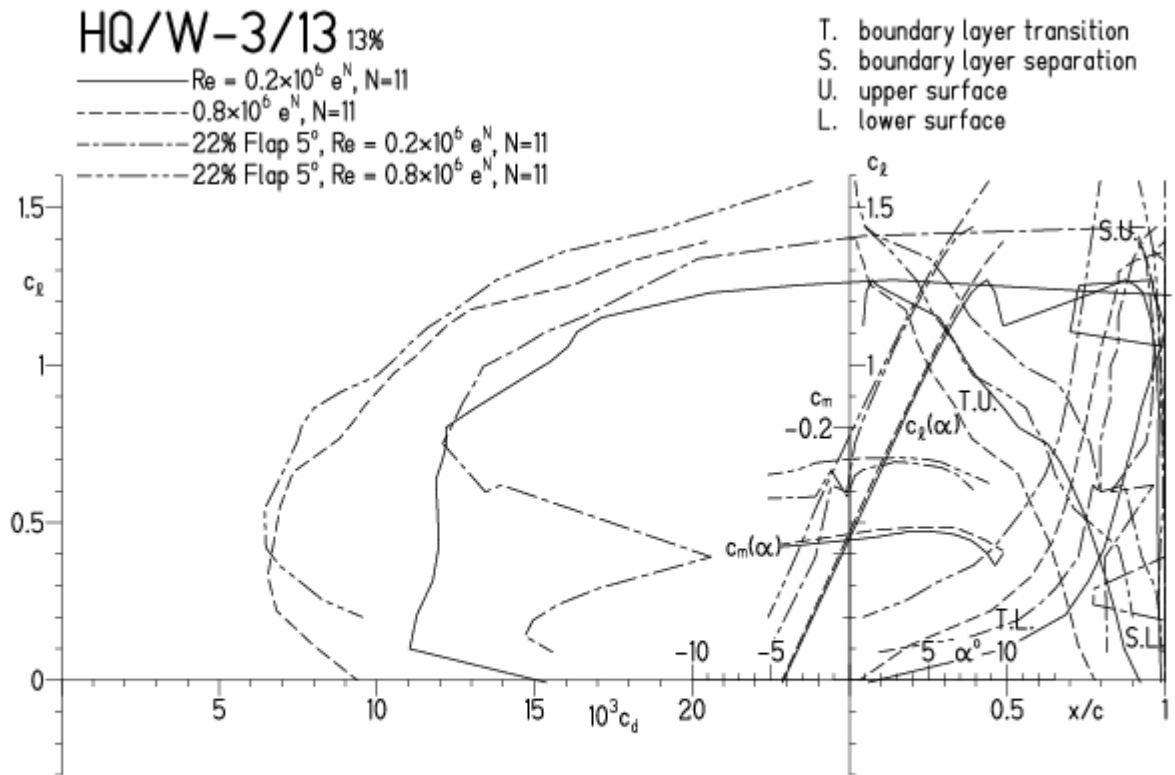


HQ/W-3/13, N=11, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 2.12.10 12:08

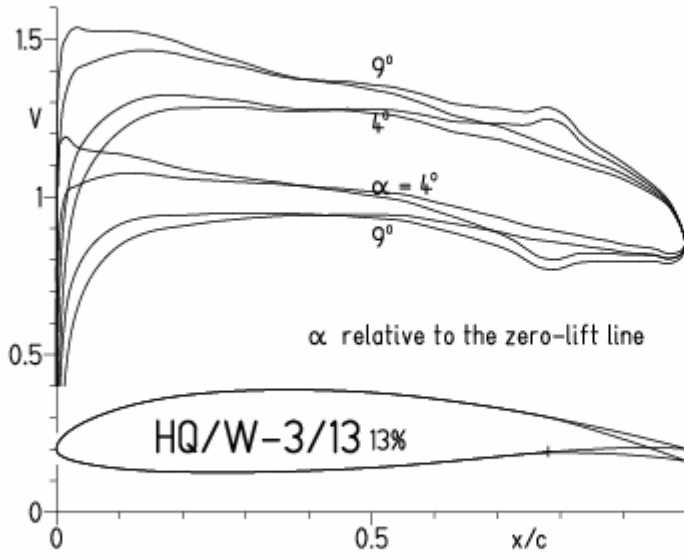


EPPLER 2005 V. 8.5.

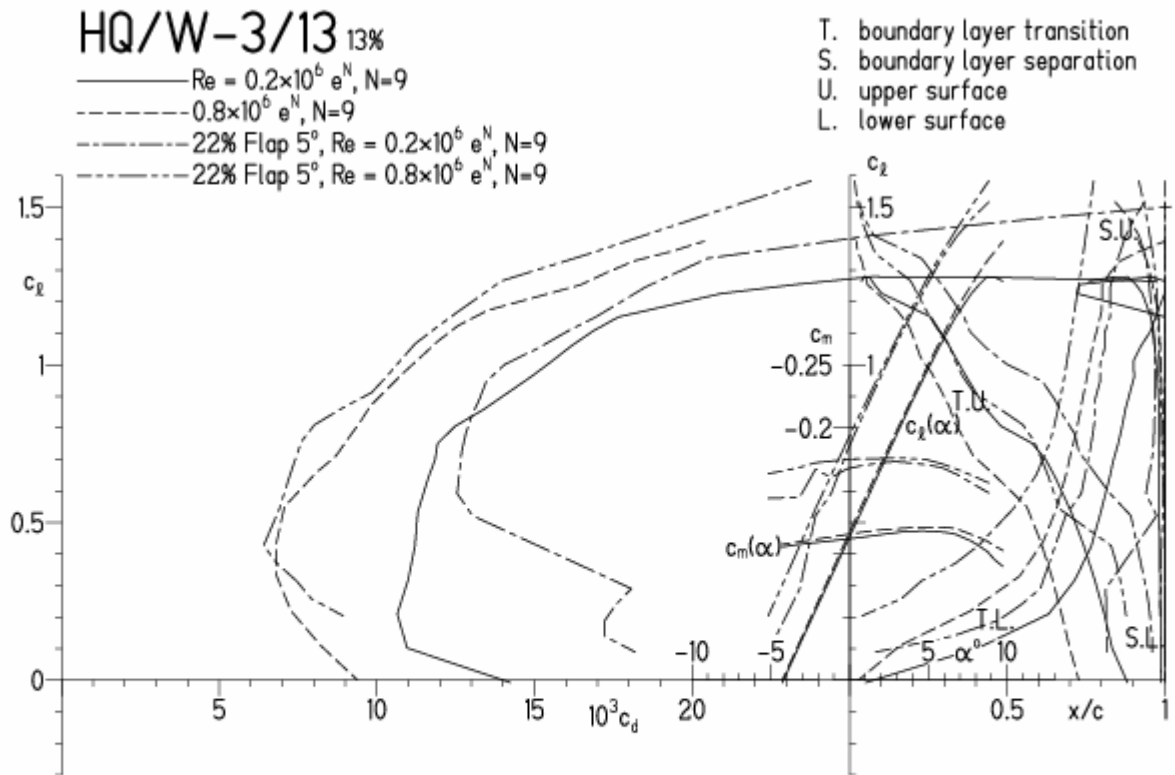


HQ/W-3/13, N=11, mit 5° Wölbklappenausschlag

EPPLER 2005 V. 8.5.07 RUN 2.12.10 12:12

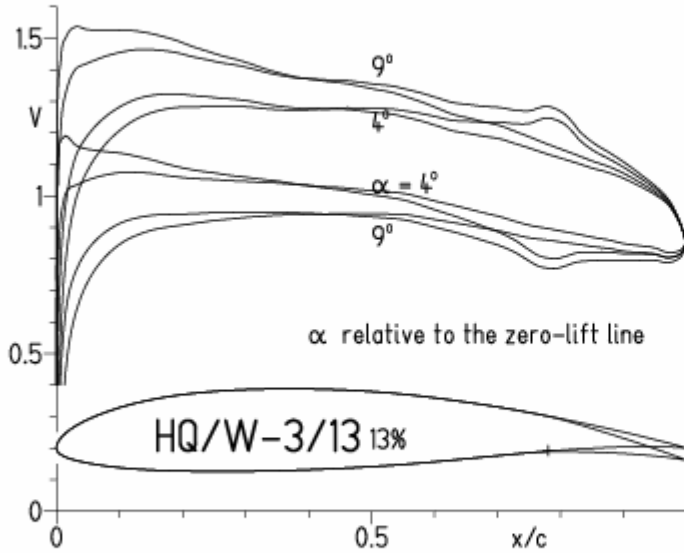


EPPLER 2005 V. 8.5.07 RUN 2.12.10 12:12

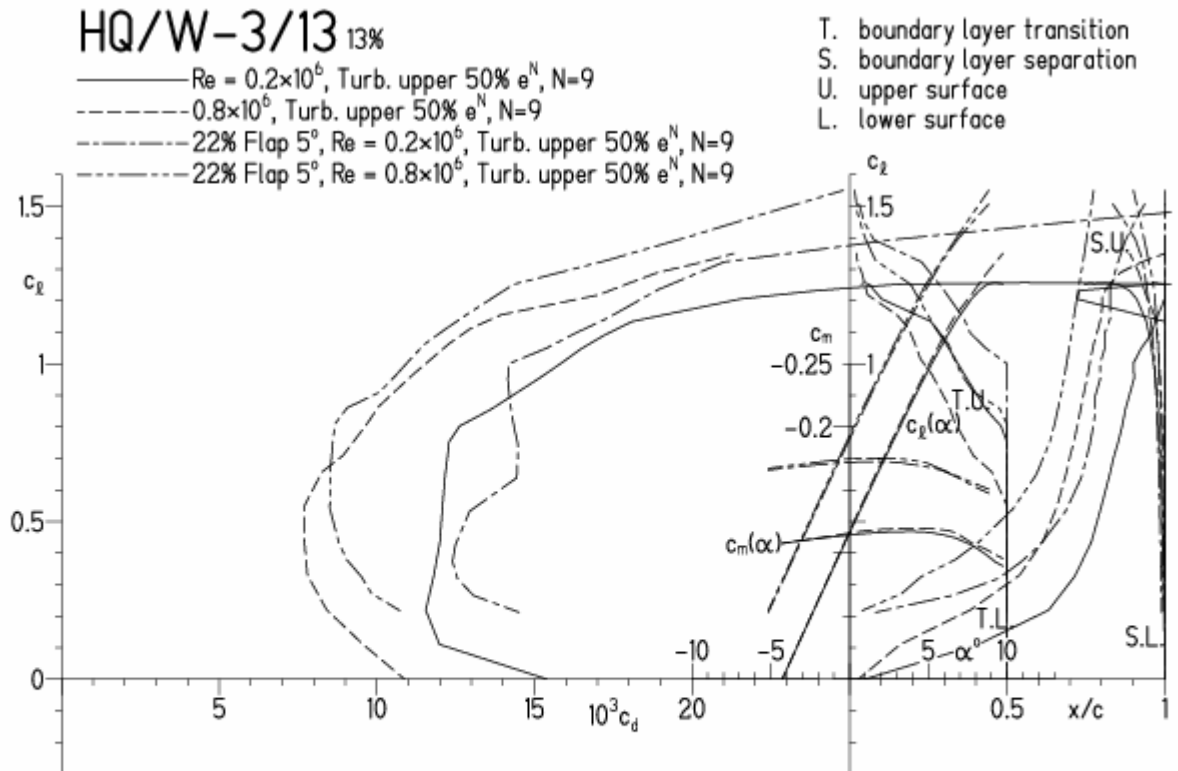


HQ/W-3/13, N=9, mit 5° Wölbklappenausschlag, Turbulatoreffekt
 (optimale Turbulatorposition bei 50% - 60% der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 2.12.10 12:16

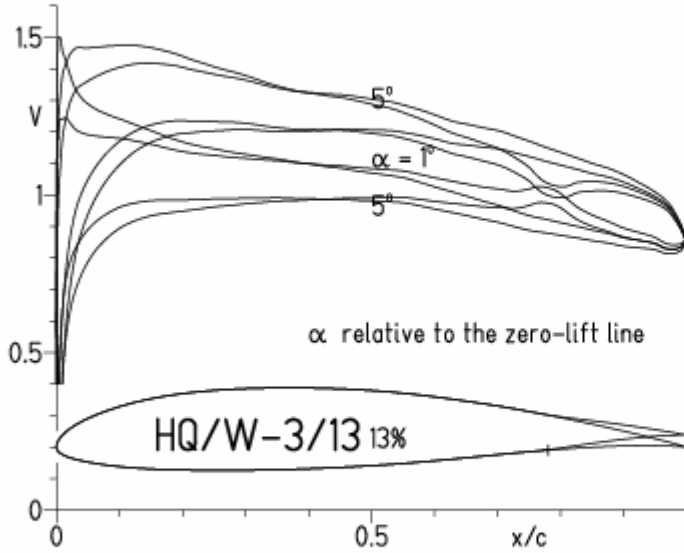


EPPLER 2005 V. 8.

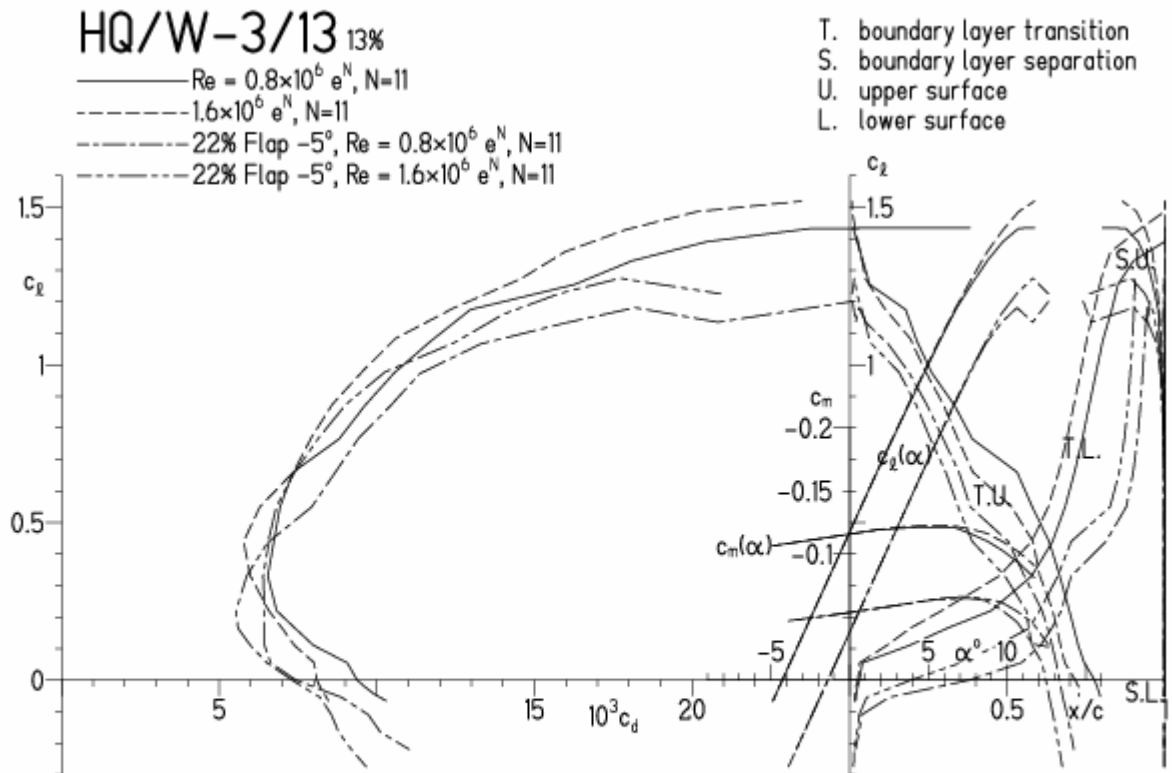


HQ/W-3/13, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 2.12.10 12:33

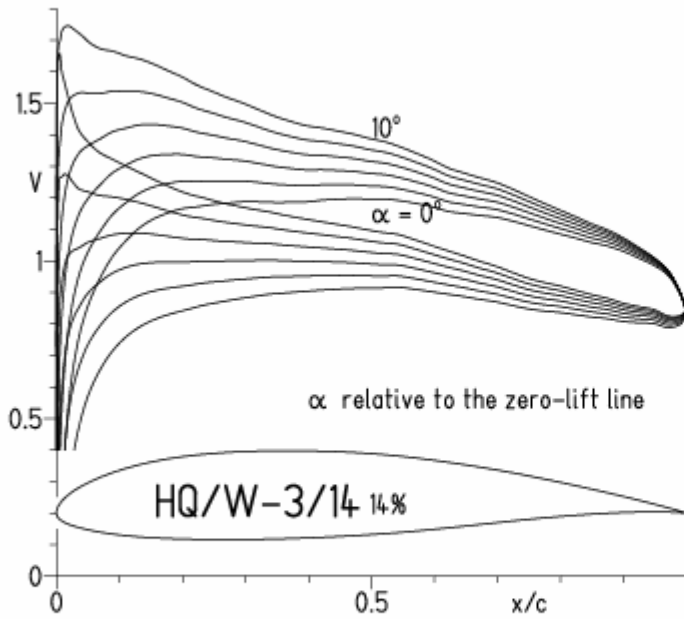


EPPLER 2005



HQ/W-3/14, N=11

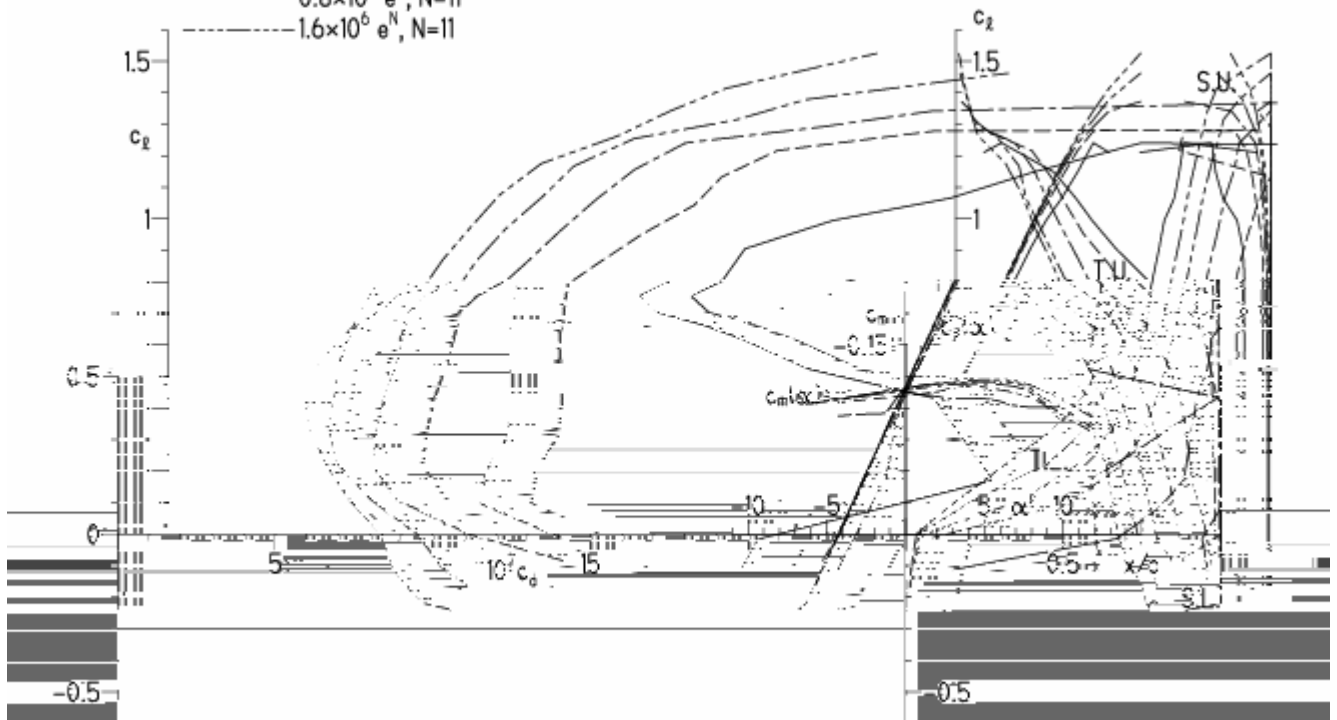
EPPLER 2005 V. 8.5.07 RUN 2.12.10 12:55



EPPLER 2005 V. 8.5.07 RUN 2.12.10 12:55

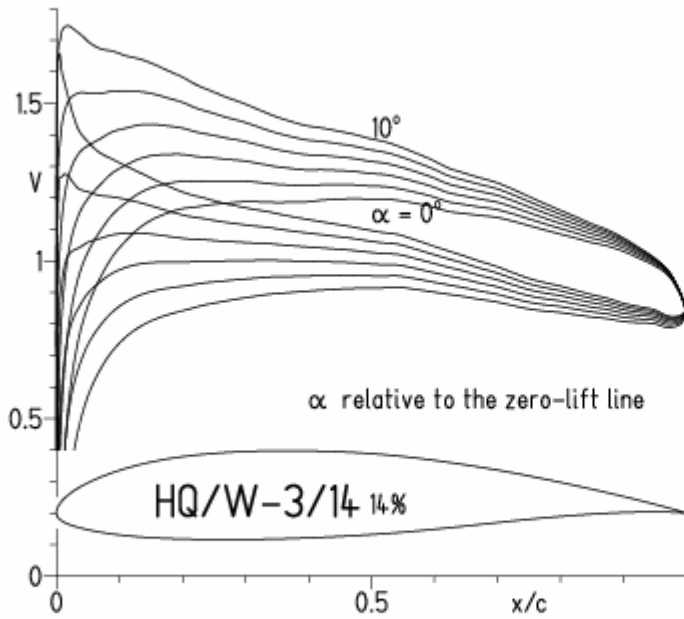
HQ/W-3/14 14%

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



HQ/W-3/14, N=9

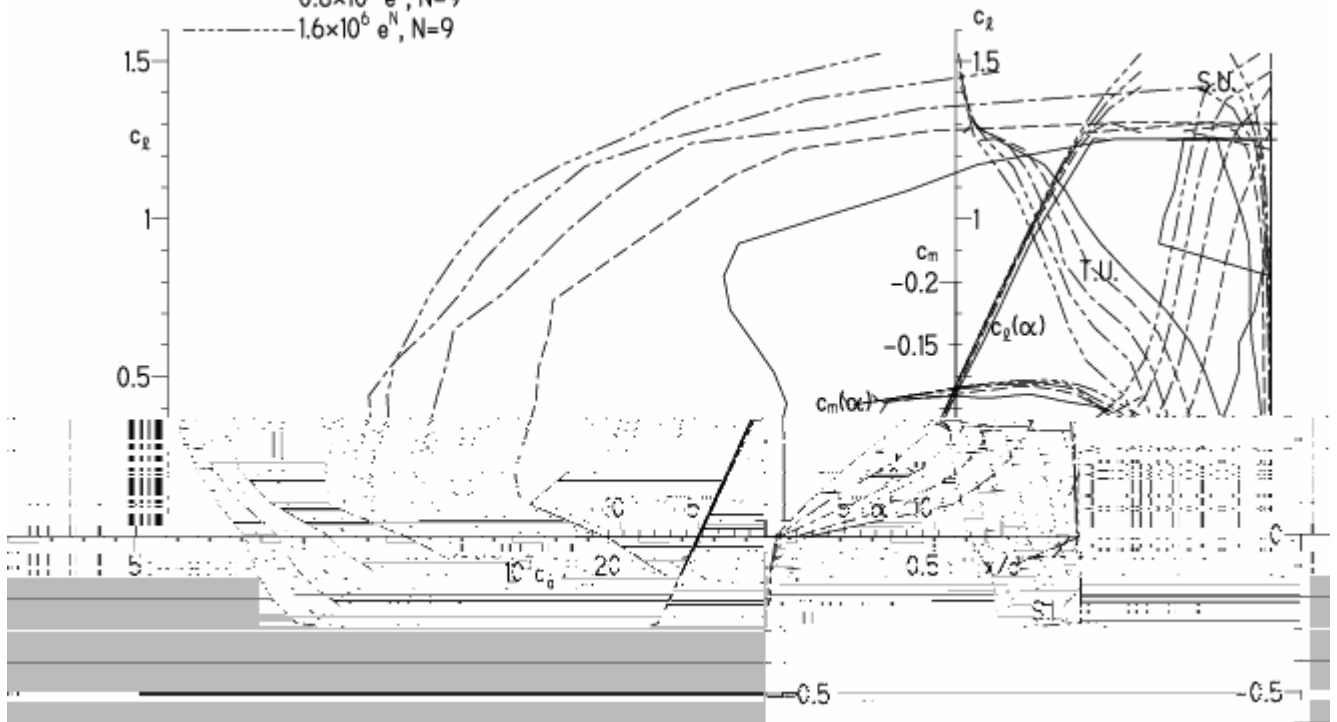
EPPLER 2005 V. 8.5.07 RUN 4.12.10 11:41



EPPLER 2005 V. 8.5

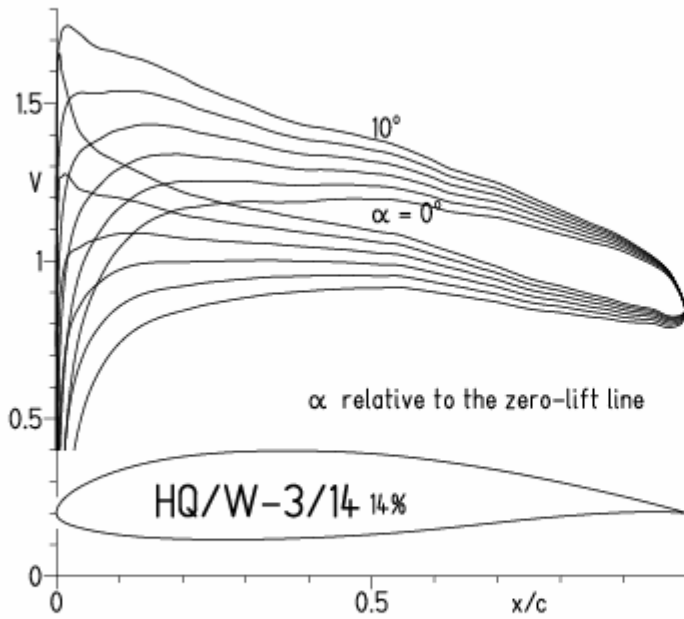
HQ/W-3/14 14%

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



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

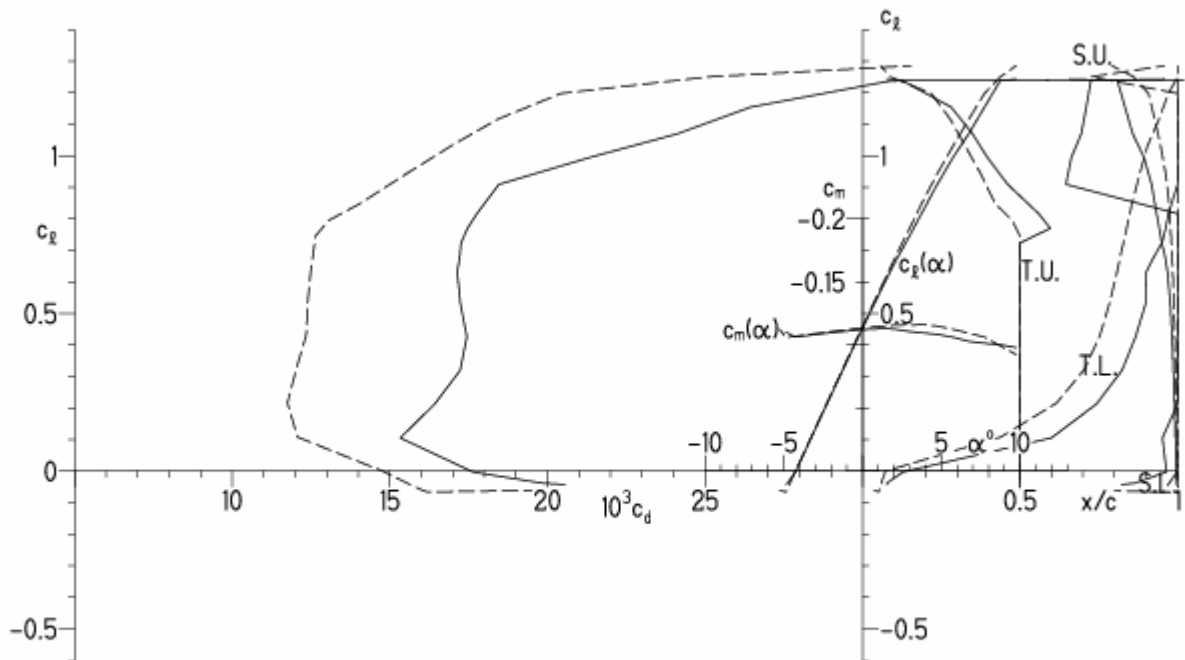
EPPLER 2005 V. 8.5.07 RUN 2.12.10 13:20



EPPLER 2005 V. 8.5.07 RUN 2.12.10 13:

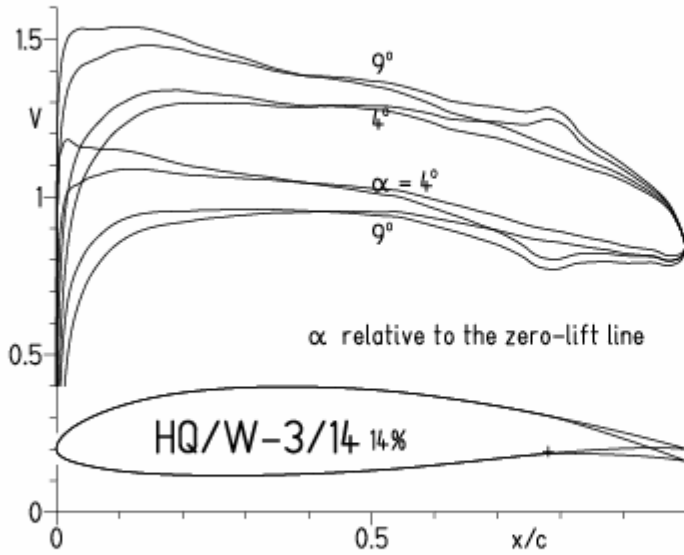
HQ/W-3/14 14%

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



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

EPPLER 2005 V. 8.5.07 RUN 4.12.10 12:23

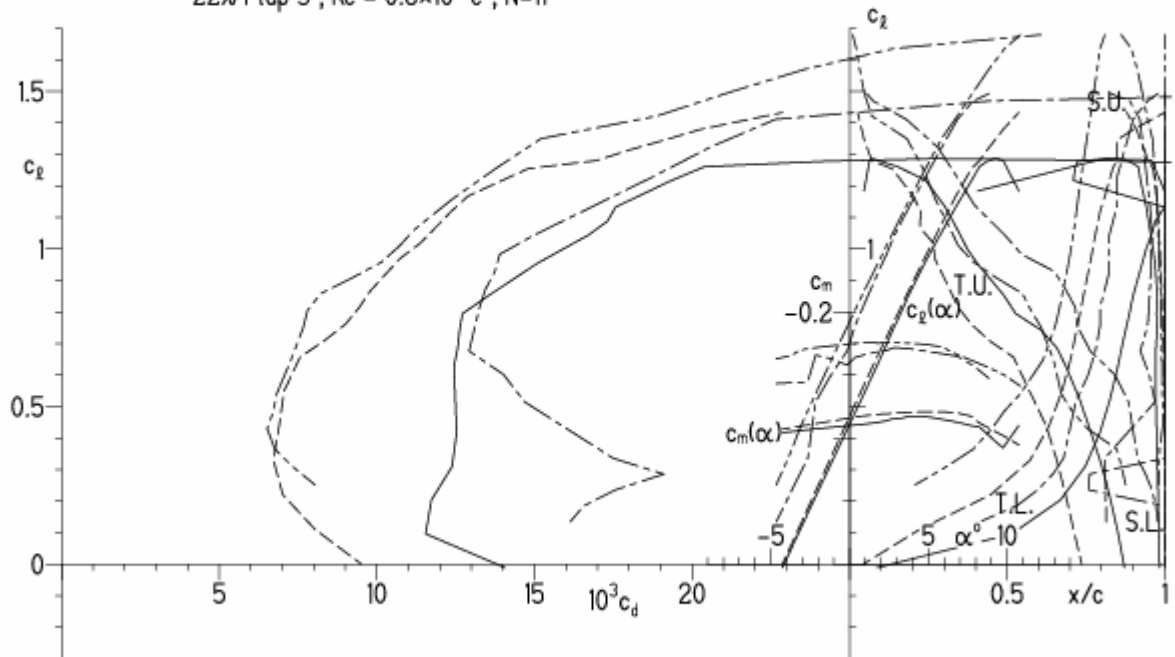


EPPLER 2005 V. 8.5.07 RUN 4.12.10 12:

HQ/W-3/14 14%

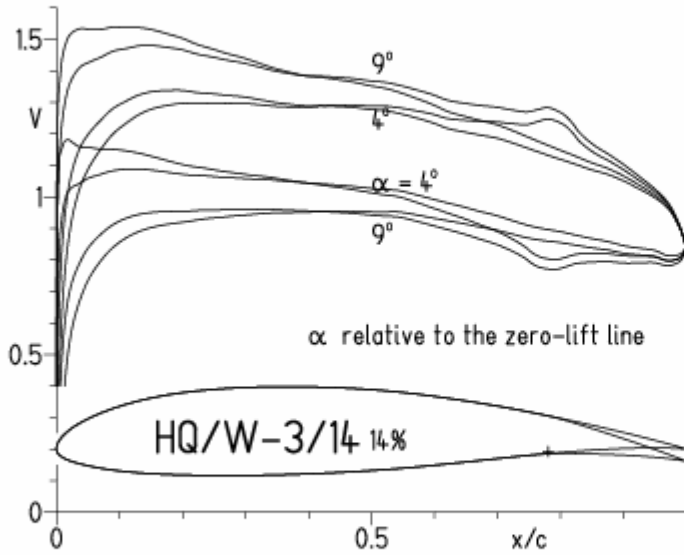
- $Re = 0.2 \times 10^6 e^N, N=11$
- - - $0.8 \times 10^6 e^N, N=11$
- · - · - 22% Flap 5°, $Re = 0.2 \times 10^6 e^N, N=11$
- · - · - 22% Flap 5°, $Re = 0.8 \times 10^6 e^N, N=11$

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



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

EPPLER 2005 V. 8.5.07 RUN 4.12.10 12:27

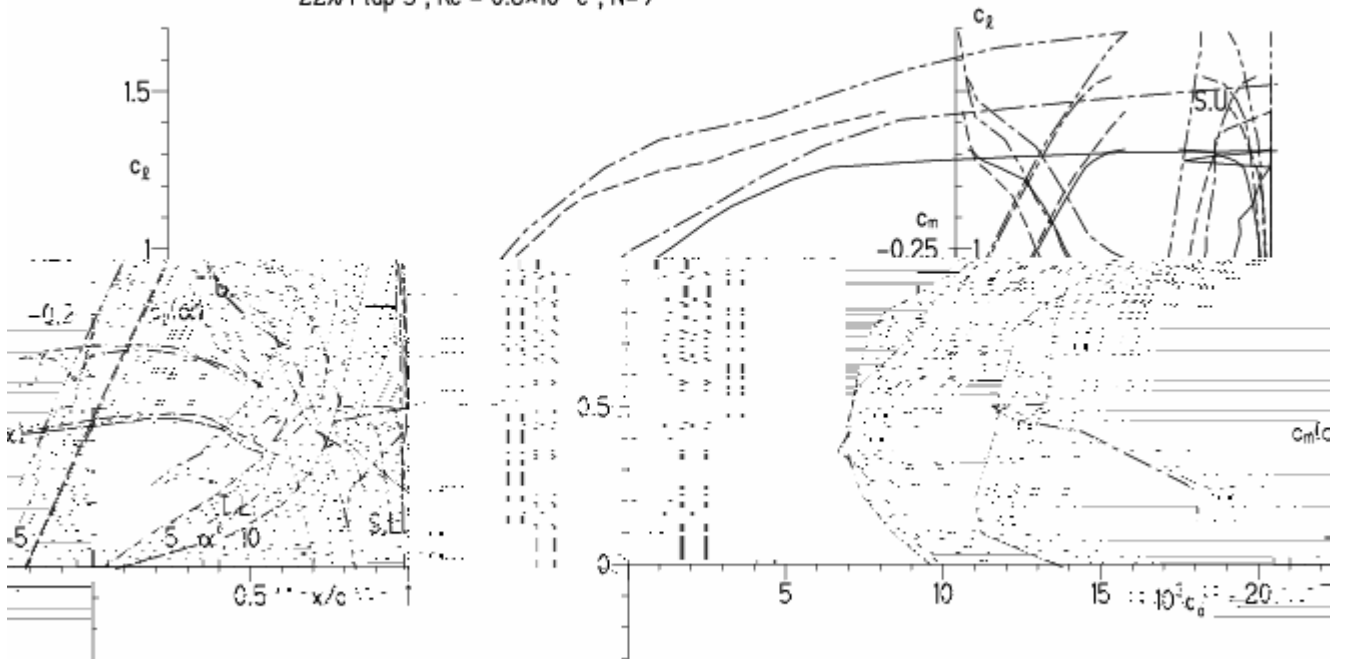


EPPLER 2005 V. 8.5

HQ/W-3/14 14%

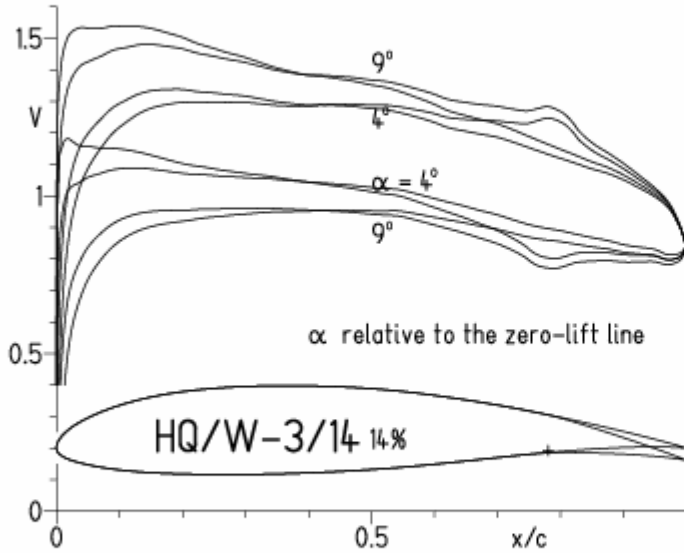
- $Re = 0.2 \times 10^6$, $N=9$
- - - 0.8×10^6 , $N=9$
- · - · - 22% Flap 5° , $Re = 0.2 \times 10^6$, $N=9$
- · - · - 22% Flap 5° , $Re = 0.8 \times 10^6$, $N=9$

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



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

EPPLER 2005 V. 8.5.07 RUN 4.12.10 12:33

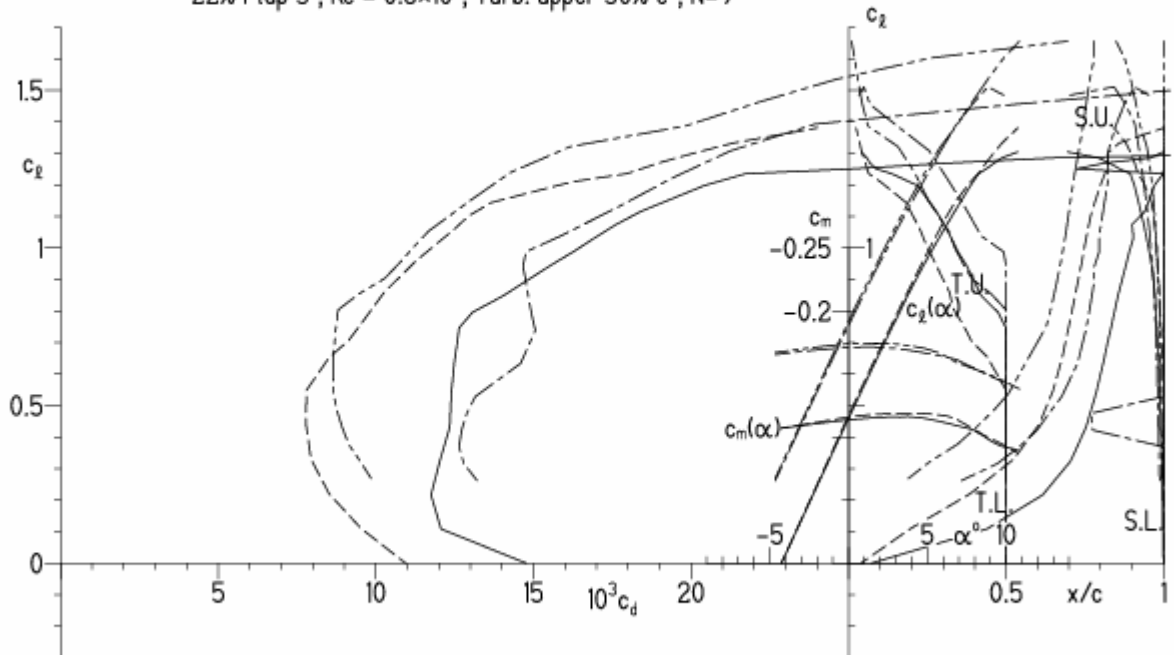


EPPLER 2005 V. 8.5.07 RUN 4.12.1

HQ/W-3/14 14%

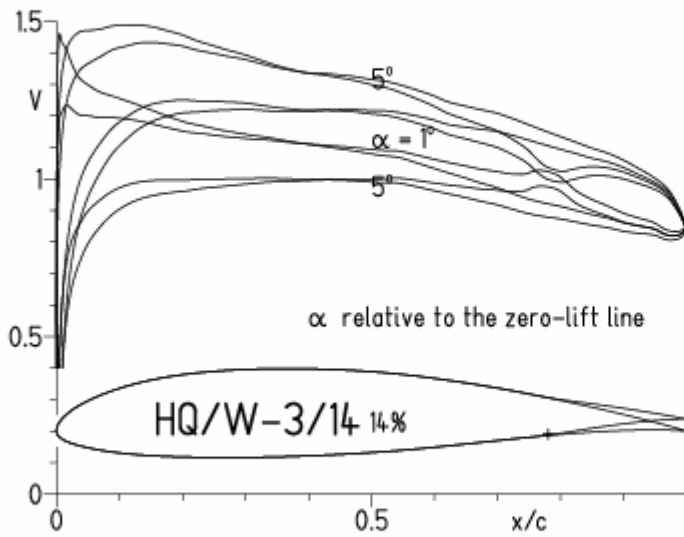
- Re = 0.2×10^6 , Turb. upper 50% e^N, N=9
- - - Re = 0.8×10^6 , Turb. upper 50% e^N, N=9
- · - 22% Flap 5°, Re = 0.2×10^6 , Turb. upper 50% e^N, N=9
- · - 22% Flap 5°, Re = 0.8×10^6 , Turb. upper 50% e^N, N=9

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

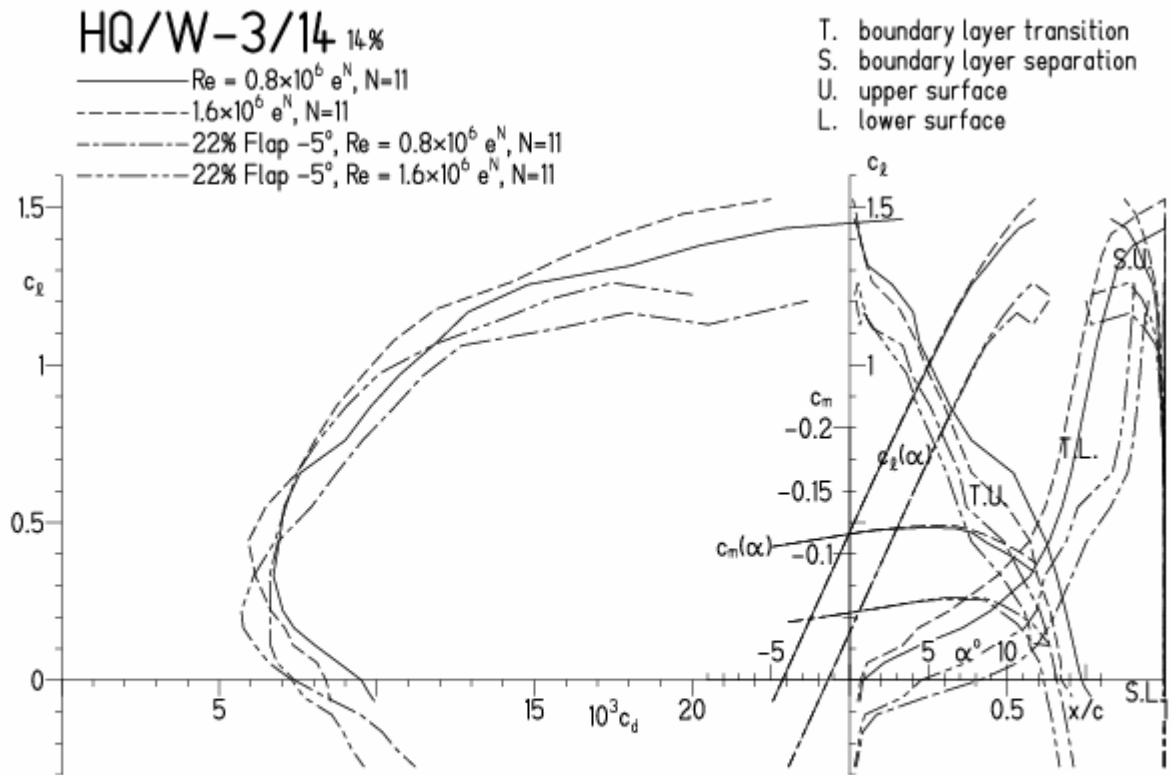


HQ/W-3/14, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 4.12.10 12:40

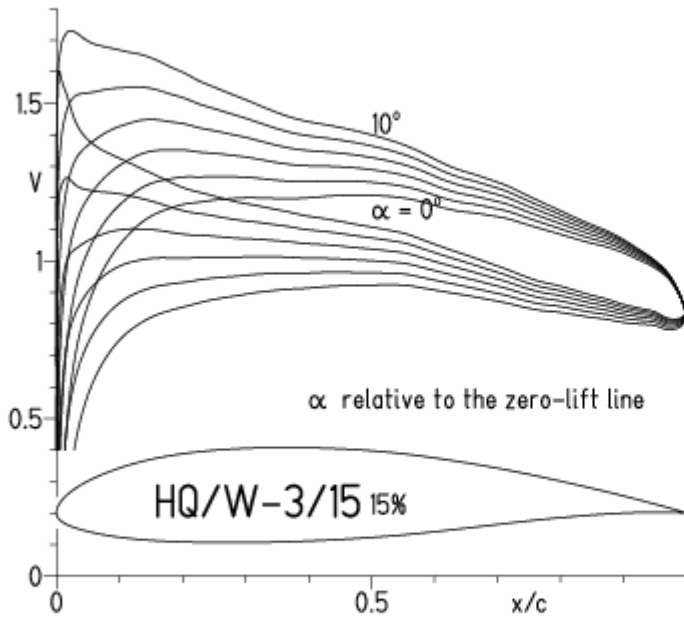


EPPLER 2005 V. 8.5.07 RUN 4.12.1



HQ/W-3/15, N=11

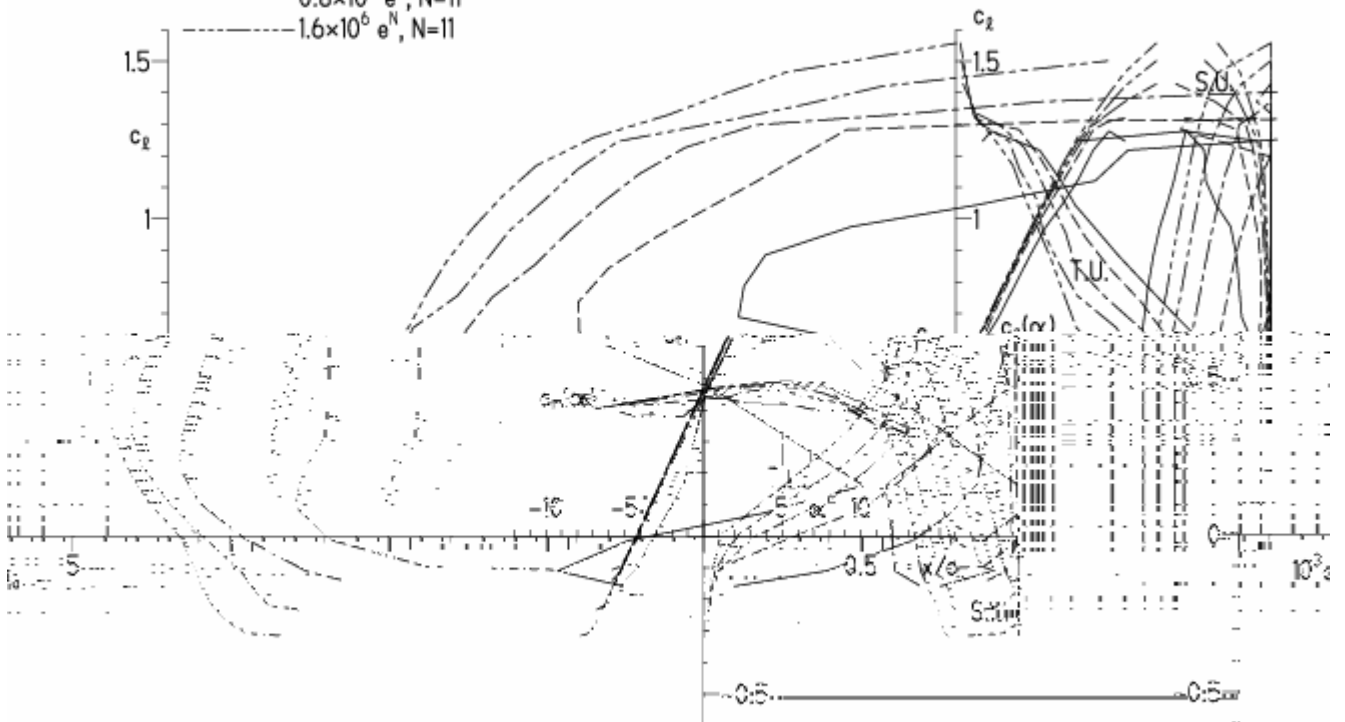
EPPLER 2005 V. 8.5.07 RUN 4.12.10 13:07



EPPLER 2005 V. 8.5.07 RUN 4.1

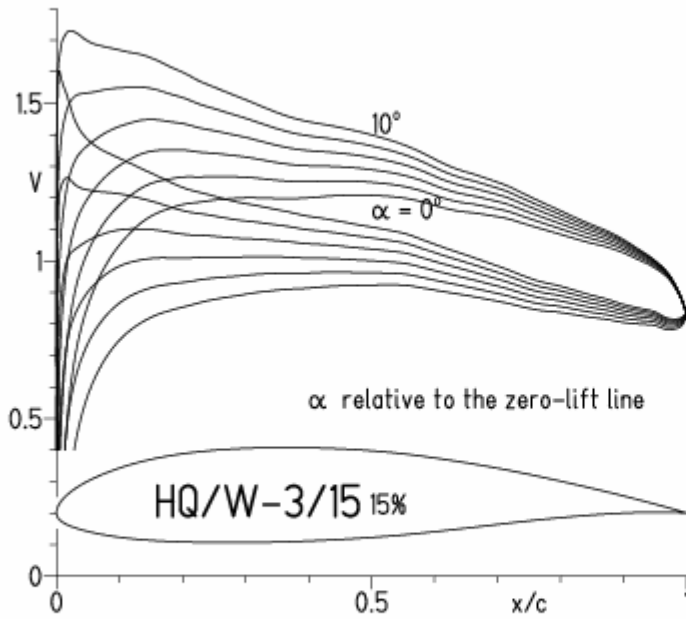
HQ/W-3/15 15%

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



HQ/W-3/15, N=9

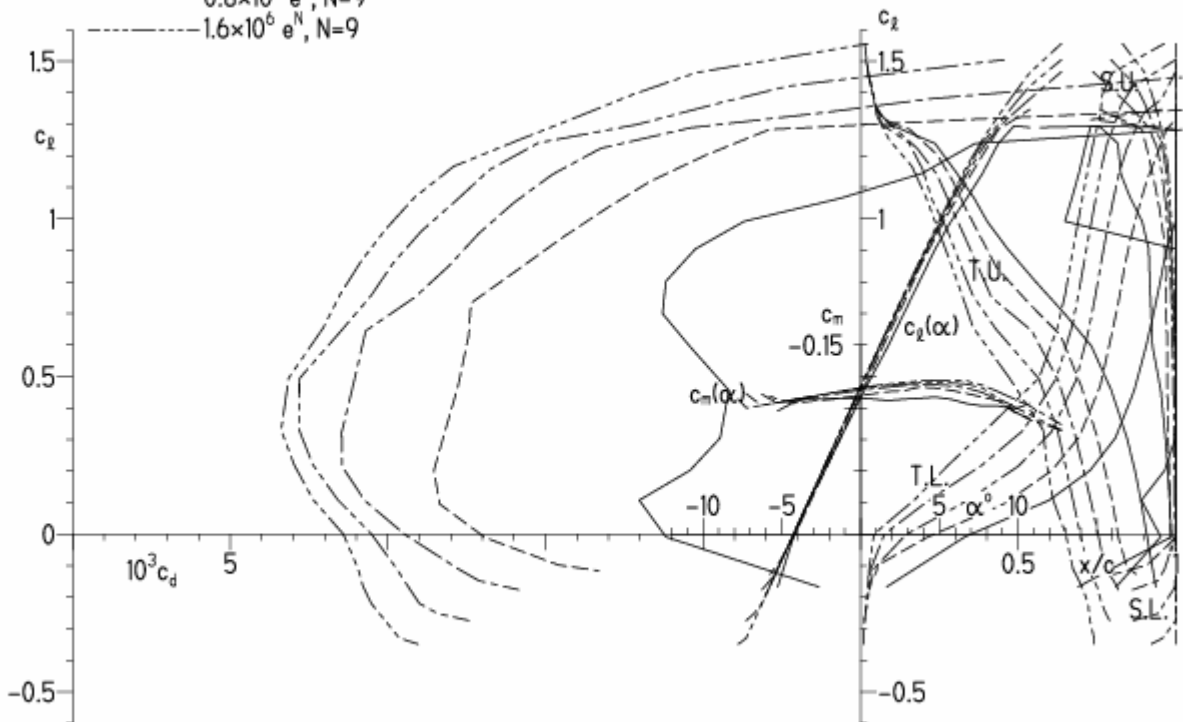
EPPLER 2005 V. 8.5.07 RUN 4.12.10 13:10



EPPLER 20

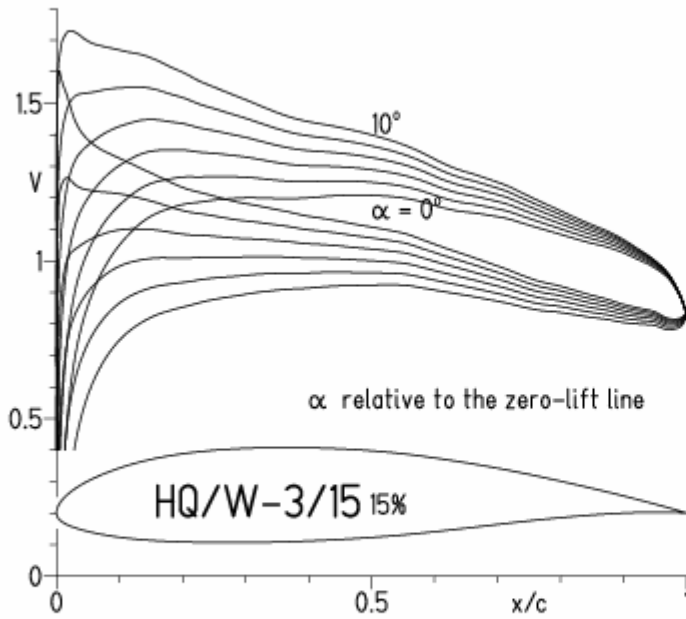
HQ/W-3/15 15%

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



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

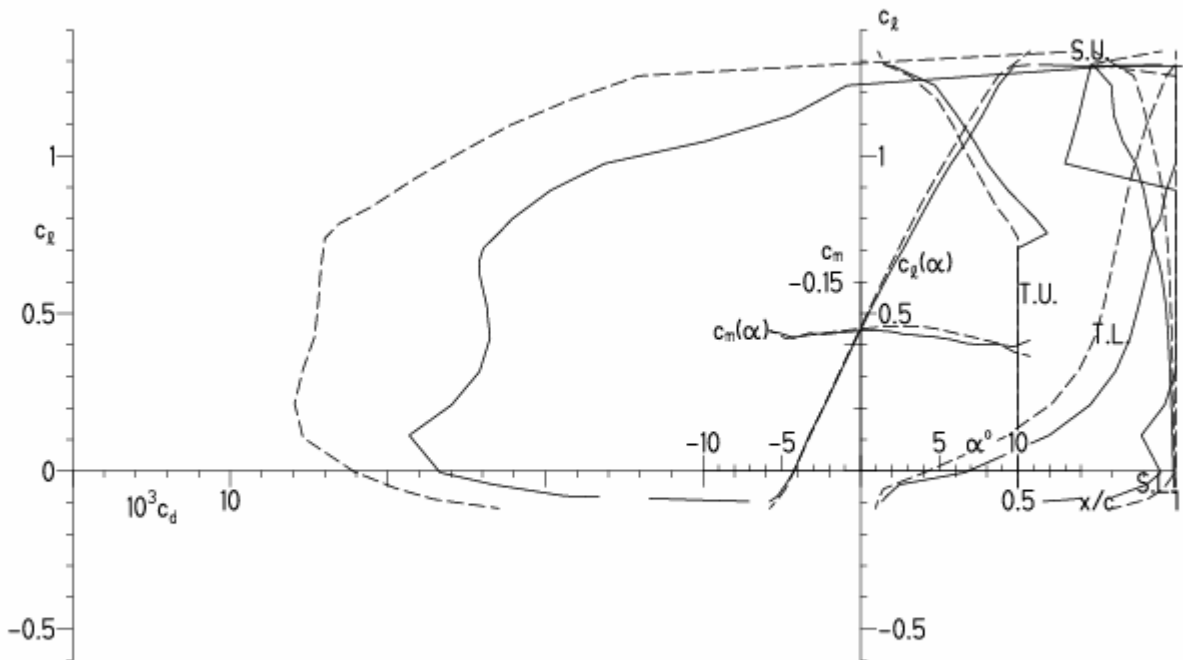
EPPLER 2005 V. 8.5.07 RUN 4.12.10 13:27



EPPLER 2005 V

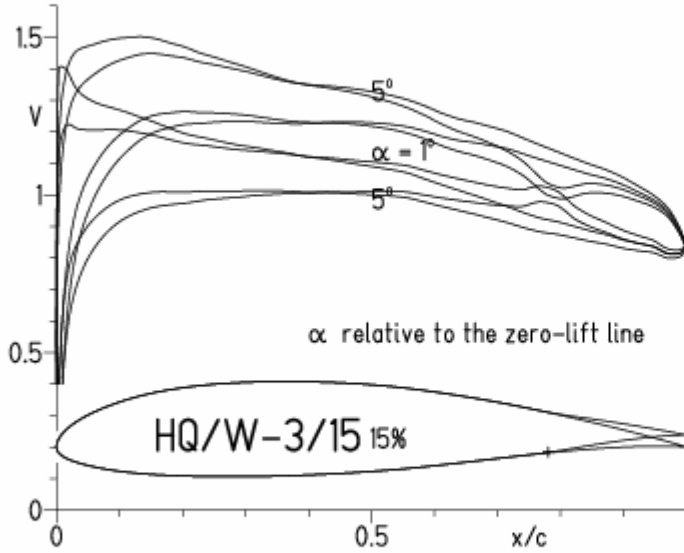
HQ/W-3/15 15%

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

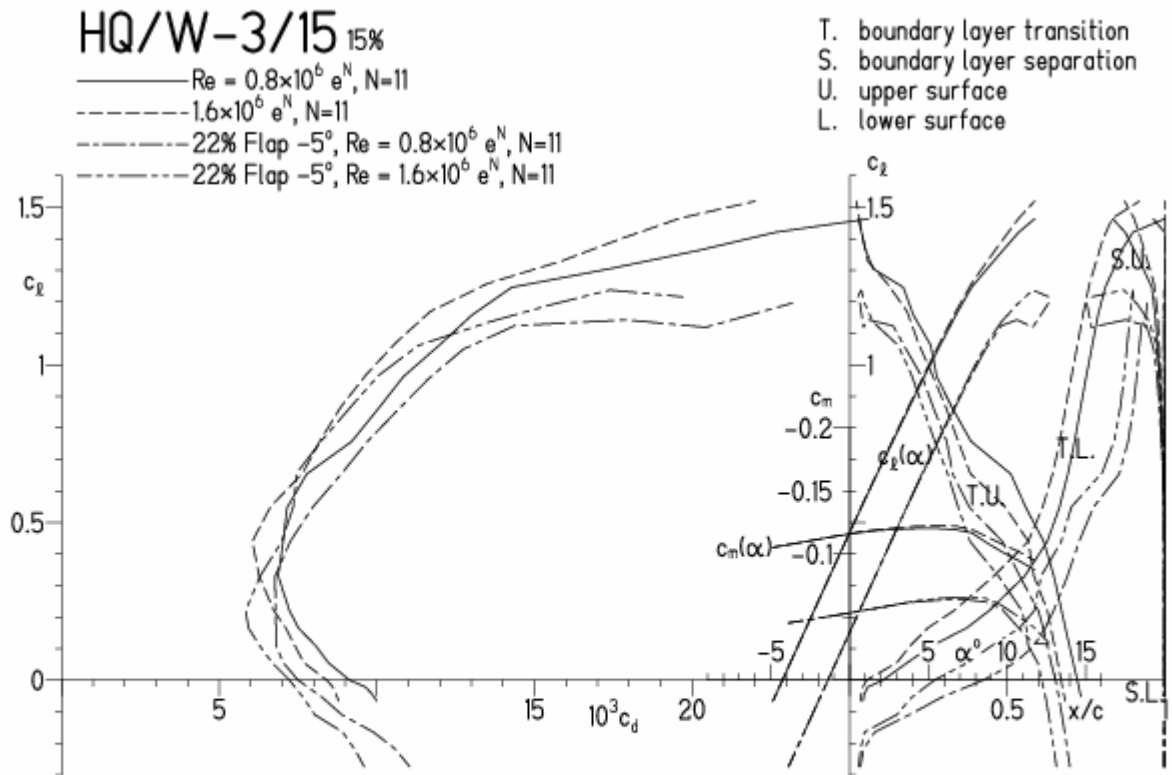


HQ/W-3/15, N=11, mit -5° Wölbklappenausschlag (Schnellflug)

EPPLER 2005 V. 8.5.07 RUN 4.12.10 18:42

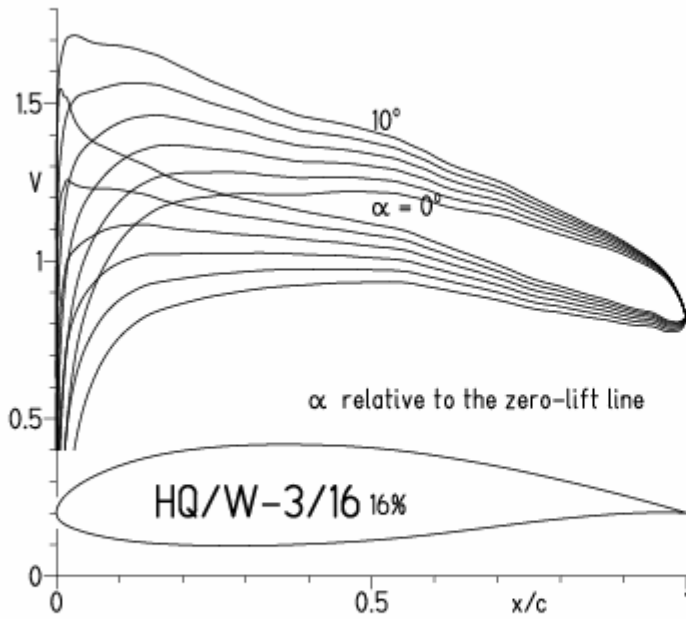


EPPLER 2005 V. 8.

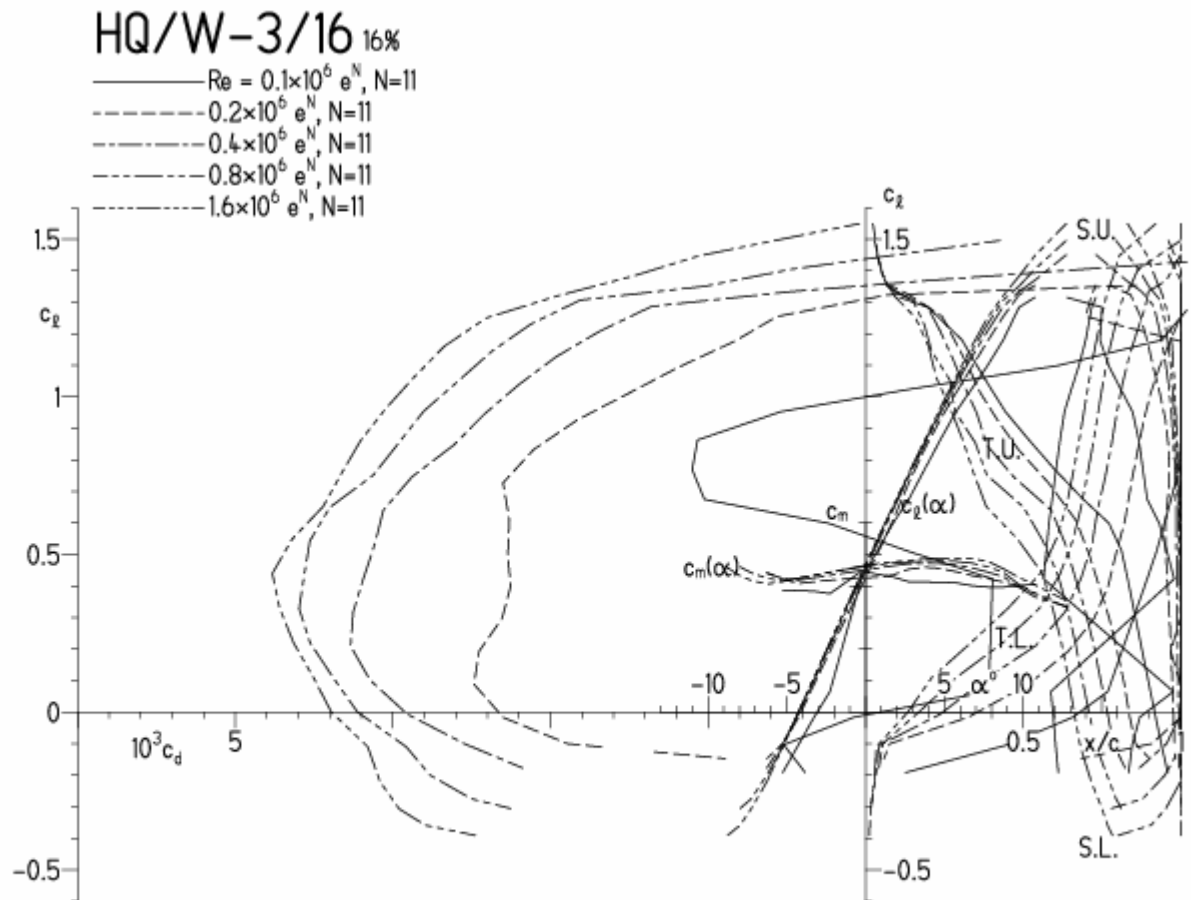


HQ/W-3/16, N=11

EPPLER 2005 V. 8.5.07 RUN 5.12.10 11:50

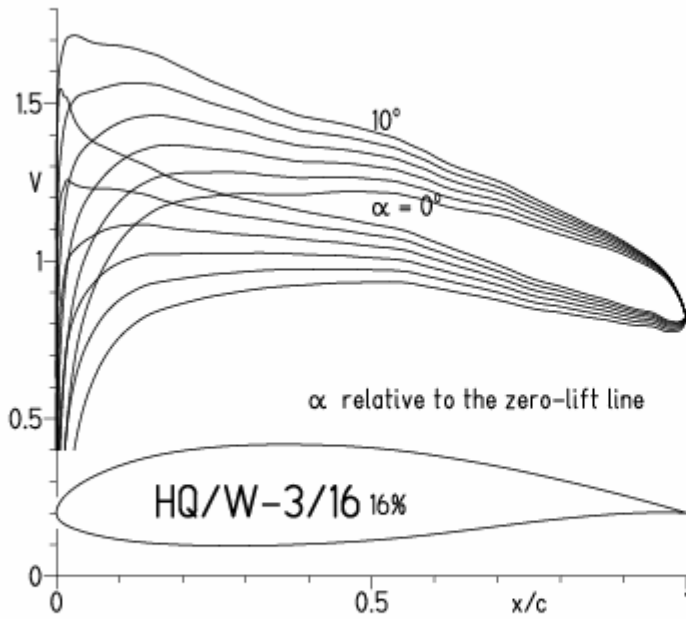


EPPLER 2005 V. 8.5.07 RUN 5.12.10 11:50



HQ/W-3/16, N=9

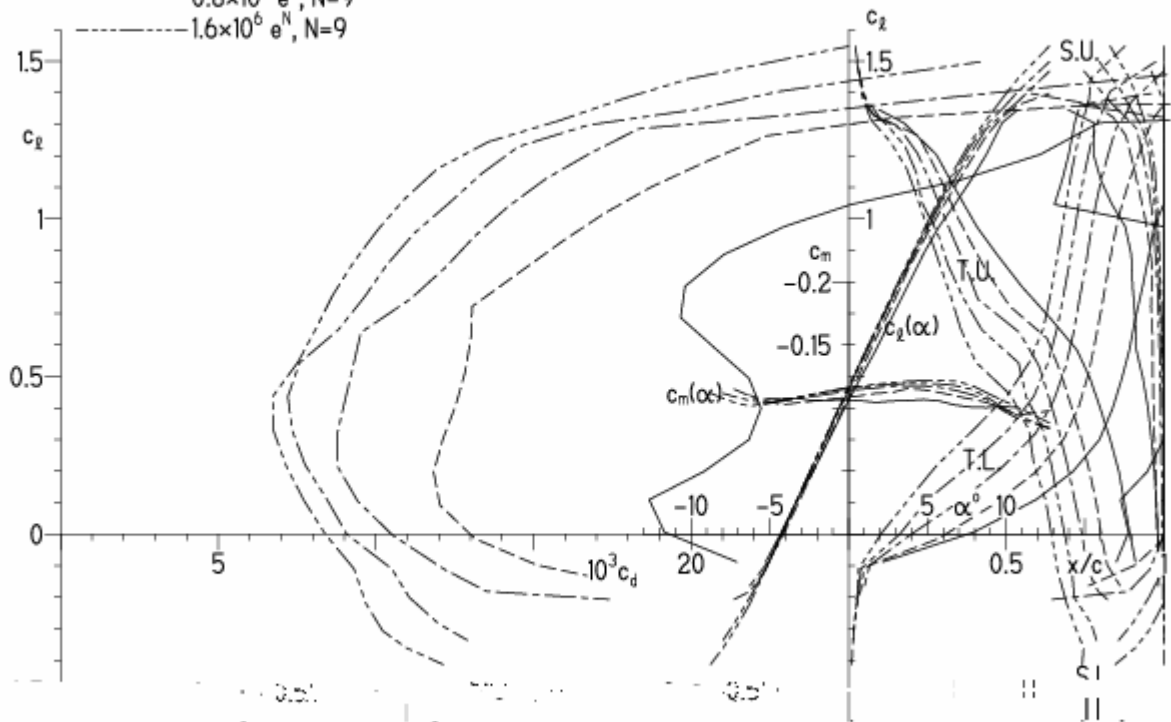
EPPLER 2005 V. 8.5.07 RUN 5.12.10 11:53



EPPLER 2005 V. 8.5.07 RUN 5.12.10 11:53

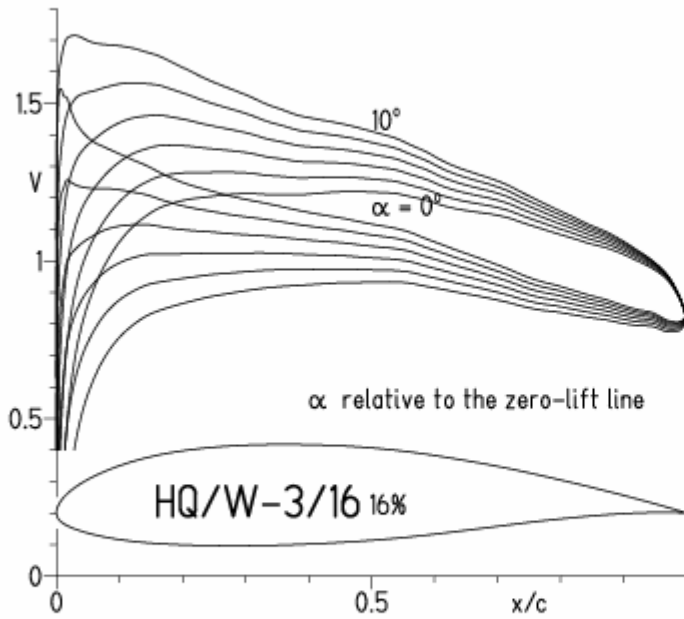
HQ/W-3/16 16%

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



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

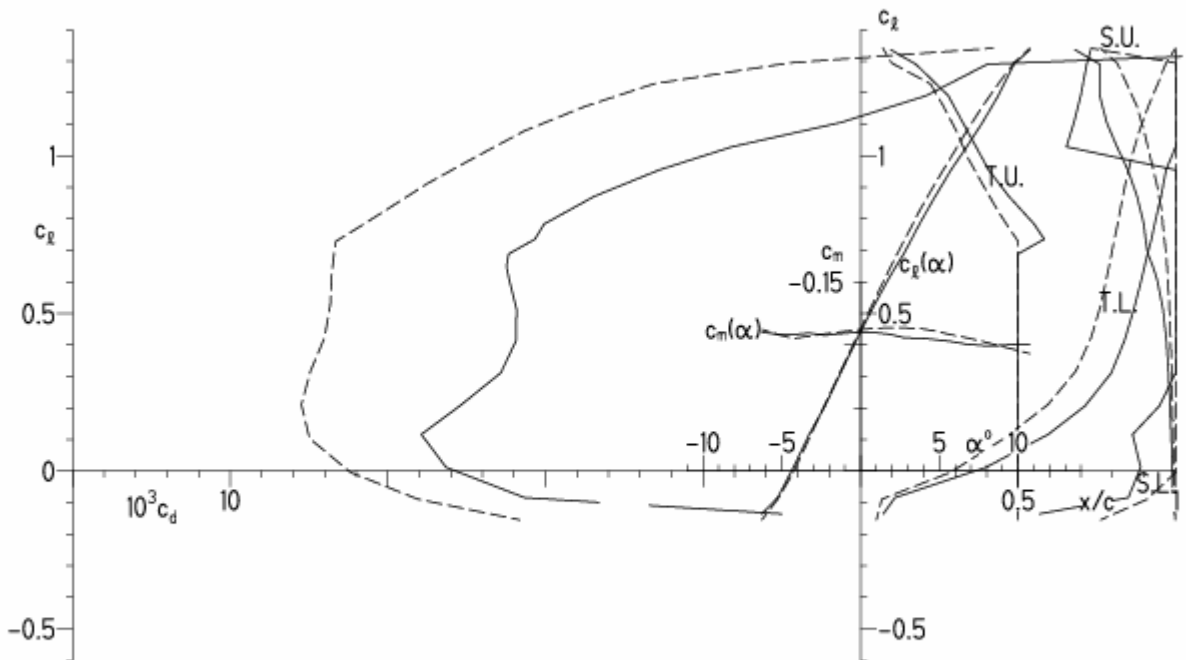
EPPLER 2005 V. 8.5.07 RUN 5.12.10 12:01



EPPLER 200

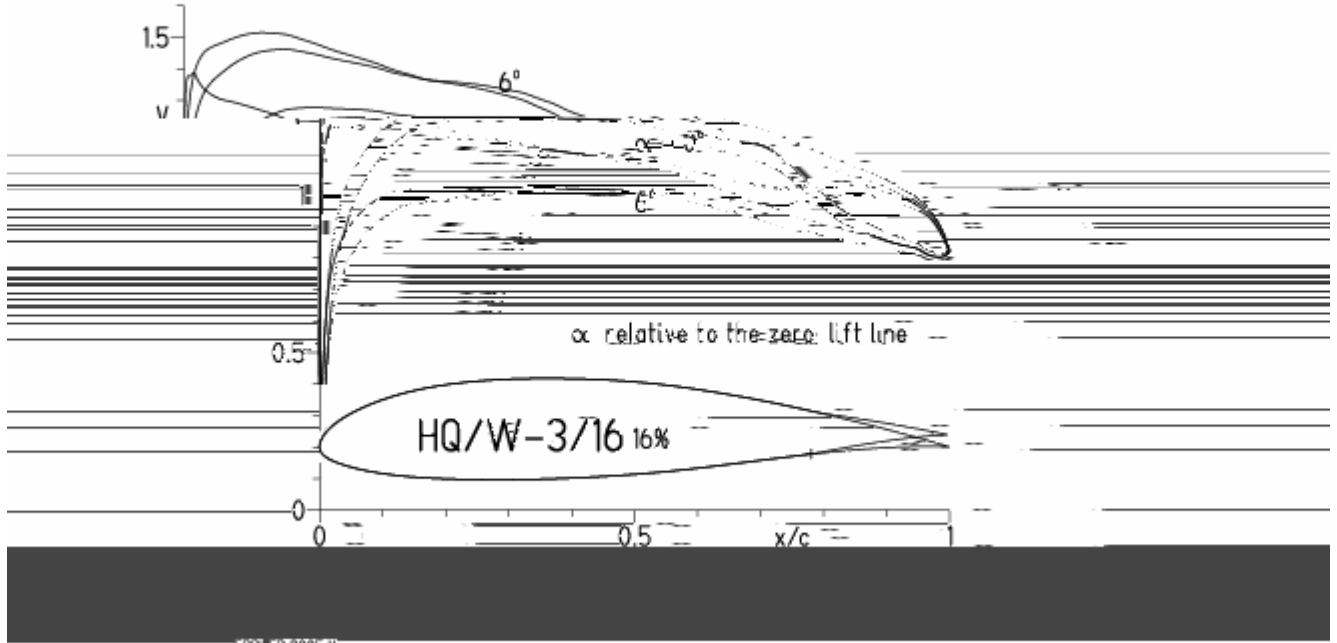
HQ/W-3/16 16%

— $Re = 0.1 \times 10^6$, 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 5.12.10 12:21



EPPLER 2005 V

