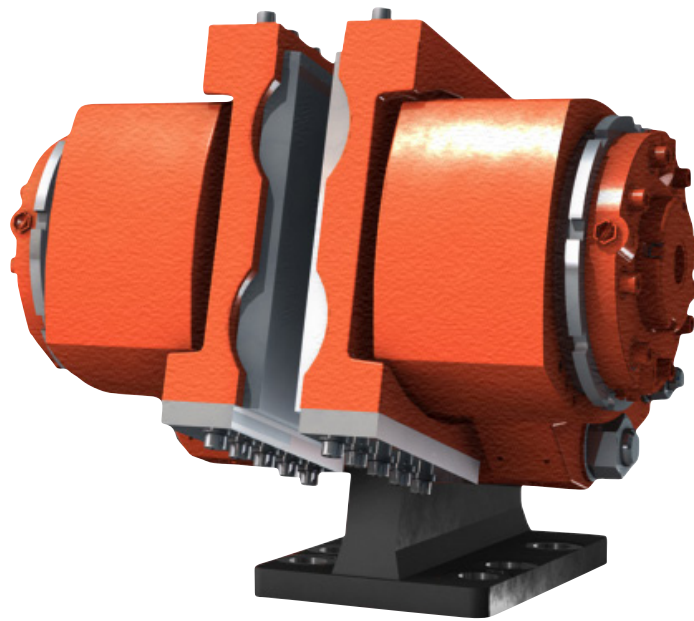


Disc Brake: BSFG 400 DUALspring

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⁾ [N]	LOSS OF FORCE PER 1MM [%]	OPERATING PRESSURE ³⁾ MPa	PAD SURFACE PRESSURE ¹⁾ MPa	PAD SURFACE PRESSURE ⁴⁾ [N/mm ²]
	MIN	MAX					
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 $\mu = 0.4$ 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_o is the brake disc outer diameter [m]

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

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

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

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:	$\mu = 0.4$
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.