Svendborg Brakes

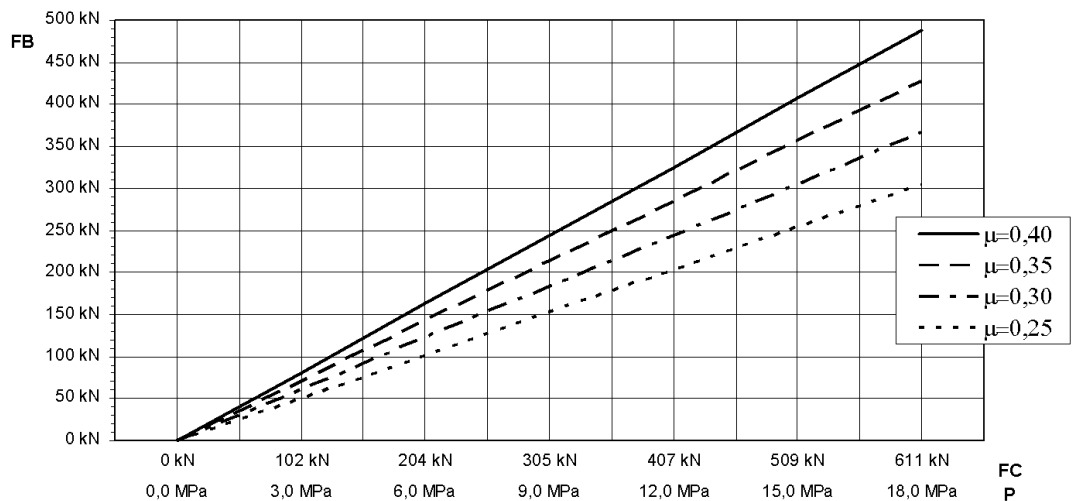# Disc Brake: **BSAB 120 DUAL-action**

Name: DEB-0120-001-DA-MAR
Date: 03.12.2009
Revision: B

TECHNICAL DATA AND CALCULATION FUNDAMENTALS

Legend:
- μ=0,40
- μ=0,35
- μ=0,30
- μ=0,25

Disc Brake: **BSAB 120 DUAL-action**

Specification

BRAKING TORQUE

The braking torque M_B is calculated from following formula where:

a is the number of brakes acting on the disc

F_B is the braking force according to table above [N] or calculated from formula

D_0 is the brake disc outer diameter [m]

F_C is the clamping force [N]

A [cm²], P [bar] and μ see values below

The actual braking torque may vary depending on friction coefficient.

$$M_B = a \cdot F_B \cdot \frac{(D_0 - 0{,}136)}{2} \ [Nm]$$

$$F_B = F_C \cdot 2 \cdot \mu \ [N] \qquad F_C = A \cdot P \cdot 10 \ [N]$$

CALCULATION FUNDAMENTALS

Weight of caliper without braket:	Approx. 210 kg
Overall dimensions:	500 x 310 x 274 mm
Pad width:	138 mm
Pad area: (organic)	50,000 mm2 (*)
Max. wear of pad: (organic)	7 mm (*) ”(=14 mm thick)”
Nominal coefficient of friction:	$\mu = 0.4$
Total piston area - each caliper half:	A=339.3 cm²
Total piston area - each caliper:	678.6 cm²
Volume for each caliper at 1 mm stroke:	67.86 cm³
Volume for each caliper at 3 mm stroke:	203.5 cm³
Actuating time (guide value for calculation):	0.8 sec
Pressure connection/port:	1/4” BSP
Drain connection/port:	1/4” BSP
Max. operating pressure:	16.0 MPa
Recommended pipe size:	10 mm
Operating temperature range - general	from -20°C to +70°C
Operating temperature range - wind turbine	from -40°C to +60°C

(For temperatures outside this range contact Svendborg Brakes)

(*) On each brake pad.