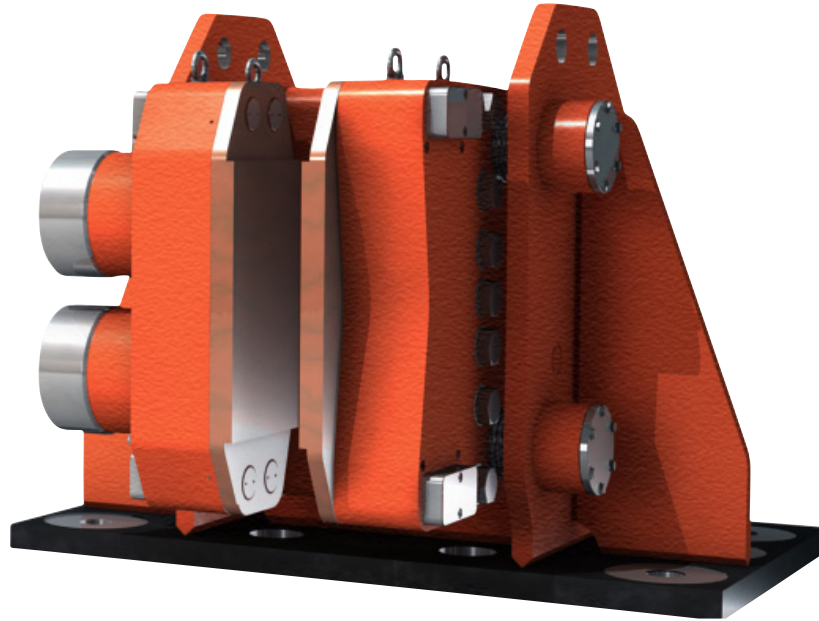


Disc Brake: BSFA 1000 MONOspring

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.

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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.