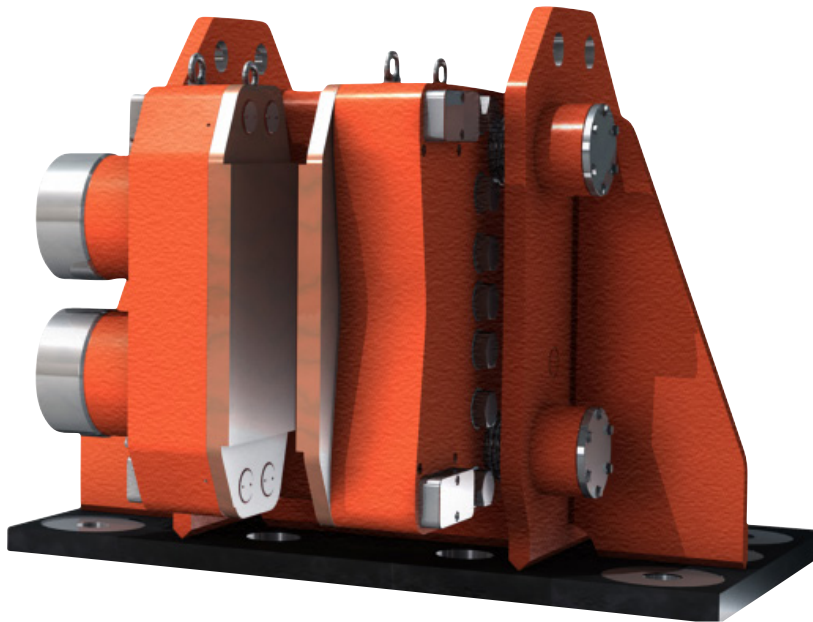


Disc Brake: BSFA 1000 MONOspring

Name: DEB-1000-001-MS-MAR

Date: 17.05.2010

Revision: A



TECHNICAL DATA AND CALCULATION FUNDAMENTALS

| CALIPER TYPE | CLAMPING FORCE ¹⁾ [N] | | BRAKING FORCE ²⁾ [N] | LOSS OF FORCE PER 1MM [%] | OPERATING PRESSURE ³⁾ MPa | BALANCING PRESSURE ¹⁾ MIN MPa | PAD SURFACE PRESSURE ⁴⁾ [N/mm ²] |
|-----------------|-------------------------------------|-----------|---------------------------------------|------------------------------------|--|---|--|
| | MIN | MAX | | | | | |
| BSFA 1060 | 600,000 | 640,000 | 480,000 | 8.5 | 13.0 | 7.36 | 4.18 |
| BSFA 1070 | 700,000 | 740,000 | 560,000 | 8.5 | 14.0 | 8.58 | 4.84 |
| BSFA 1080 | 800,000 | 850,000 | 640,000 | 10.5 | 17.0 | 9.81 | 5.56 |
| BSFA 1090 | 900,000 | 950,000 | 720,000 | 9.5 | 18.0 | 11.03 | 6.21 |
| BSFA 1100 | 1.000,000 | 1.050,000 | 800,000 | 8.5 | 20.5 | 12.26 | 6.86 |
| BSFA 1110 | 1.100,000 | 1.160,000 | 880,000 | 8.0 | 23.5 | 13.49 | 7.58 |

¹⁾ All figures are based on 2 mm air gap (total) and 2 spring packs.

²⁾ Braking force is based on a min clamping force, nominal coefficient of friction $\mu = 0.4$ and 2 brake surfaces.

³⁾ The operating pressure is the minimum needed for operating the brake

⁴⁾ Pad pressure for organic / sintered pads respectively (based on max. clamping force)

Bracket is not part of brake.

Disc Brake: BSFA 1000 MONOspring

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_o is the brake disc outer diameter [m]

The actual braking torque may vary depending on adjustment of brake and friction coefficient.

$$M_B = a \cdot F_B \cdot \frac{(D_o - 0,3)}{2} \text{ [Nm]}$$

$$F_B = F_C \cdot 2 \cdot \mu$$

CALCULATION FUNDAMENTALS

| | |
|---|---|
| Weight of complete caliper incl. pads and without bracket: | 1,400 - 1600 kg depending on the disc thickness |
| Disc thickness: | 80 - 135 mm (depending on type) |
| Overall caliper dimensions: | 766 - 859 x 800 x 615mm (depending on disc thickness) |
| Pad width: | 300 mm |
| Pad friction area: (organic) | 153,000 mm ² (!) |
| Max. wear of pad: | 5 mm (!) |
| Nominal coefficient of friction: | $\mu = 0.4$ |
| Total piston area - each caliper half: | $2 \times 40,800 \text{ mm}^2 = 81,600 \text{ mm}^2$ |
| Volume for each caliper half at 1 mm stroke: | 81.6 cm ³ |
| Volume for each caliper at 3 mm stroke: | 245 cm ³ |
| Actuating time (guide value for calculation): | 0.4sec |
| Pressure connection (port size): | 3/4" BSP |
| Drain connection R (port size): | 1/4" BSP |
| Recommended hydraulic pipe size OD: | 16 mm |
| Max. operating pressure | 23,0 MPa |
| Operating temperature range - general | from -20°C to +70°C |

(For temperatures outside this range contact Svendborg Brakes)

(*) On each brake pad.