$C_{p,0}$: Pressure coefficient without end effects.

ψ_{α} : End-effect factor.

The end-effect factor depends on the angle α, as shown in Fig. 5.2, and is calculated from the following equations:

For $0^0 \leq \alpha \leq \alpha_{min}$: $\quad \psi_{\alpha} = 1$

For $\alpha_{min} \leq \alpha \leq \alpha_A$: $\quad \psi_{\alpha} = \psi_A + (1 - \psi_A) \cdot \cos\left[\frac{\pi}{2} \cdot \left(\frac{\alpha - \alpha_{min}}{\alpha_A - \alpha_{min}}\right)\right]$ $\qquad$ (5.9)

For $\alpha_A \leq \alpha \leq 180^0$: $\quad \psi_{\alpha} = \psi_A$

where α_{min} and α_A denote the locations of the minimum pressure and the flow separation, repectively. They are given in Table 5.1.
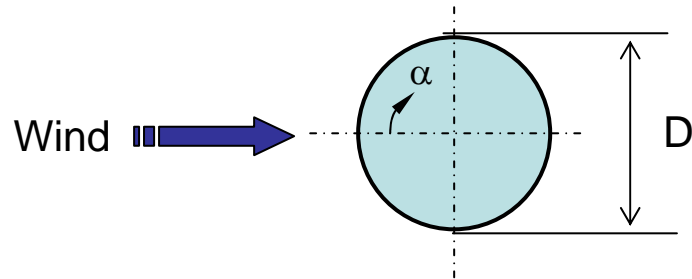

Figure 5.2. Circular cross section subjected to wind.

Table 5.1. Parameters of pressure distribution around circular cylinders.

α_{min}	$C_{p0,min}$	α_A	$C_{p0,A}$
75	-1.5	105	-0.8