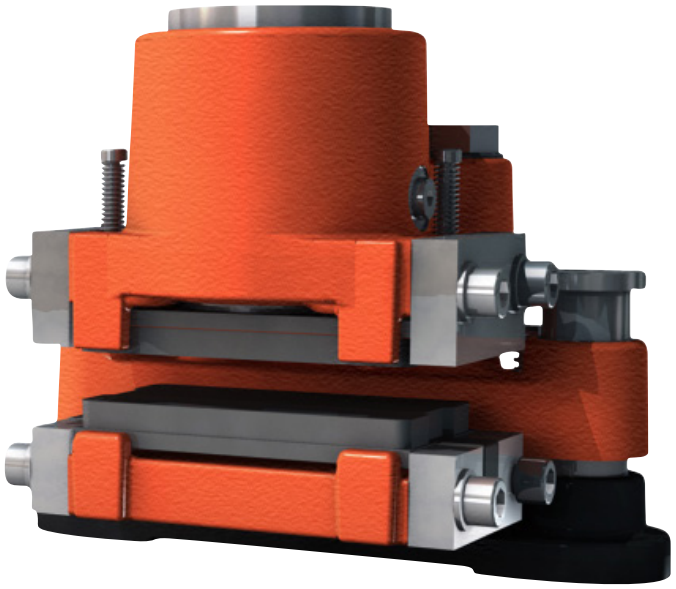
Svendborg Brakes

GLOBAL
LEADING
EXPERTS

Disc Brake: BSFI 200 MONOspring - HIGH pressure

Name: DEB-0200-004-MS-MAR
Date: 24.01.2012
Revision: C



TECHNICAL DATA AND CALCULATION FUNDAMENTALS

High pressure (option 400)

CALIPER TYPE	CLAMPING FORCE [1] [N]		BRAKING FORCE [2]	LOSS OF FORCE PER 1MM	OPERATING PRESSURE [3]	BALANCING PRESSURE [1] MIN	PAD SURFACE PRESSURE [4]
	MIN	MAX	[N]	[%]	MPa	MPa	[N/mm²]
BSFI 201 [5]	1,000	1,300	800	14.0	3.0	1.16	0.16 - 0.24
BSFI 202	2,000	2,340	1,600	10.0	5.0	2.31	0.29 - 0.43
BSFI 203	3,000	3,470	2,400	6.0	6.5	3.47	0.43 - 0.64
BSFI 204	4,000	4,500	3,200	13.0	8.0	4.62	0.56 - 0.83
BSFI 205	5,000	5,640	4,000	9.0	10.0	5.77	0.71 - 1.03
BSFI 206	6,000	6,750	4,800	7.0	11.5	6.93	0.85 - 1.24
BSFI 207	7000	7,720	5,600	5.0	13.5	8.08	0.97 - 1.42
BSFI 208	8,000	8,930	6,400	4.0	14.5	9.23	1.12 - 1.64
BSFI 209	9,000	9,970	7,200	8.0	160	10.39	1.25 - 1.83
BSFI 210	10,000	10,840	8,000	7.0	18.0	11.54	1.36 - 1.99
BSFI 211	11,000	11,960	8,800	6.0	19.5	12.69	1.50 - 2.19
BSFI 212	12,000	12,920	9,600	6.0	21.0	13.85	1.62 - 2.37

[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 μ = 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)
[5] Not recommended for general usage - hydraulic balancing pressure is low

Svendborg Brakes

GLOBAL
LEADING
EXPERTS

Disc Brake: BSFI 200 MONOspring - HIGH pressure

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

$$M_B = a \cdot F_B \cdot \frac{(D_0 - 0{,}07)}{2} \text{ [Nm]}$$

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

CALCULATION FUNDAMENTALS

	MONOSPRING
Weight of caliper without bracket:	Approx. 19 kg
Overall dimensions:	240 x 180 x 190 mm
Pad width:	70 mm
Pad area: (organic)	8,000 mm^2 (*)
Max. wear of pad: (organic)	5 mm (*) "(=10,5 mm thick)"
Pad area: (sintered)	5,450 mm^2 (*)
Max. wear of pad: (sintered)	5 mm (*) "(=10,5 mm thick)"
Nominal coefficient of friction:	μ = 0.4
Total piston area - each caliper half:	8.67 cm^2
Total piston area - each caliper:	8.67 cm^2
Volume for each caliper at 1 mm stroke:	0.87 cm^3
Volume for each caliper at 3 mm stroke:	1.73 cm^3
Actuating time (guide value for calculation):	0.3 sec
Pressure connection/port:	1/8" BSP
Drain connection port:	1/8" BSP
Recommended pipe size:	10/8 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.