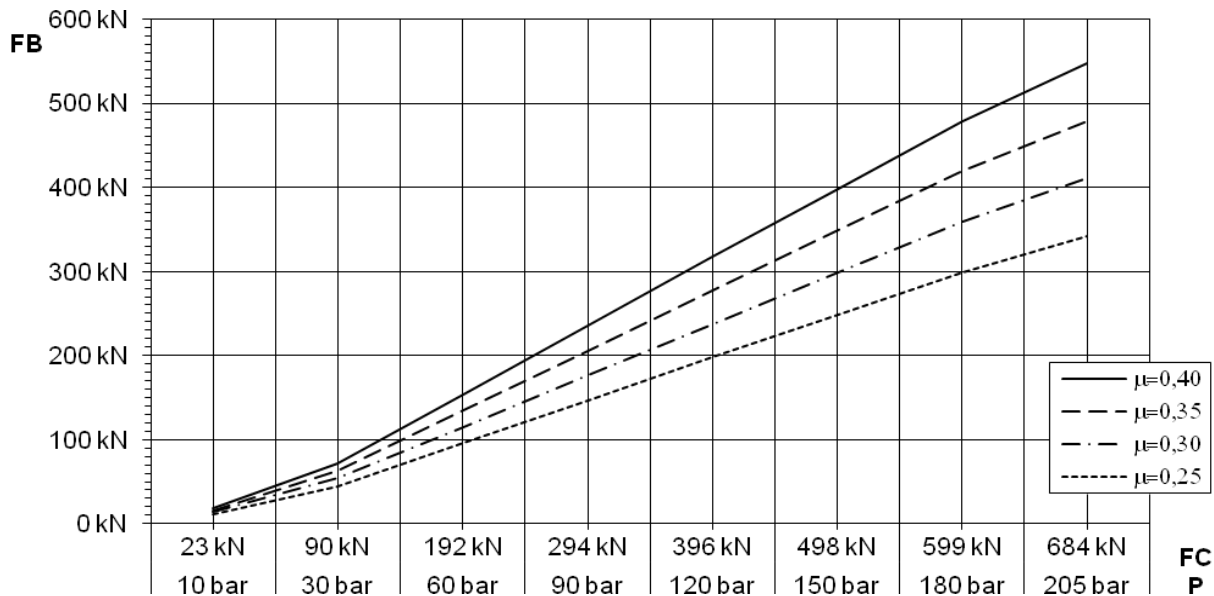


DATA SHEET

Name: DEB-0120-010
 Date: 05.01.2016
 Revision: A

TECHNICAL DATA AND CALCULATION FUNDAMENTALS FOR DISC BRAKE BSAC 120-S-108 FULL SPRING RETRACTION



BRAKING TORQUE

The braking torque M_B is calculated from following formulas:

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

$$F_B = F_C \cdot 2 \cdot \mu \text{ [N]}$$

$$F_C = A \cdot P \cdot 10 \text{ [N]}$$

Where:

- a is the number of callipers acting on the disc
- F_B is the braking force according to table above [N]
- D_o is the 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.

CALCULATION FUNDAMENTALS

- Weight of calliper half (without brake pad): Approx. 93 kg
 - Weight of calliper: Approx. 198 kg
 - Overall dimensions: 572 x 318 x 287 mm
 - Pad width: 138 mm
 - Pad area:(organic) 57,900 mm² (*)
 - Max. wear of pad:(organic) 3 mm (*)
 - Nominal coefficient of friction: $\mu = 0.4$
 - Total piston area - each calliper half: $A=339,3 \text{ cm}^2$
 - Total piston area - each calliper: $A=678,6 \text{ cm}^2$
 - Volume for each calliper at 6 mm stroke: 407,2 cm³
 - Volume for each calliper at 10 mm stroke: 678,6 cm³
 - Pressure connection/port: 1/4" BSP
 - Drain connection port: 1/4" BSP
 - Max. operating pressure P_{max} : 20 MPa
 - Min. operating pressure P_{min} : 0 MPa
 - Recommended pipe size: 10 mm
 - Operating temperature range
 - General usage: -20°C to +70°C
 - For brake applications in wind turbines: -30°C to +60°C
- (For temperatures outside this range contact Svendborg Brakes)
 (*) On each brake pad