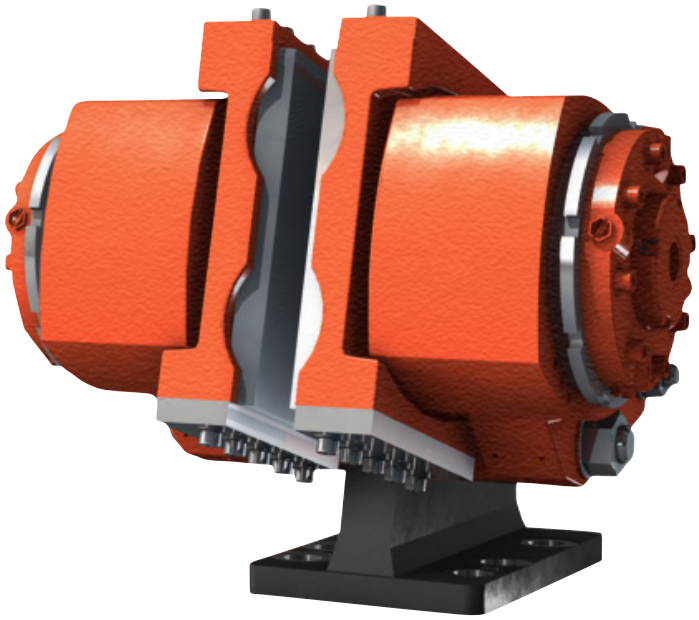
Svendborg Brakes

GLOBAL
LEADING
EXPERTS

Disc Brake: BSFG 400 DUALspring

Name: DEB-0400-001-DS-MAR
Date: 24.04.2007
Revision: A



TECHNICAL DATA AND CALCULATION FUNDAMENTALS

CALIPER TYPE	CLAMPING FORCE [1] [N]		BRAKING FORCE [3]	LOSS OF FORCE PER 1MM	OPERATING PRESSURE [3]	PAD SURFACE PRESSURE [1]	PAD SURFACE PRESSURE [4]
	MIN	MAX	[N]	[%]	MPa	MPa	[N/mm²]
BSFG 403	34,300	38,400	27,500	7.0	7.0	4.60	0.61
BSFG 405	55,900	62,600	45,000	6.0	10.5	7.50	0.99
BSFG 408	80,100	89,700	64,000	6.0	14.5	10.74	1.42
BSFG 412[5]	120,000	134,000	96,000	9.0	22.0	16.09	2.13

[1] All figures are based on 1 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 pads (based on max. clamping force)
[5] Not recommended for general usage - special high pressure version

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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.

$$M_B = a \cdot F_B \cdot \frac{(D_0 - 0{,}22)}{2} \text{ [Nm]}$$

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

CALCULATION FUNDAMENTALS

	DUALSPRING
Weight of caliper without bracket:	Approx. 280 kg
Overall dimensions	520 x 570 x 590 mm
Pad width (width for heat calculation):	220 mm
Pad area: (organic)	63,000 mm^2 (*)
Max. wear of pad: (organic)	"11 mm (*) (=14 mm thick - lining)"
Nominal coefficient of friction:	μ = 0.4
Total piston area - each caliper half:	74.5 cm^2
Total piston area - each caliper:	149 cm^2
Volume for each caliper at 1 mm stroke:	15 cm^3
Volume for each caliper at 3 mm stroke:	45 cm^3
Actuating time (guide value for calculation):	0.4 sec
Pressure connection/port:	3/8" BSP
Drain connection port:	1/4" BSP
Recommended pipe size:	16/12 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.