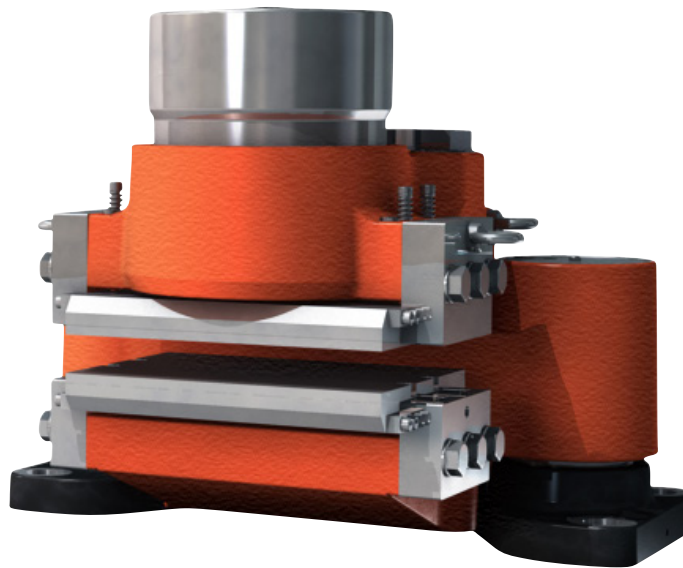


# Disc Brake: BSFB 600 MONOspring

Name: DEB-0600-016-MS-MAR

Date: 24.05.2012

Revision: A



## 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					
BSFB 630	300,000	330,000	240,000	7.5	12.5	7.23	2.80 - 3.14
BSFB 635	350,000	380,000	280,000	5.0	13.5	8.44	3.05 - 3.22
BSFB 638	350,000	380,000	280,000	5.0	13.5	8.44	3.05 - 3.22
BSFB 640	400,000	430,000	320,000	4.5	15.0	9.65	3.64 - 4.10

<sup>1)</sup> All figures are based on 3 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.

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

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

### CALCULATION FUNDAMENTALS

#### MONOSPRING

Weight of caliper without bracket:	Approx. 850 kg
Overall dimensions:	840 x 620 x 620 mm
Pad width (width for heat calculation):	300 mm
Pad area: (organic)	118,000 mm <sup>2</sup> (*)
Max. wear of pad: (organic)	10 mm (*) "(=37 mm thick)"
Pad area: (sintered)	105,000 mm <sup>2</sup> (*)
Max. wear of pad: (sintered)	10 mm (*) "(=37 mm thick)"
Nominal coefficient of friction:	$\mu = 0.4$
Total piston area - each caliper half:	415 cm <sup>2</sup>
Total piston area - each caliper:	415 cm <sup>2</sup>
Volume for each caliper at 1 mm stroke:	41 cm <sup>3</sup>
Volume for each caliper at 3 mm stroke:	124 cm <sup>3</sup>
Actuating time (guide value for calculation):	0.3 - 0,5 sec
Pressure connection/port:	1/2" BSP
Drain connection port:	1/4" BSP
Recommended pipe size:	16 mm
Maximum operating pressure	18.5 MPa
Operating temperature range - general	from -20°C to +70°C

(For temperatures outside this range contact Svendborg Brakes)

(\*) On each brake pad.