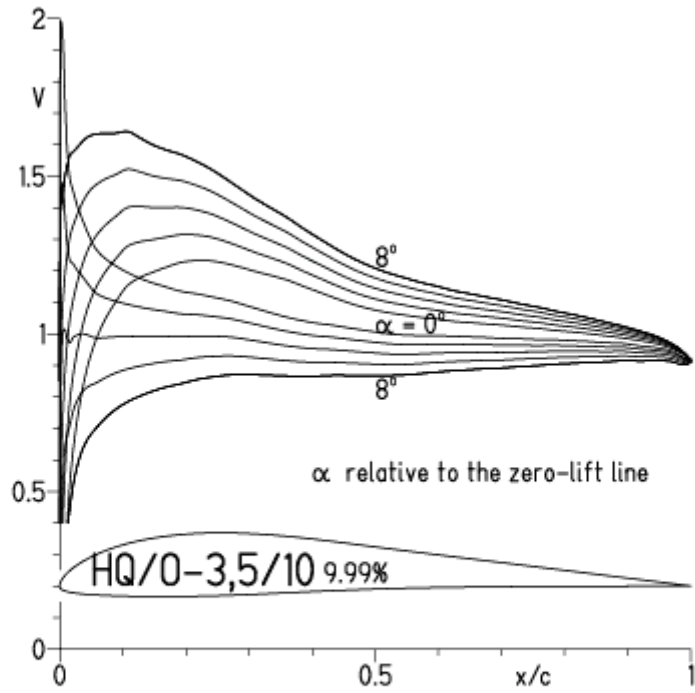


HQ/OLDY-3,5/10, N=9

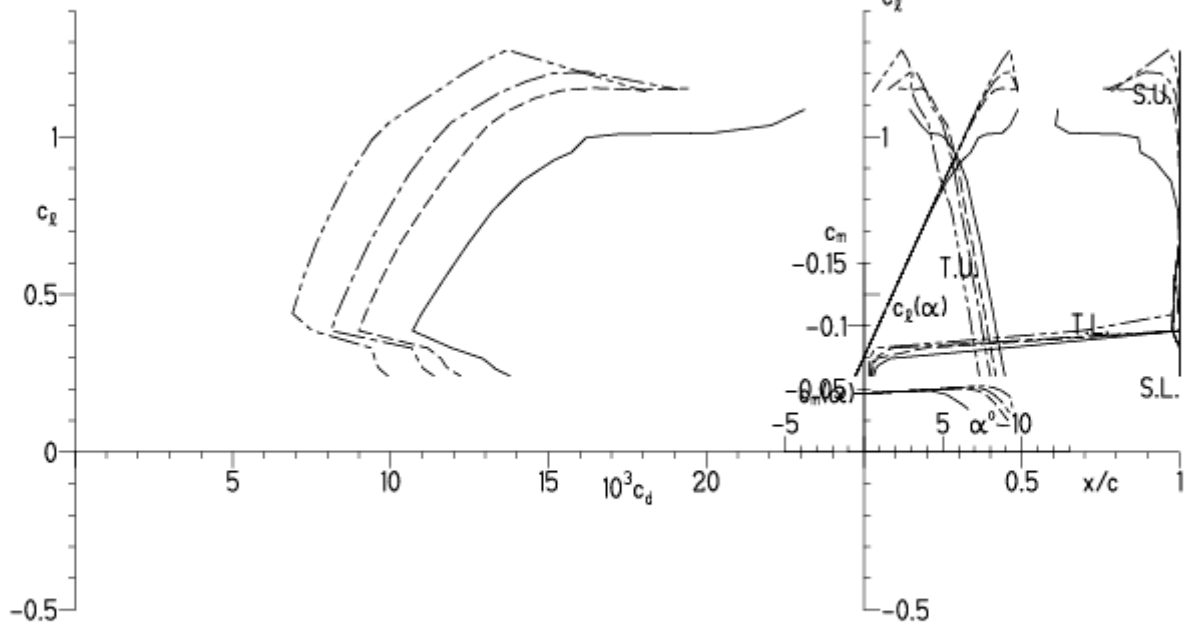
EPPLER 2005 V. 8.5.07 RUN 8.6.12 16:55



EPPLER 2005 V. 8.5.07 RUN 8.6.12 16:55

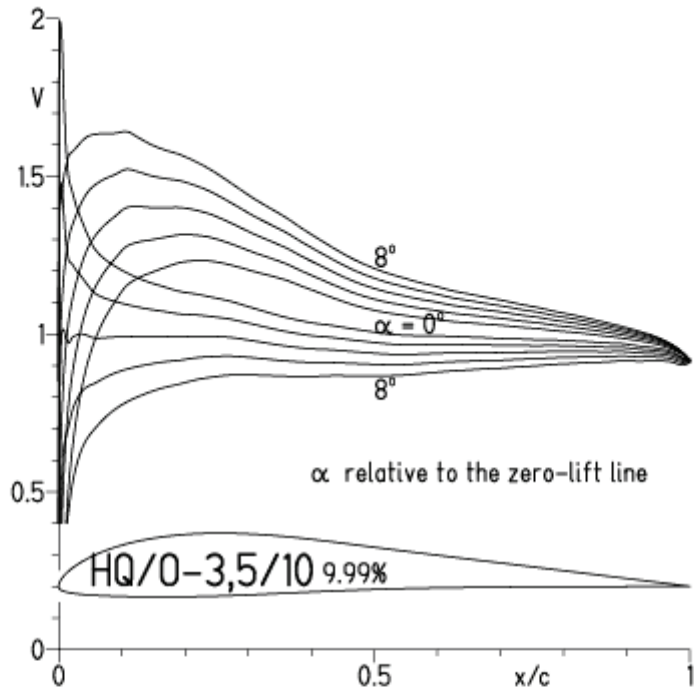
HQ/0-3,5/10 9.99%

- $Re = 0.2 \times 10^6 e^N, N=9$
- - - $0.3 \times 10^6 e^N, N=9$
- · - $0.4 \times 10^6 e^N, N=9$
- - - $0.8 \times 10^6 e^N, N=9$



HQ/OLDY-3,5/10, N=9, Turbulatoreffekt bei niedrigen Re-Zahlen
 (optimale Turbulatorposition bei 15 – 20 % der Profiltiefe)

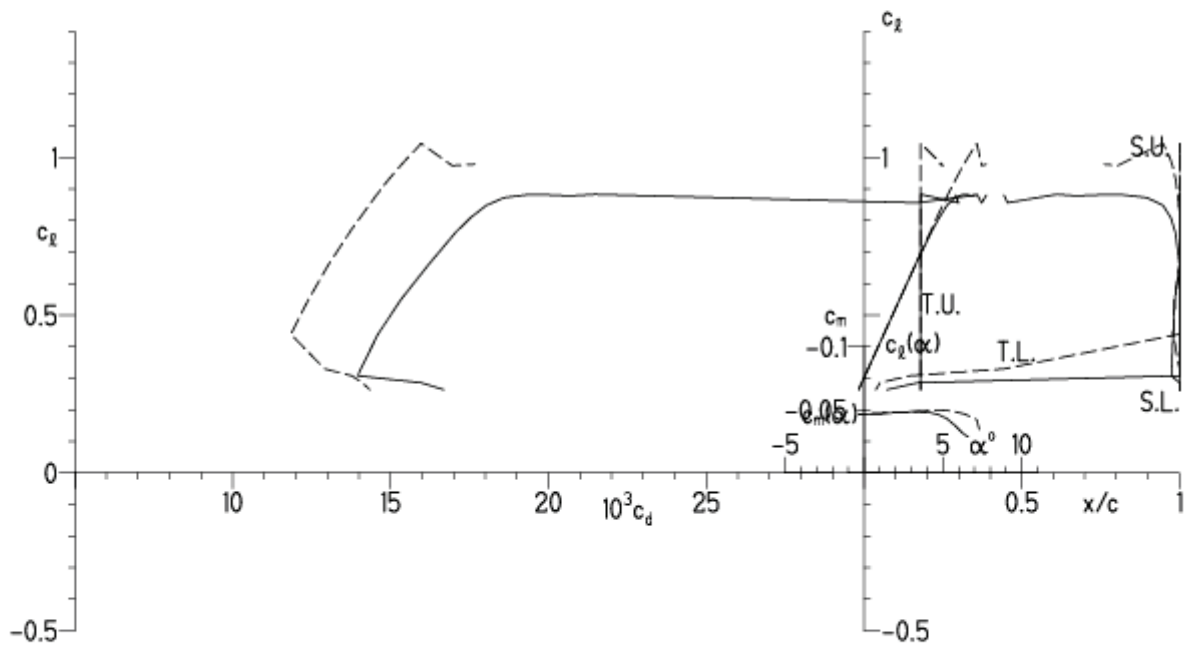
EPPLER 2005 V. 8.5.07 RUN 31.5.12 16:59



EPPLER 2005 V. 8.5.07 RUN 31.5.12 16:59

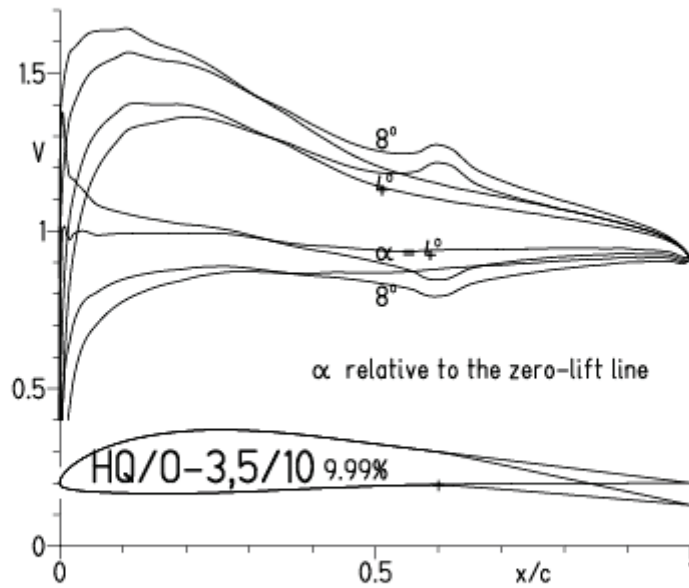
HQ/0-3,5/10 9.99%

- $Re = 0.1 \times 10^6$, Turb. upper 18% e^N , $N=9$
- - - 0.2×10^6 , Turb. upper 18% e^N , $N=9$

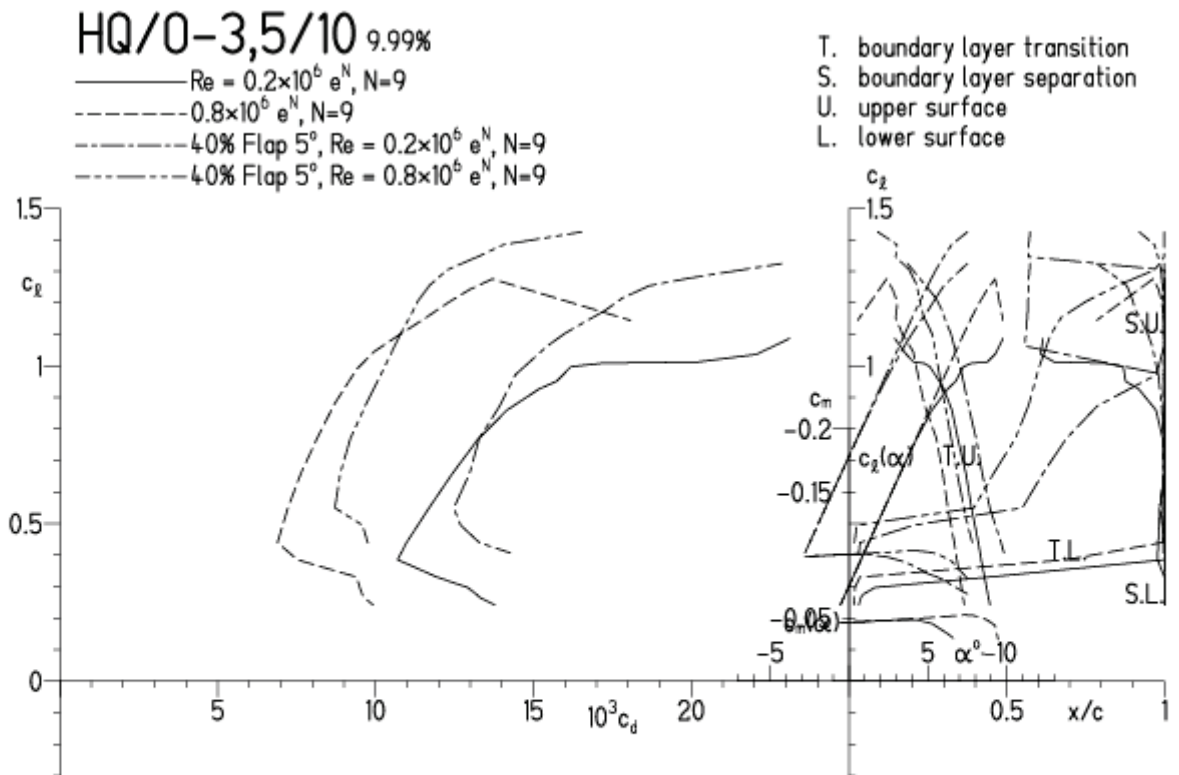


HQ/OLDY-3,5/10, N=9, mit 5° Wölbklappenausschlag, Wölbklappentiefe 40 % von l

EPPLER 2005 V. 8.5.07 RUN 31.5.12 17:13

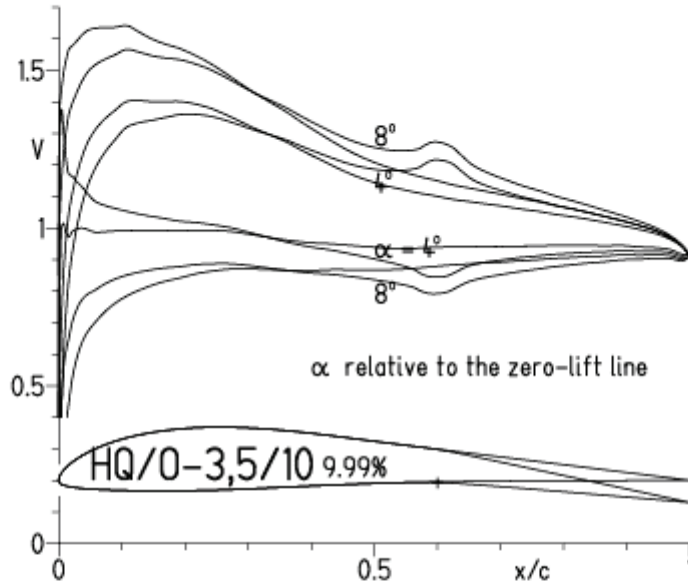


EPPLER 2005 V. 8.5.07 RUN 31.5.12 17:13



HQ/OLDY-3,5/10, N=9, mit 5° Wölbklappenausschlag, $l_k = 0,4 \cdot l$, Turbulatoreffekt (optimale Turbulatorposition bei 15 – 20 % der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 31.5.12 17:17

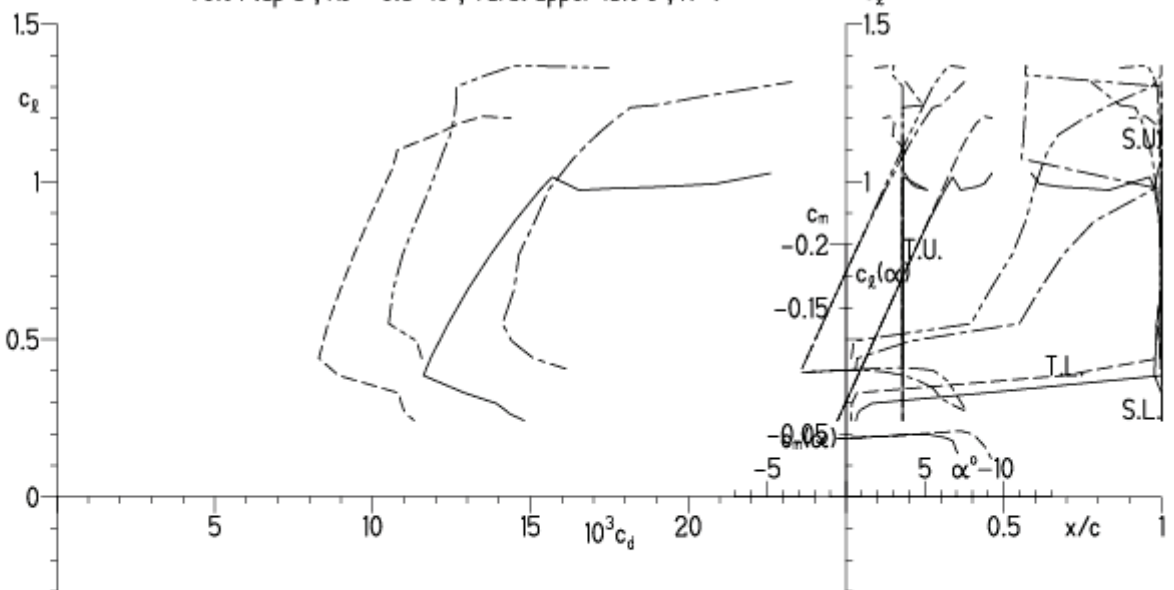


EPPLER 2005 V. 8.5.07 RUN 31.5.12 17:17

HQ/O-3,5/10 9.99%

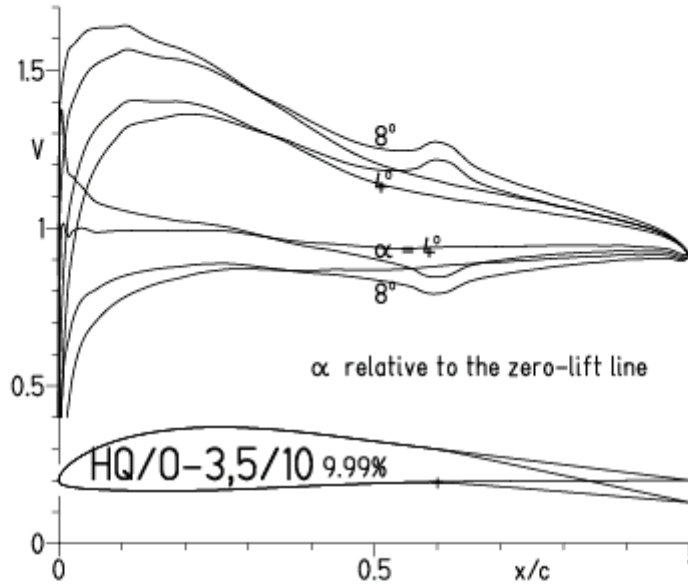
- $Re = 0.2 \times 10^6$, Turb. upper 18% e^N , N=9
- - - 0.8×10^6 , Turb. upper 18% e^N , N=9
- · - · 40% Flap 5°, $Re = 0.2 \times 10^6$, Turb. upper 18% e^N , N=9
- · - · 40% Flap 5°, $Re = 0.8 \times 10^6$, Turb. upper 18% e^N , N=9

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



HQ/OLDY-3,5/10, N=7, mit 5° Wölbklappenausschlag, niedrige Re-Zahlen, $l_k = 0,4 \cdot l$, Turbulatoreffekt (optimale Turbulatorposition bei 15 – 20 % der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 31.5.12 17:44

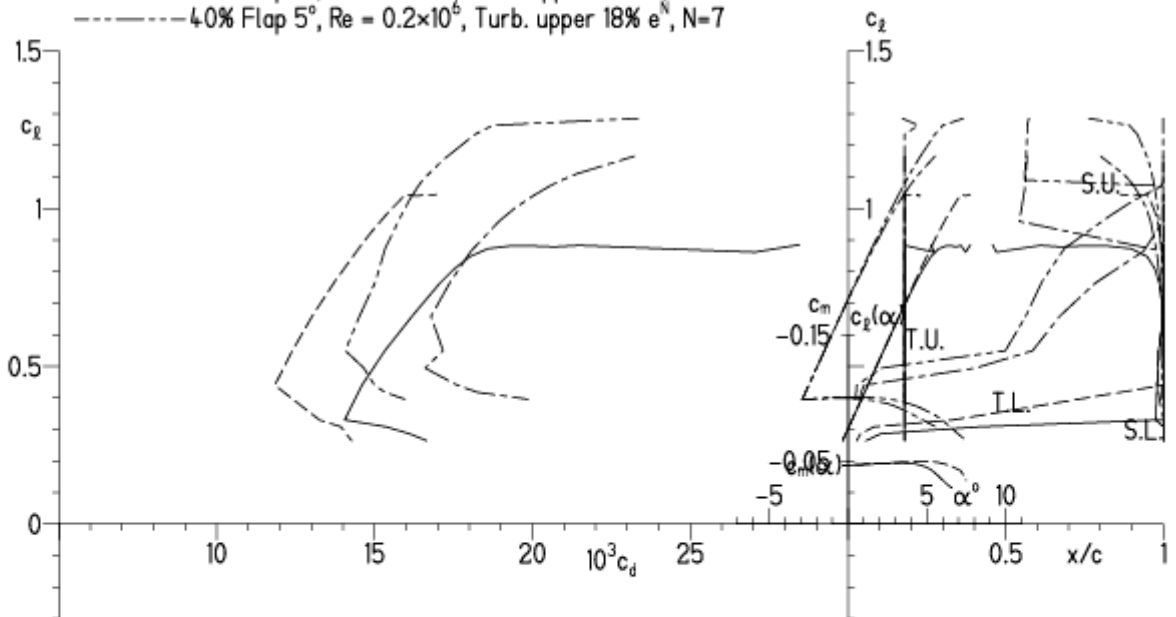


EPPLER 2005 V. 8.5.07

HQ/0-3,5/10 9.99%

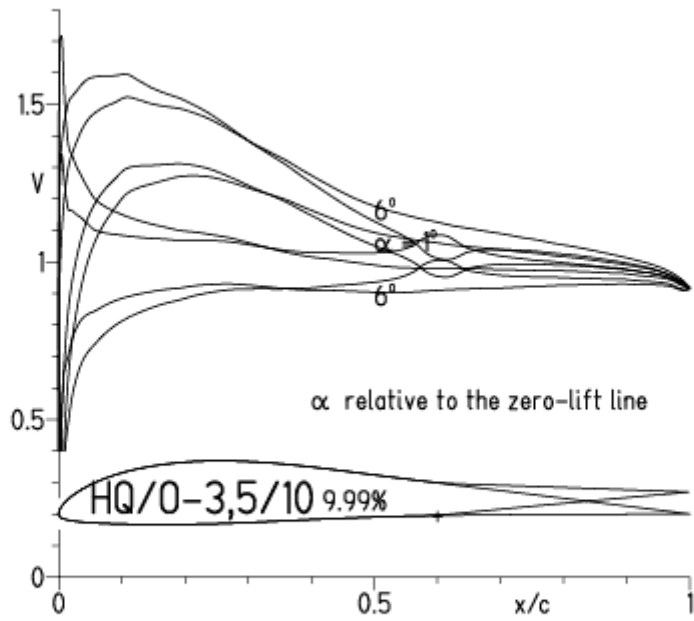
- $Re = 0.1 \times 10^6$, Turb. upper 18% e^N , N=7
- - - 0.2×10^6 , Turb. upper 18% e^N , N=7
- · - · 40% Flap 5°, $Re = 0.1 \times 10^6$, Turb. upper 18% e^N , N=7
- · - · 40% Flap 5°, $Re = 0.2 \times 10^6$, Turb. upper 18% e^N , N=7

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

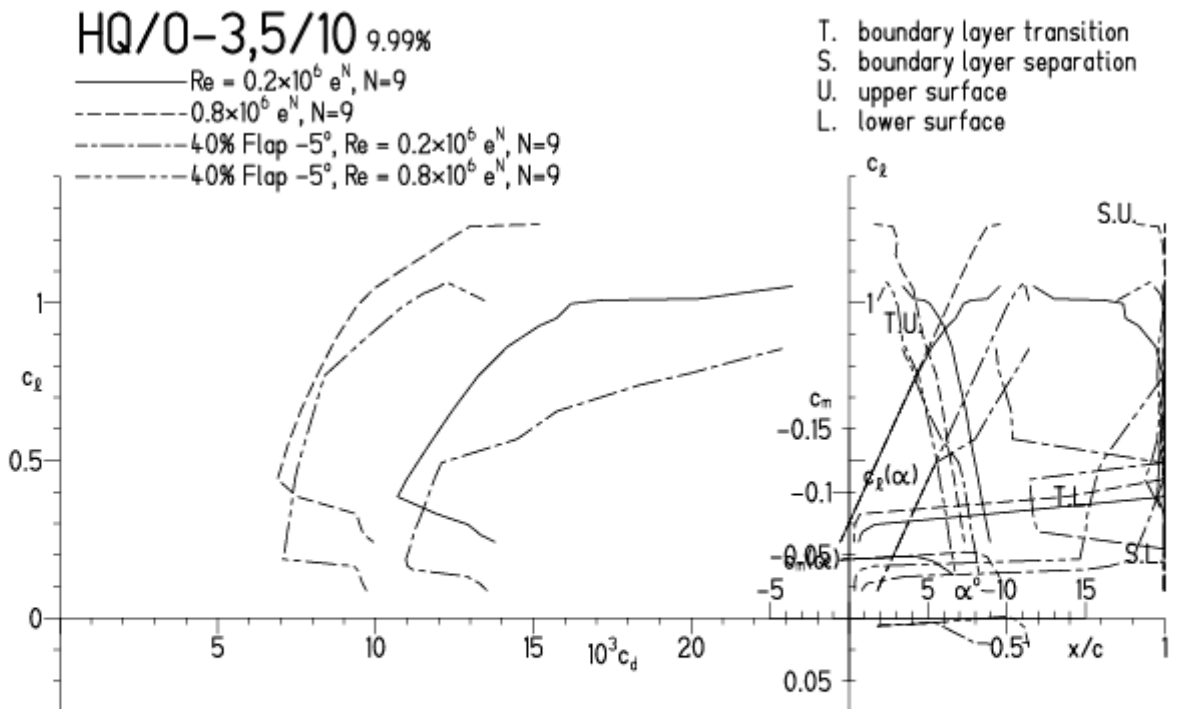


HQ/OLDY-3,5/10, N=9, mit -5° Wölbklappenausschlag, Wölbklappentiefe 40 % von l

EPPLER 2005 V. 8.5.07 RUN 31.5.12 18:01

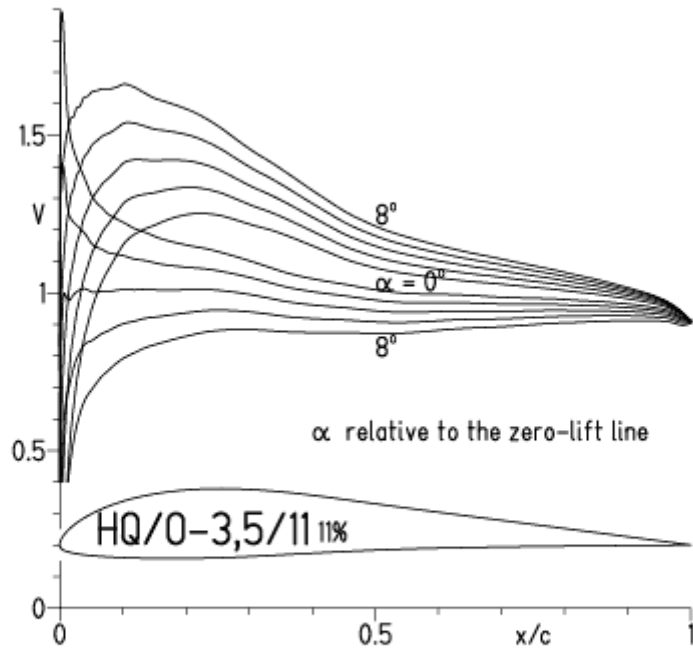


EPPLER 2005 V. 8.5.07 \



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

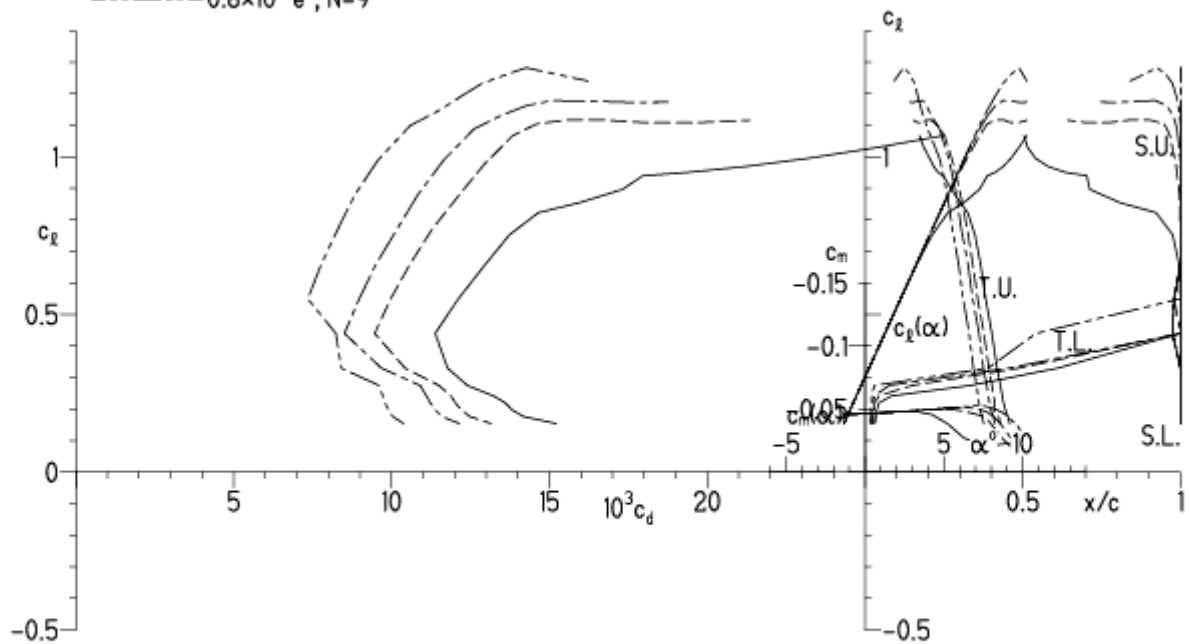
EPPLER 2005 V. 8.5.07 RUN 8.6.12 17:02



EPPLER 2005 V. 8.5.07 RUN 8.6.12 17:02

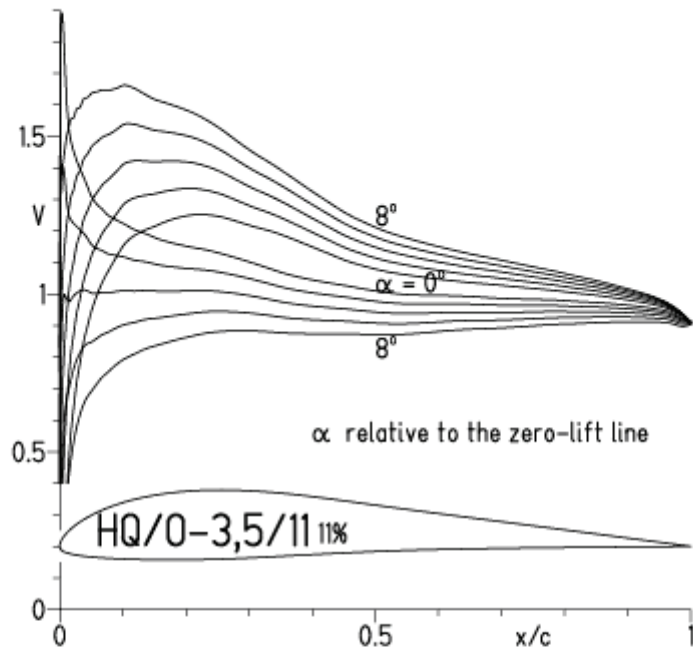
HQ/0-3,5/11 11%

- $Re = 0.2 \times 10^6 e^N, N=9$
- - - $0.3 \times 10^6 e^N, N=9$
- · - $0.4 \times 10^6 e^N, N=9$
- · - · $0.8 \times 10^6 e^N, N=9$



HQ/OLDY-3,5/11, N=9, Turbulatoreffekt bei niedrigen Re-Zahlen
(optimale Turbulatorposition bei 15 – 20 % der Profiltiefe)

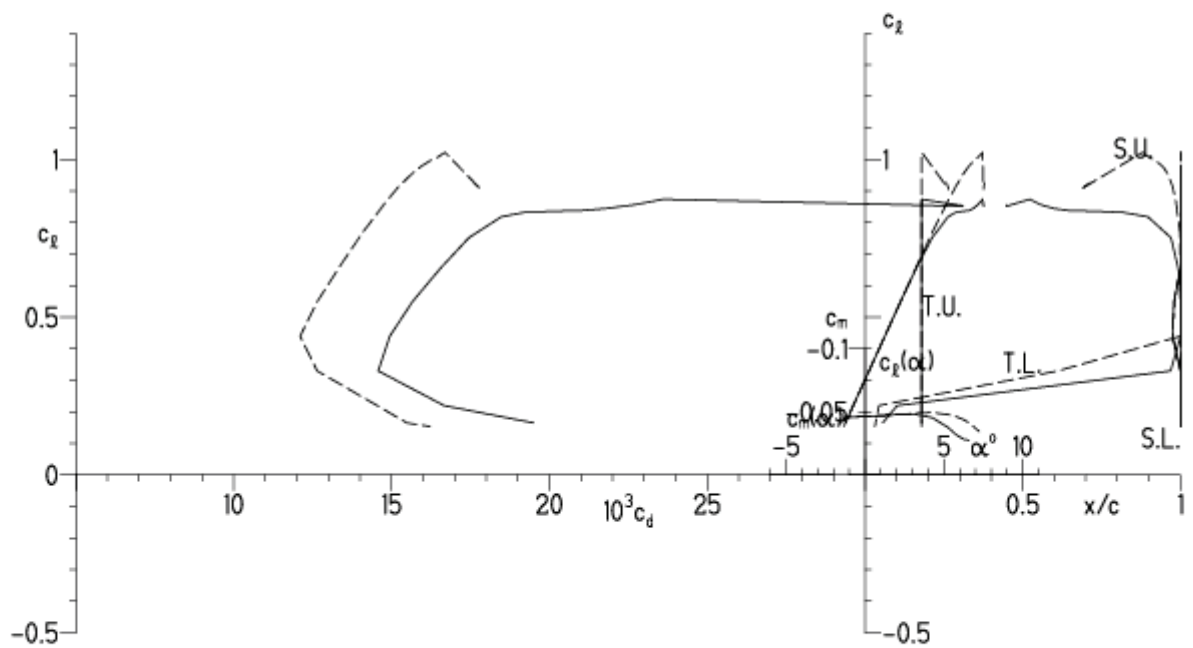
EPPLER 2005 V. 8.5.07 RUN 1.6.12 12:41



EPPLER 2005 V. 8.5.07 RUN 1.6.12 12:41

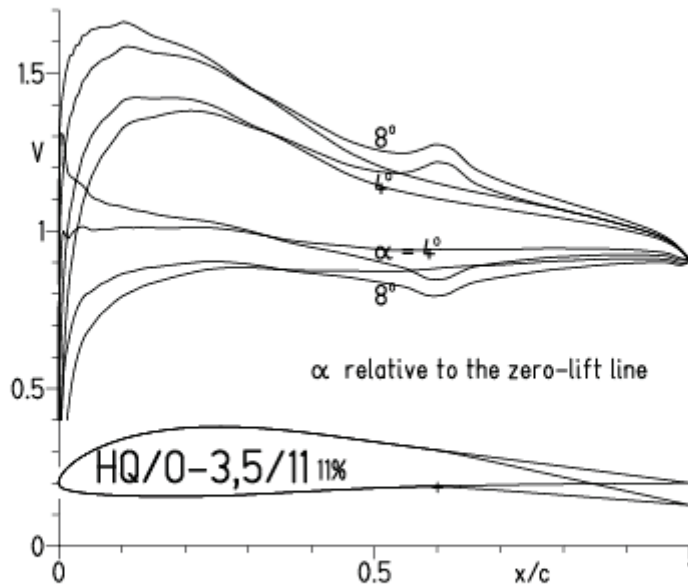
HQ/0-3,5/11 11%

- $Re = 0.1 \times 10^6$, Turb. upper 18% e^N , N=9
- - - 0.2×10^6 , Turb. upper 18% e^N , N=9

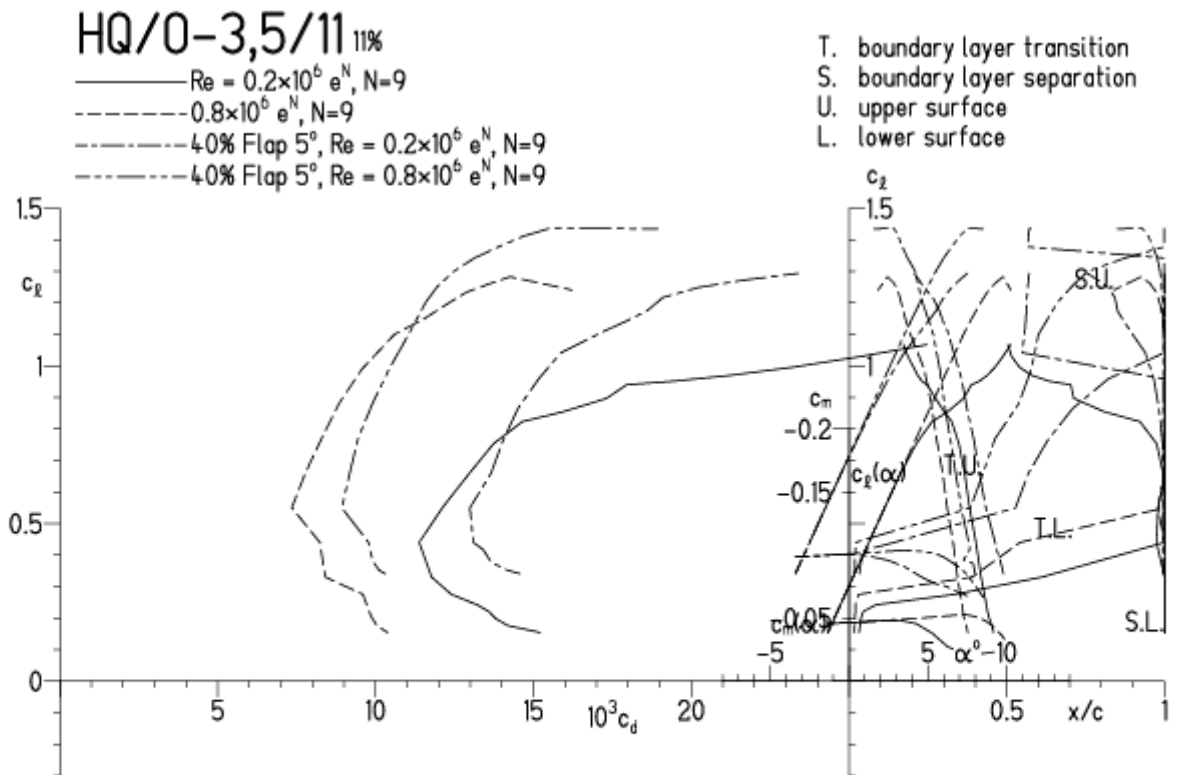


HQ/OLDY-3,5/11, N=9, mit 5° Wölbklappenausschlag, Wölbklappentiefe 40 % von l

EPPLER 2005 v. 8.5.07 RUN 1.6.12 12:54



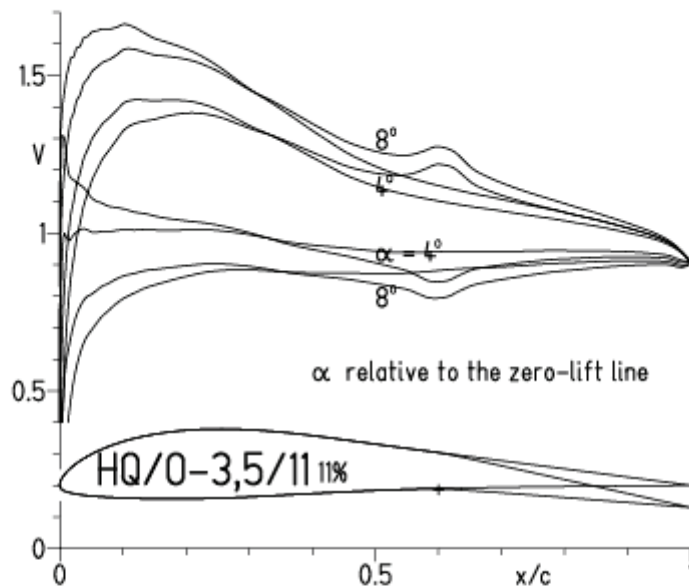
EPPLER 2005 v. 8.5.07 RUN 1.6.12 12:54



HQ/OLDY-3,5/11, N=9, mit 5° Wölbklappenausschlag, $l_k = 0,4 \cdot l$, Turbulatoreffekt

(optimale Turbulatorposition bei 15 – 20 % der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 1.6.12 13:01

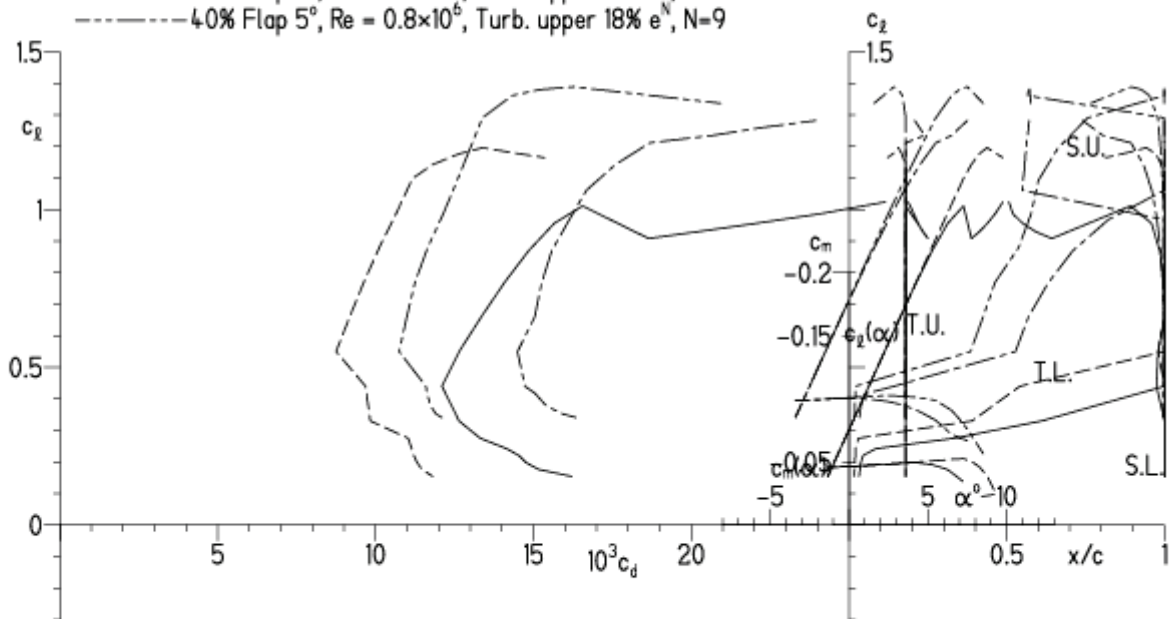


EPPLER 2005 V. 8.5.07 RUN 1.6.12 13:01

HQ/0-3,5/11 11%

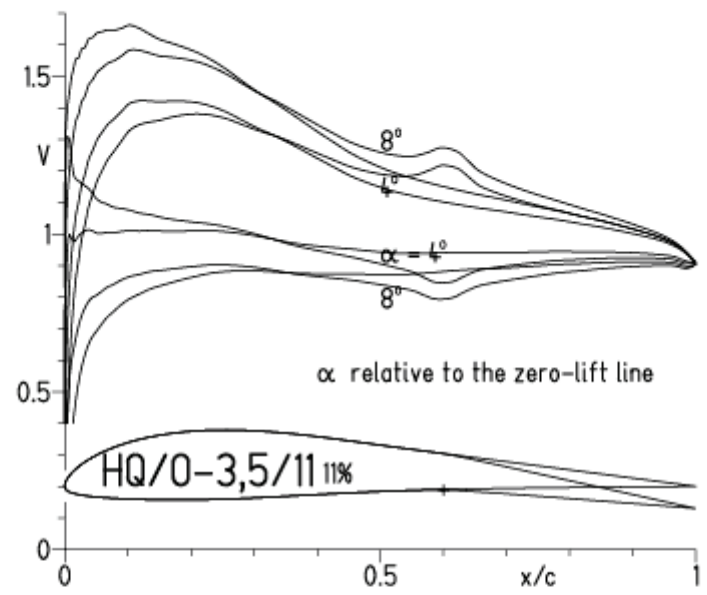
- $Re = 0.2 \times 10^6$, Turb. upper 18% e^N , $N=9$
- - - 0.8×10^6 , Turb. upper 18% e^N , $N=9$
- · - · 40% Flap 5° , $Re = 0.2 \times 10^6$, Turb. upper 18% e^N , $N=9$
- · - · 40% Flap 5° , $Re = 0.8 \times 10^6$, Turb. upper 18% e^N , $N=9$

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



HQ/OLDY-3,5/11, N=7, mit 5° Wölbklappenausschlag, niedrige Re-Zahlen, $l_k = 0,4 \cdot l$, Turbulatoreffekt (optimale Turbulatorposition bei 15 – 20 % der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 1.6.12 13:20

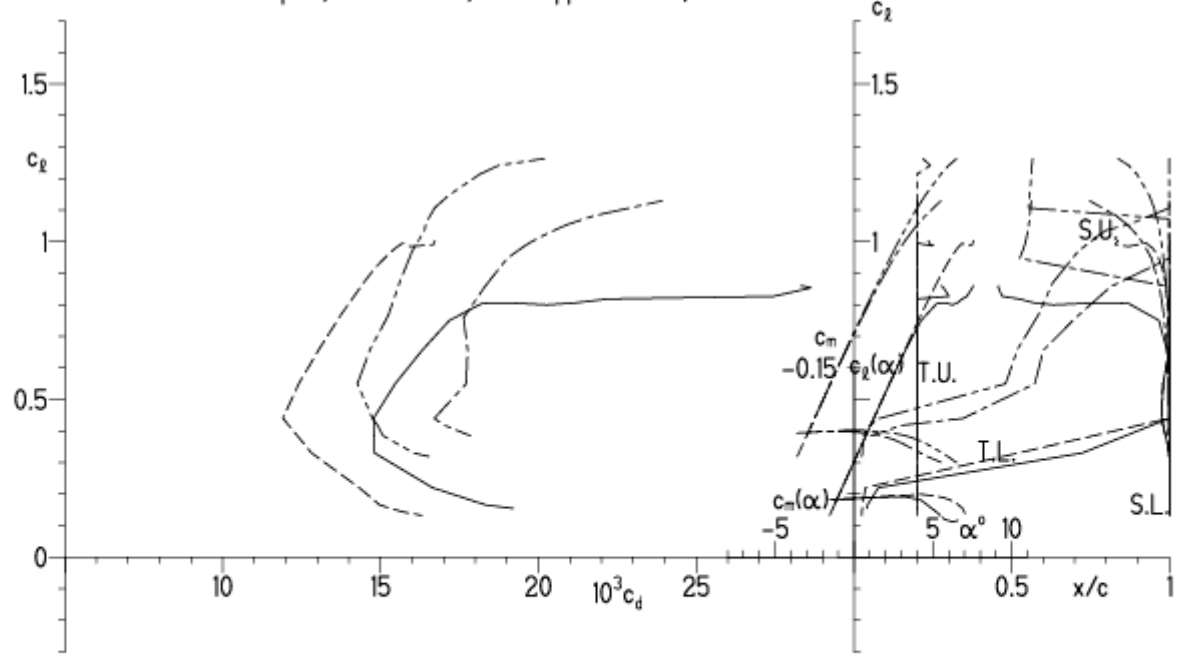


EPPLER 2005 V. 8.5.07 RUN 1.6.12 13:18

HQ/0-3,5/11 11%

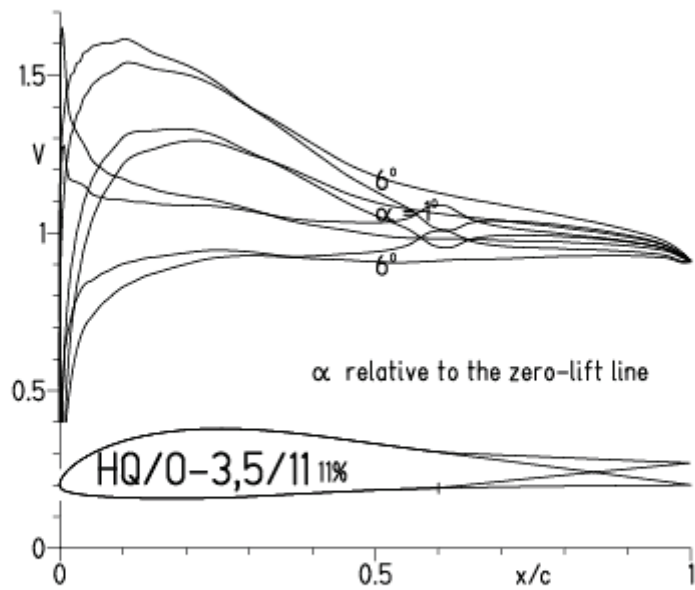
- $Re = 0.1 \times 10^6$, Turb. upper 20% e^N , N=7
- - - 0.2×10^6 , Turb. upper 20% e^N , N=7
- · - · 40% Flap 5°, $Re = 0.1 \times 10^6$, Turb. upper 20% e^N , N=7
- · - · 40% Flap 5°, $Re = 0.2 \times 10^6$, Turb. upper 20% e^N , N=7

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

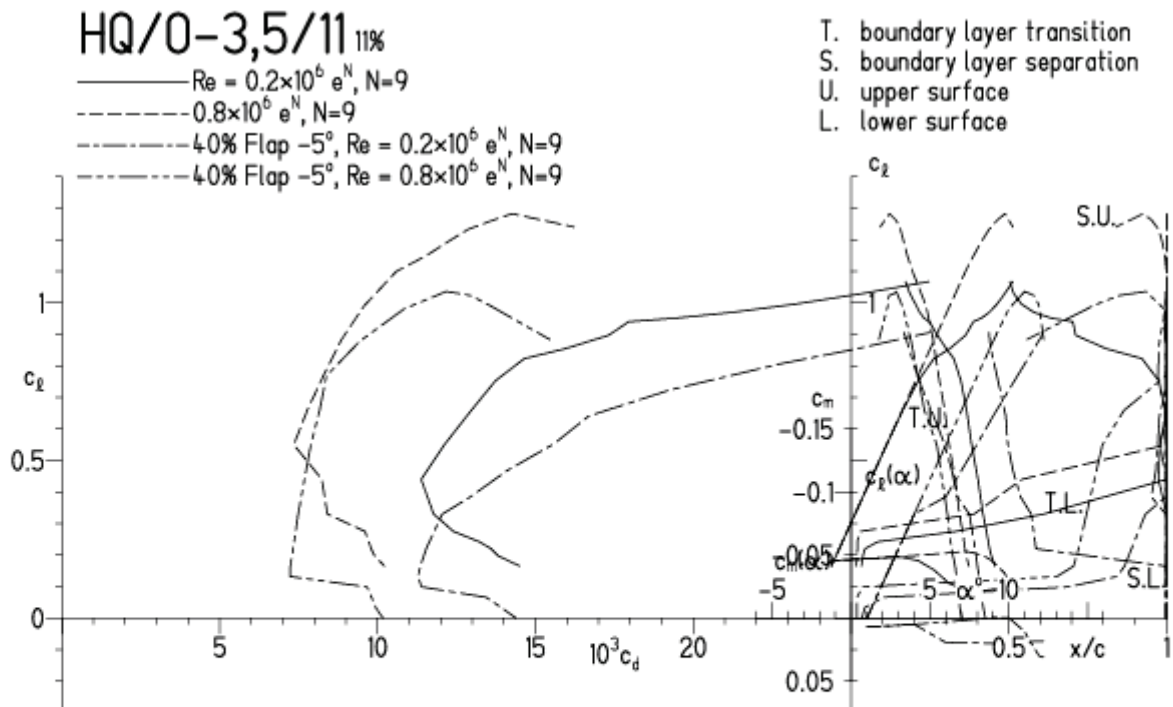


HQ/OLDY-3,5/11, N=9, mit -5° Wölbklappenausschlag, Wölbklappentiefe 40 % von l

EPPLER 2005 V. 8.5.07 RUN 2.6.12 17:18

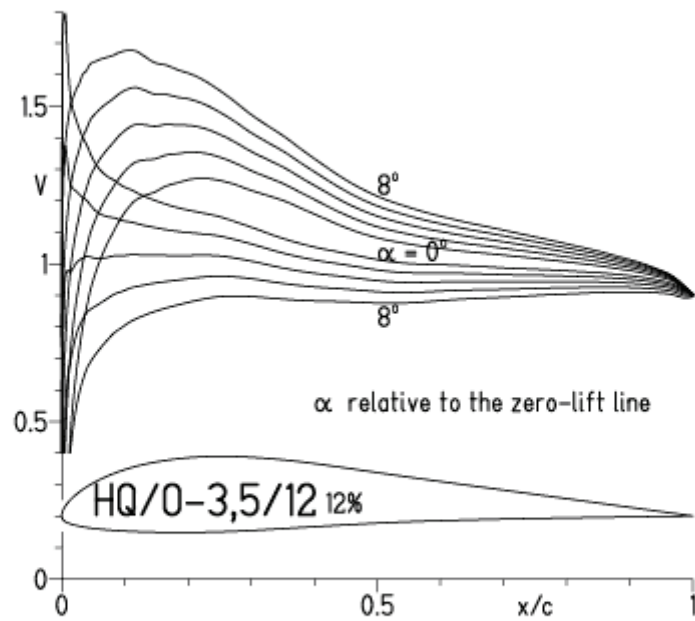


EPPLER 2005 V. 8.5.07 RUN 2.6.12 17:1



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

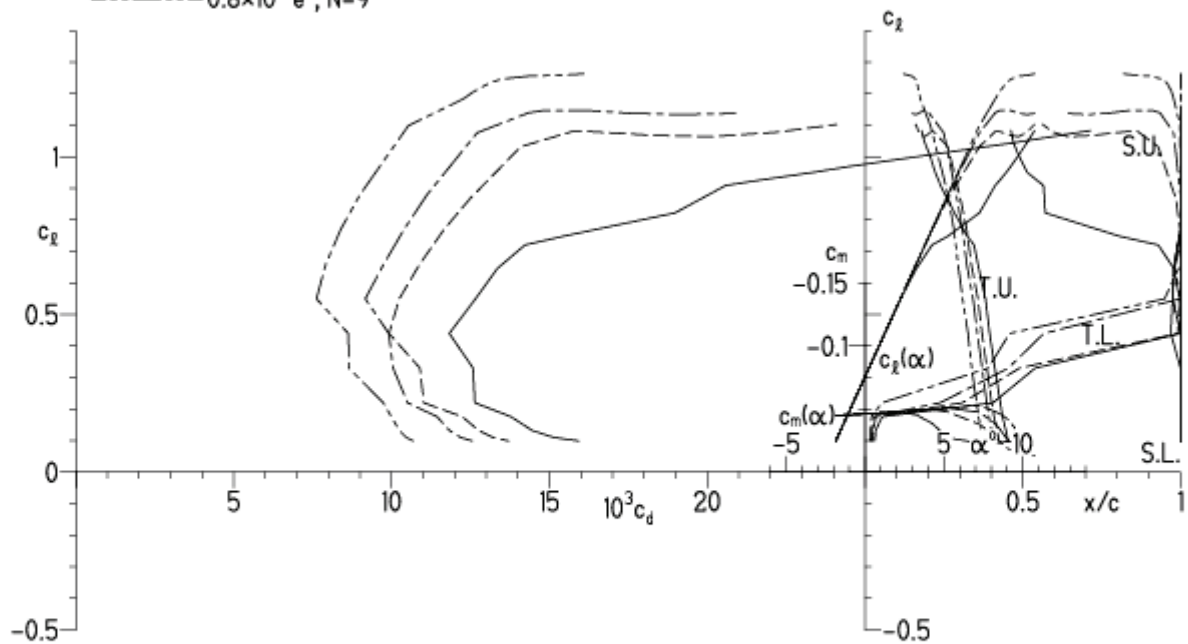
EPPLER 2005 V. 8.5.07 RUN 8.6.12 17:09



EPPLER 2005 V. 8.5.07 RUN 8.6.12 17:09

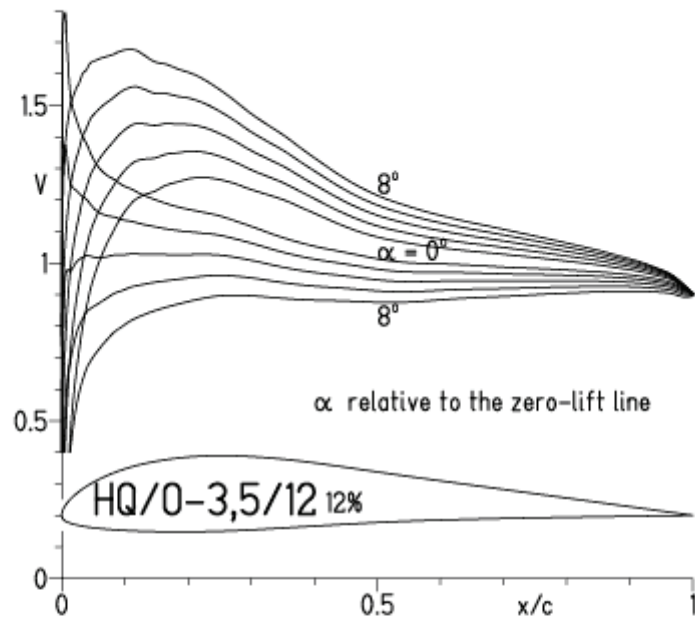
HQ/O-3,5/12 12%

- $Re = 0.2 \times 10^6 e^N, N=9$
- - - $0.3 \times 10^6 e^N, N=9$
- · - $0.4 \times 10^6 e^N, N=9$
- - - $0.8 \times 10^6 e^N, N=9$



HQ/OLDY-3,5/12, N=9, Turbulatoreffekt bei niedrigen Re-Zahlen
(optimale Turbulatorposition bei 15 – 20 % der Profiltiefe)

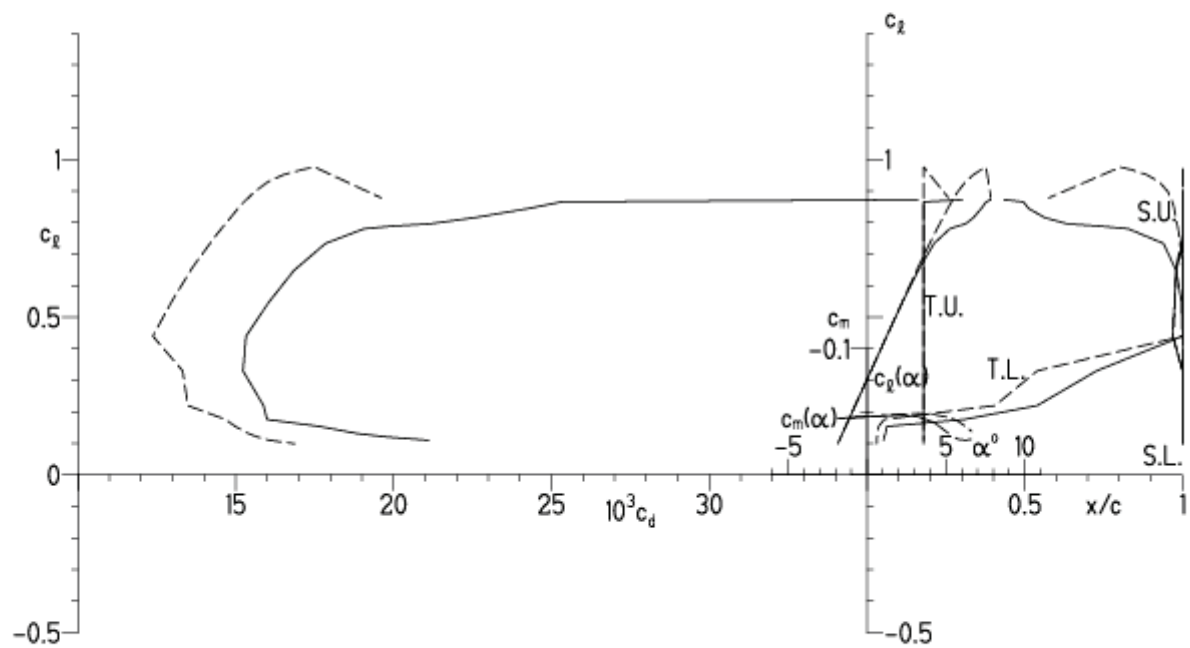
EPPLER 2005 V. 8.5.07 RUN 2.6.12 18:07



EPPLER 2005 V. 8.5.07 RUN 2.6.12 18:07

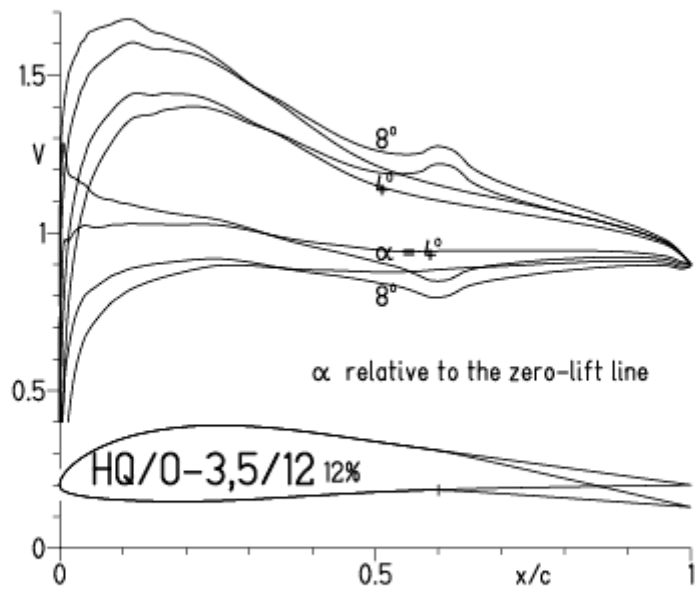
HQ/0-3,5/12 12%

— $Re = 0.1 \times 10^6$, Turb. upper 18% e^N , N=9
- - - 0.2×10^6 , Turb. upper 18% e^N , N=9

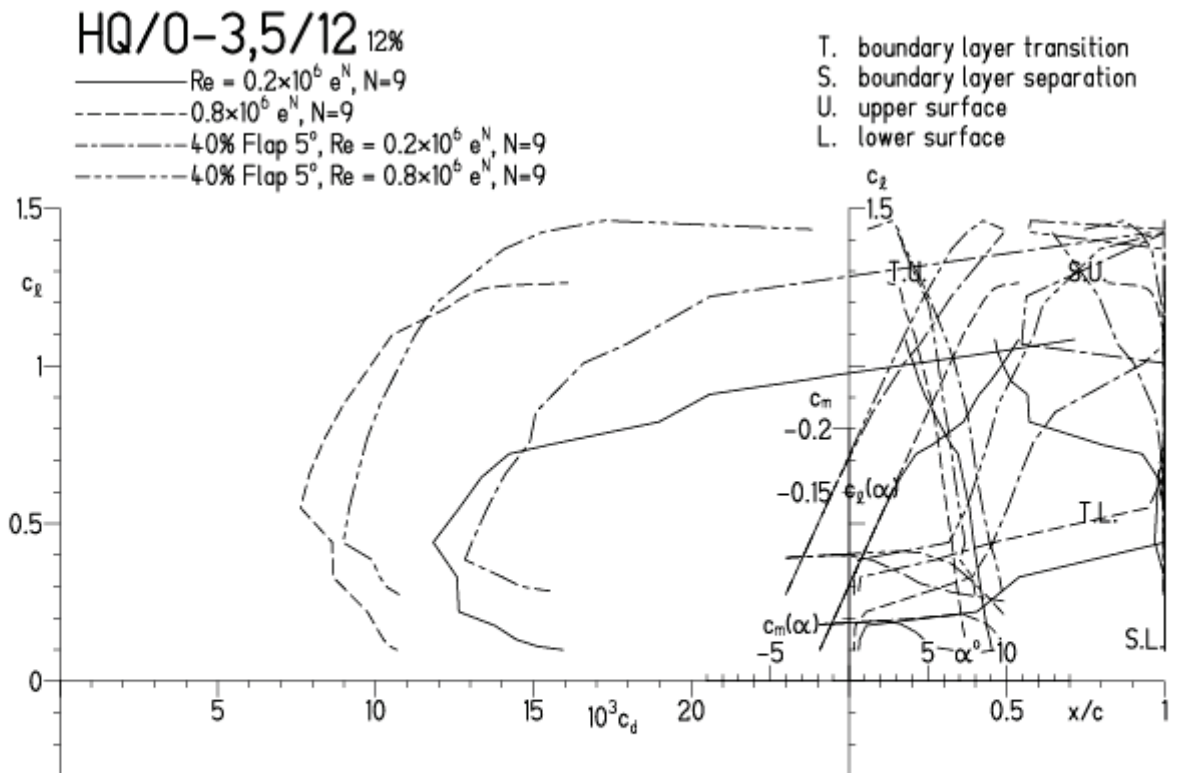


HQ/OLDY-3,5/12, N=9, mit 5° Wölbklappenausschlag, Wölbklappentiefe 40 % von l

EPPLER 2005 V. 8.5.07 RUN 2.6.12 18:36

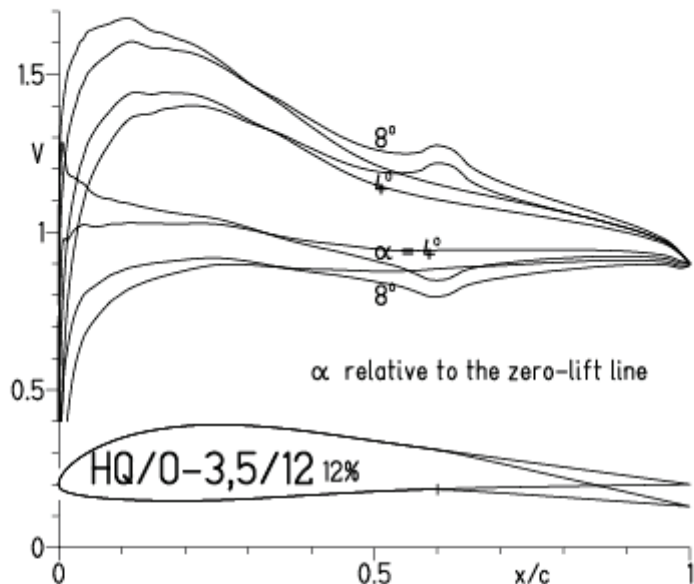


EPPLER 2005 V. 8.5.07 RUN 2.6.12 18:36

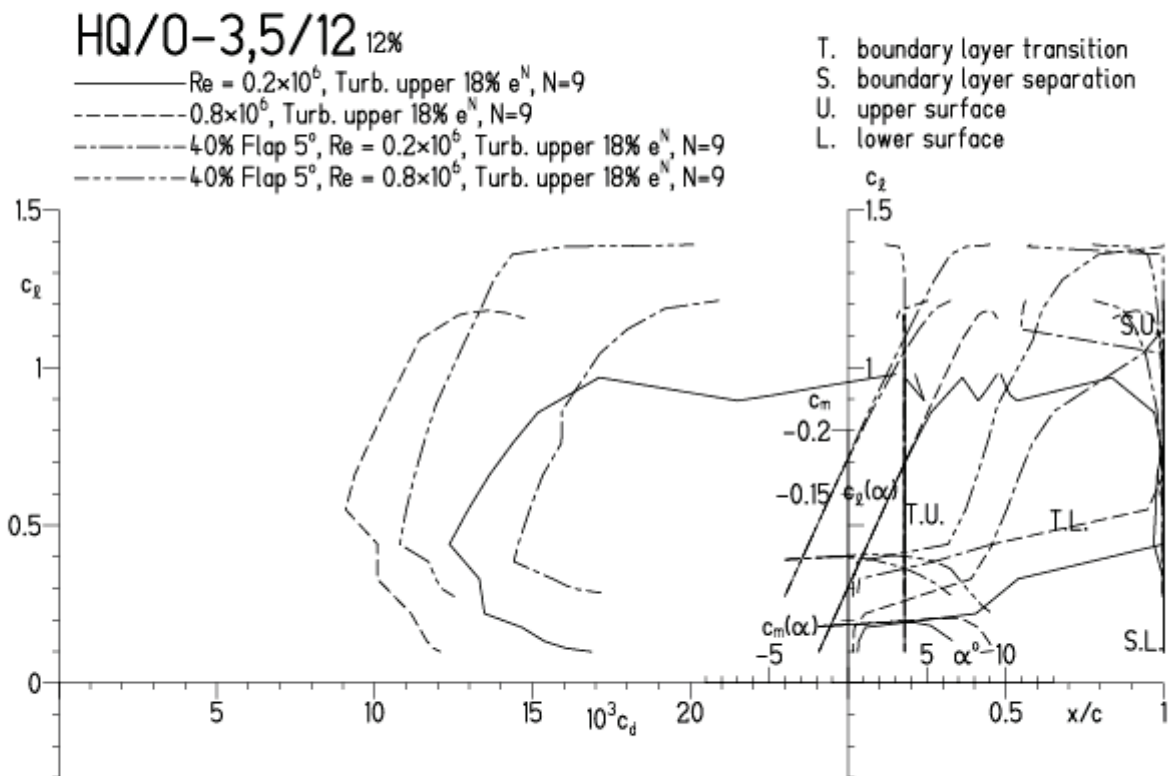


HQ/OLDY-3,5/12, N=9, mit 5° Wölbklappenausschlag, $l_k = 0,4 \cdot l$, Turbulatoreffekt (optimale Turbulatorposition bei 15 – 20 % der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 2.6.12 18:45

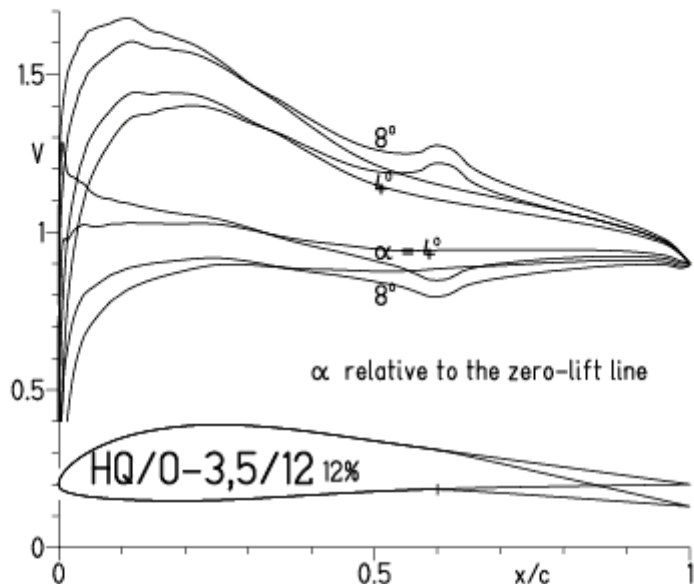


EPPLER 2005 V. 8.5.07 RUN 2.6.12 18:4



HQ/OLDY-3,5/12, N=7, mit 5° Wölbklappenausschlag, niedrige Re-Zahlen, $l_k = 0,4 \cdot l$, Turbulatoreffekt (optimale Turbulatorposition bei 15 – 20 % der Profiltiefe)

EPPLER 2005 V. 8.5.07 RUN 2.6.12 19:00

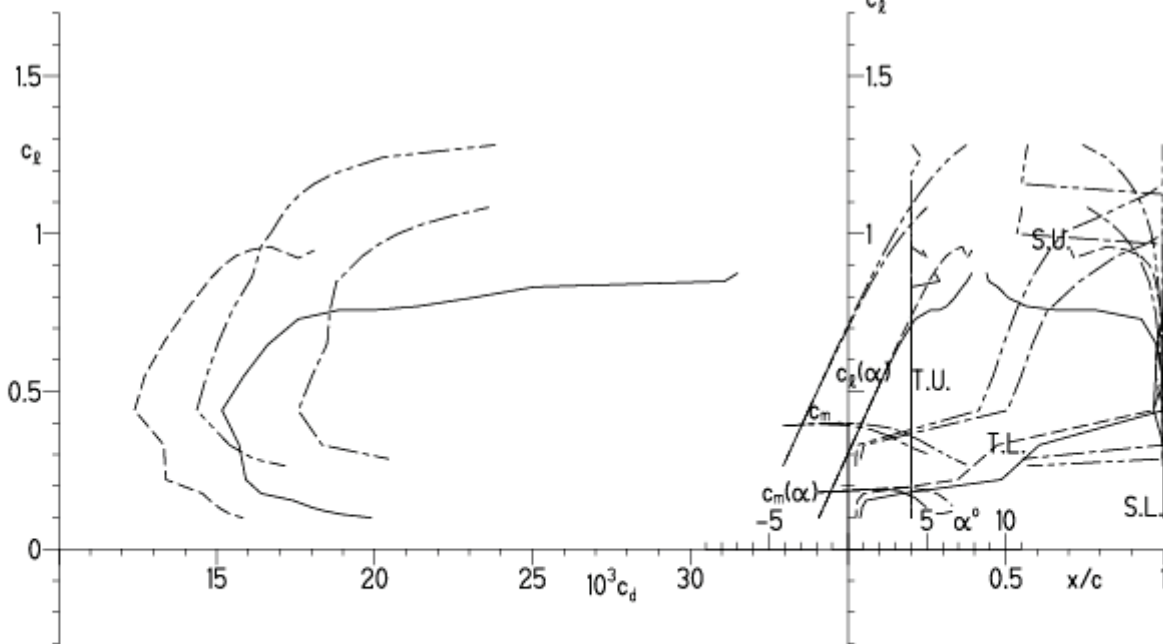


EPPLER 2005 V. 8.5.07 RUN 2.6.12 19:00

HQ/0-3,5/12 12%

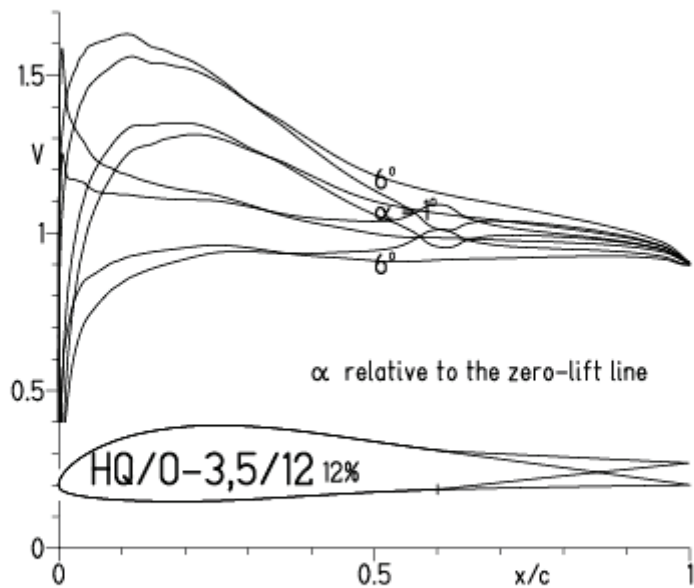
- $Re = 0.1 \times 10^6$, Turb. upper 20% e^N , N=7
- - - 0.2×10^6 , Turb. upper 20% e^N , N=7
- · - · 40% Flap 5°, $Re = 0.1 \times 10^6$, Turb. upper 20% e^N , N=7
- · - · 40% Flap 5°, $Re = 0.2 \times 10^6$, Turb. upper 20% e^N , N=7

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



HQ/OLDY-3,5/12, N=9, mit -5° Wölbklappenausschlag, Wölbklappentiefe 40 % von l

EPPLER 2005 V. 8.5.07 RUN 3.6.12 11:30



EPPLER 2005 V. 8.5.07 RUN 3.6.12 11:30

