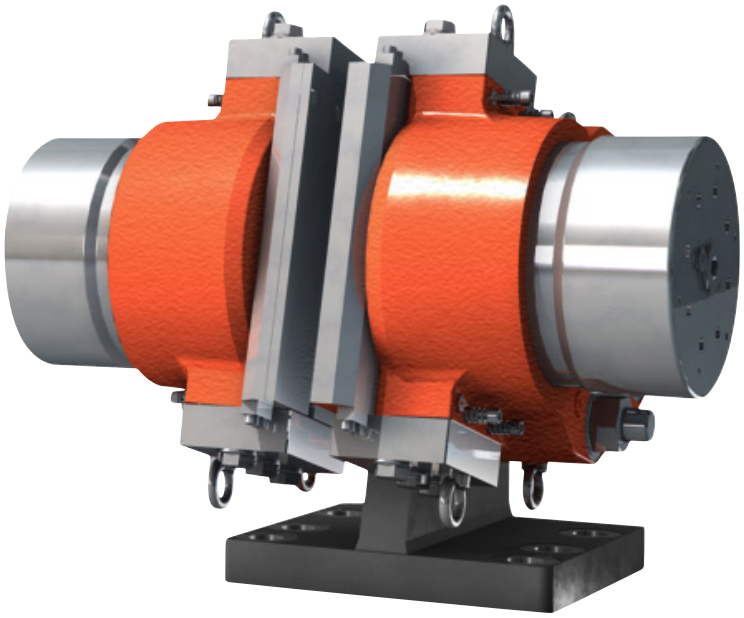
Svendborg Brakes

GLOBAL
LEADING
EXPERTS

Disc Brake: BSFB 600 DUALspring

Name: DEB-0600-016-DS-MAR
Date: 24.05.2012
Revision: A



TECHNICAL DATA AND CALCULATION FUNDAMENTALS

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]
BSFB 630	300,000	320,000	240,000	4.5	11.0	7.23	2.71 - 3.05
BSFB 635	350,000	380,000	280,000	5.5	12.5	8.44	3.05 - 3.22
BSFB 640	400,000	430,000	320,000	4.5	13.5	9.65	3.64 - 4.10
BSFB 645	450,000	490,000	360,000	8.5	16.0	10.85	3.81 - 4.29
BSFB 650	500,000	540,000	400,000	7.5	17.5	12.06	4.58 - 5.14

[1] All figures are based on 2 mm air gap (Each side)
[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)

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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_0 is the brake disc outer diameter [m]
The actual braking torque may vary depending on adjustment of brake and friction coefficient.

$$M_B = a \cdot F_B \cdot \frac{(D_0 - 0{,}3)}{2} \text{ [Nm]}$$

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

CALCULATION FUNDAMENTALS

	DUALSPRING
Weight of caliper without bracket:	Approx. 765 kg
Overall dimensions:	584 x 565 x 797 mm
Pad width (width for heat calculation):	300 mm
Pad area: (organic)	118,000 mm^2 (*)
Max. wear of pad: (organic)	10 mm (*) "(=37 mm thick)"
Pad area: (sintered)	105,000 mm^2 (*)
Max. wear of pad: (sintered)	10 mm (*) "(=37 mm thick)"
Nominal coefficient of friction:	μ = 0.4
Total piston area - each caliper half:	415 cm^2
Total piston area - each caliper:	830 cm^2
Volume for each caliper at 1 mm stroke:	83 cm^3
Volume for each caliper at 3 mm stroke:	249 cm^3
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)

(C=disc thickness)
(*) On each brake pad.