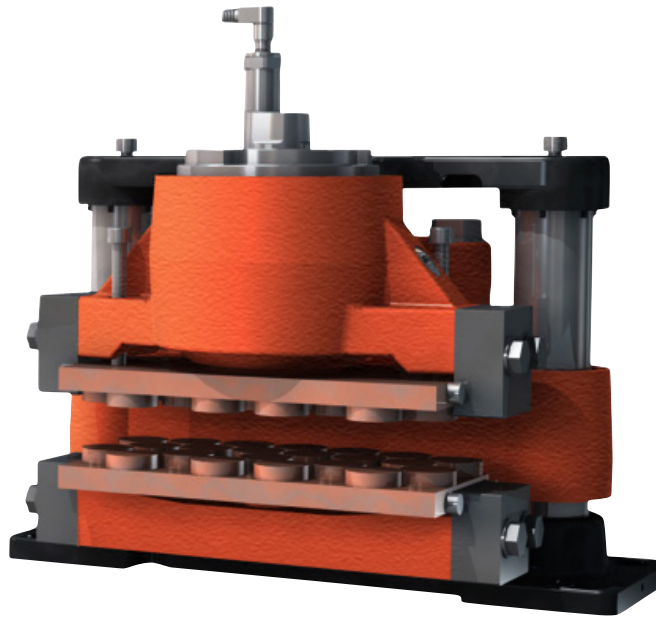


# Disc Brake: BSFI 300-MSXX-200 ("E") MONOspring

Name: DEB-0300-016-MS-MAR

Date: 15.07.2011

Revision: F



## TECHNICAL DATA AND CALCULATION FUNDAMENTALS

CALIPER TYPE	CLAMPING FORCE <sup>1)</sup> [N]		BRAKING FORCE <sup>2)</sup> [N]	LOSS OF FORCE PER 1MM [%]	OPERATING PRESSURE <sup>3)</sup> MPa	BALANCING PRESSURE <sup>1)</sup> MIN MPa	PAD SURFACE PRESSURE <sup>4)</sup> [N/mm <sup>2</sup> ]
	MIN	MAX					
BSFI 317	17,000	19,000	13,600	4.0	4.2	2.46	0.66 - 0.95
BSFI 318	18,000	19,500	14,400	4.0	4.2	2.61	0.67 - 0.98
BSFI 320	20,000	22,200	16,000	3.0	4.5	2.90	0.77 - 1.11
BSFI 322	22,000	24,500	17,600	3.0	5.0	3.19	0.84 - 1.23
BSFI 325	25,000	27,800	20,000	12.0	5.5	3.62	0.96 - 1.39
BSFI 330	30,000	33,100	24,000	10.0	7.0	4.35	1.14 - 1.66
BSFI 332	32,000	35,200	25,600	9.0	7.0	4.63	1.21 - 1.76
BSFI 335	35,000	38,300	28,000	8.0	7.5	5.07	1.32 - 1.92
BSFI 340	40,000	43,600	32,000	7.0	8.5	5.79	1.50 - 2.18
BSFI 345	45,000	48,800	36,000	6.0	9.5	6.52	1.68 - 2.44
BSFI 350	50,000	55,000	40,000	11.0	10.5	7.24	1.86 - 3.70
BSFI 355	55,000	59,300	44,000	10.0	12.0	7.69	2.04 - 2.97
BSFI 360	60,000	65,000	48,000	9.0	13.0	8.69	2.22 - 3.22

<sup>1)</sup> All figures are based on 1 mm air gap. (Total)

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

<sup>3)</sup> The operating pressure is the minimum needed for operating the brake

<sup>4)</sup> 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.

$$M_B = a \cdot F_B \cdot \frac{(D_o - 0,13)}{2} \text{ [Nm]}$$

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

### CALCULATION FUNDAMENTALS

#### MONOSPRING

Weight of caliper without bracket:	Approx. 85 kg
Overall dimensions:	279 x 420 x 299 mm
Pad width:	130 mm
Pad area: (organic)	29,000 mm <sup>2</sup> (*)
Max. wear of pad: (organic)	5 mm (*) "(=19 mm thick)"
Pad area: (sintered)	20,000 mm <sup>2</sup> (*)
Max. wear of pad: (sintered)	5 mm (*) "(=19 mm thick)"
Nominal coefficient of friction:	$\mu = 0.4$
Total piston area - each caliper half:	69.1 cm <sup>2</sup>
Total piston area - each caliper:	69.1 cm <sup>2</sup>
Volume for each caliper at 1 mm stroke:	6,9 cm <sup>3</sup>
Volume for each caliper at 3 mm stroke:	20,7 cm <sup>3</sup>
Actuating time (guide value for calculation):	0.3 sec
Pressure connection/port:	1/4" 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.