

Disc Brake: BSFI 100 MONOspring

Name: DEB-0100-010-MS-MAR

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Revision: F



TECHNICAL DATA AND CALCULATION FUNDAMENTALS

CALIPER TYPE	CLAMPING FORCE ¹⁾ [N]		BRAKING FORCE ²⁾ [N]	LOSS OF FORCE PER 1MM [%]	OPERA- TING PRESSURE ³⁾ MPa	BALAN- CING PRESSURE ¹⁾ MPa	PAD SURFACE PRESSURE ⁴⁾ [N/mm ²]
	MIN	MAX				MIN	
BSFI 105	500	560	400	7.0	14.5	1.50	0.16 - 0.25
BSFI 110	1,000	1,125	800	13.0	14.5	3.00	0.34 - 0.51
BSFI 115	1,500	1,650	1,200	8.0	14.5	4.50	0.49 - 0.75
BSFI 120	2,000	2,250	1,600	12.0	14.5	6.00	0.67 - 1.02
BSFI 125	2,500	2,800	2,000	8.5	14.5	7.49	0.84 - 1.27
BSFI 130	3,000	3,350	2,400	7.0	14.5	8.99	1.00 - 1.52

¹⁾ All figures are based on 1 mm air gap (total)

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)

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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.

$$M_B = a \cdot F_B \cdot \frac{(D_o - 0,023)}{2} \text{ [Nm]}$$

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

CALCULATION FUNDAMENTALS

MONOSPRING

Weight of caliper without bracket:	Approx. 7 kg
Overall dimensions:	131 x 129 x 147 mm
Pad width (width for heat calculation):	56 mm (organic) 53 mm (sintered)
Pad area: (organic)	3350 mm ² (*)
Max. wear of pad: (organic)	4 mm (*) (=7.0 mm thick)
Pad area: (sintered)	2205 mm ² (*)
Max. wear of pad: (sintered)	4 mm (*) (=7.0 mm thick)
Nominal coefficient of friction:	$\mu = 0.4$
Total piston area - each caliper half:	334 cm ²
Total piston area - each caliper:	334 cm ²
Actuating time (guide value for calculation):	0.4 sec
Pressure connection/port:	1/8" BSP
Recommended pipe size:	6 mm
Maximum 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.