Summary of
Cup Anemometer Classification
According to IEC 61400-121 CDV requirements

Make and Type: RISØ P2546

Description:

Rotor diameter:	188mm
Cup diameter:	70mm
Height:	285mm
Signal reading:	Permanent magnet with switch, two pulses per revolution
Reference report:	RISØ-R-1364(ed. 2) (EN), Mar 2004 IEC 88/185/CDV

Classification Results:

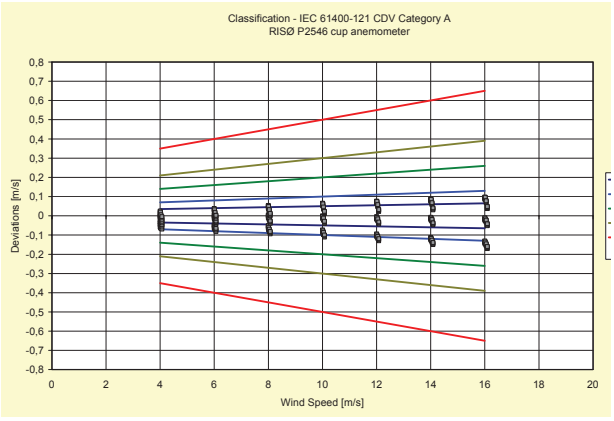
Method: IEC 61400-121 CDV (IEC 88/185/CDV)

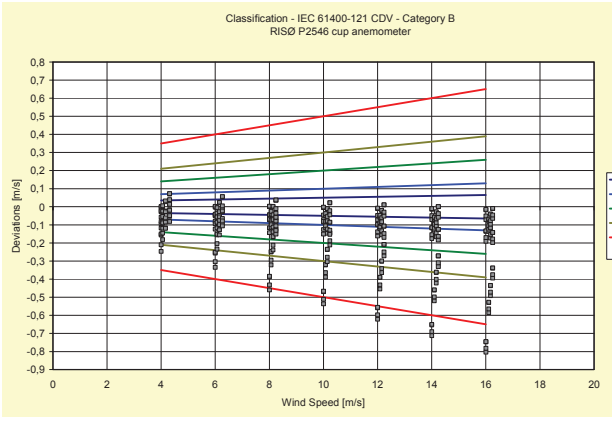
Classification is made according to a horizontal wind speed definition

Category A and B ranges of influential parameters shown in tables below (longitudinal length scale 350m)

	Class A	
	Min	Max
Wind speed range [m/s]	4	16
Turbulence intensity	0,03	0,12+0,48 /V
Turbulence structure $\sigma_u/\sigma_v/\sigma_w$	1/0,8/0,5 (non-isotropic)	
Air temp. [°C]	0	40
Air density [kg/m^3]	0,9	1,35
Average flow inclination [°]	-3	3

	Class B	
	Min	Max
Wind speed range [m/s]	4	16
Turbulence intensity	0,03	0,12+0,96 /V
Turbulence structure $\sigma_u/\sigma_v/\sigma_w$	1/1/1 (isotropic)	
Air temp. [°C]	-10	40
Air density [kg/m^3]	0,9	1,35
Average flow inclination [°]	-15	15





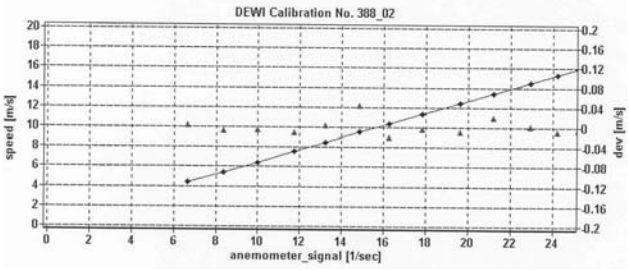
Results:

Category A:	Class 1,31
Category B:	Class 6,18

Basic measurements of characteristics

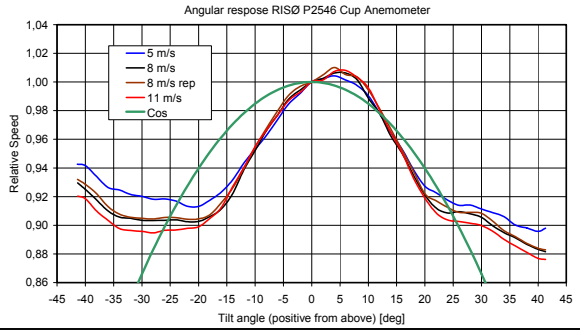
Calibration

Calibration certificate:	DEWI 22/4-2002
Slope:	0.62251 m
Offset	0.241 m/s
Correlation r^2:	0.999991
Uncertainty:	0.08-0.14m/s



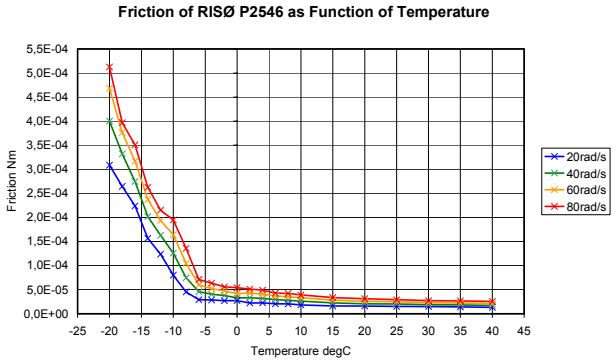
Angular Characteristics

Wind tunnel:	FOI-LT5
Wind speeds:	5, 8, 11m/s



Friction Characteristics

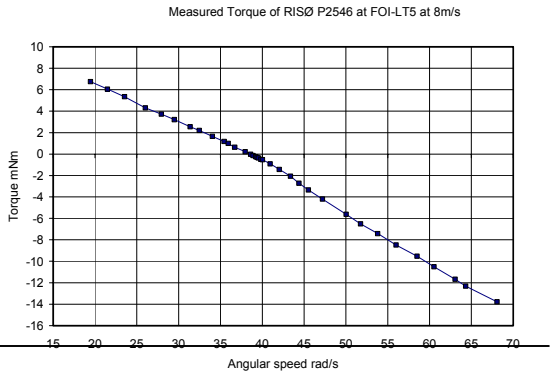
Method:	Flywheel testing in climate chamber
Temperature range:	-15°C to 40°C



Torque Characteristics

Wind tunnel:	FOI-LT5
Wind speed:	8m/s

From this torque measurement the generalized torque coefficient versus speed ratio was derived



Rotor Inertia

Method:	Oscillation test
Inertia:	0,000101 kgm^2