Svendborg Brakes

GLOBAL
LEADING
EXPERTS

Disc Brake: BSFH D500 (DOUBLE PISTON) Monospring

Name: DEB-0500-029-MS-MAR
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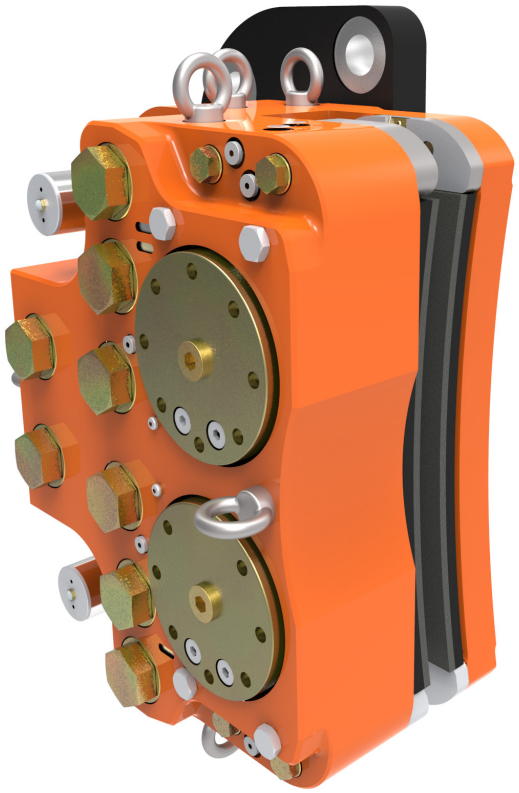

TECHNICAL DATA AND CALCULATION FUNDAMENTALS

CALIPER TYPE	CLAMPING FORCE [1] [N]		BRAKING FORCE [2]	LOSS OF FORCE PER 1MM	OPERATING PRESSURE [3]	BALANCING PRESSURE [1] MIN	PAD SURFACE PRESSURE [5]
	MIN	MAX	[N]	[%]	MPa	MPa	[N/mm²]
BSFH D524	240,000	260,000	192,000	8.0	12.0	8.3	2.4
BSFH D528	280,000	306,000	224,000	7.0	14.0	9.7	2.8
BSFH D530	300,000	328,000	240,000	6.0	14.5	10.3	3.0
BSFH D532	320,000	350,000	256,000	6.0	15.0	11.0	3.2
BSFH D540	400,000	436,000	320,000	10.0	19.0	13.8	4.0

[1] All figures are based on 1 mm air gap (Total) and 2 spring packs
[2] Braking force is based on a min clamping force, nominal coefficient of friction μ = 0.4 and 2 brake surfaces.
[3] The piston travel at which the pressure limits is measured - the norminal pressure limits is identical to balancing pressure values
[5] Pad pressure for organic 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.

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

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

CALCULATION FUNDAMENTALS

	MONOSPRING
Weight of caliper without bracket:	Approx. 910 - 1100 kg
Overall dimensions without base plate:	698 x 530 x 351 (+C) mm
Pad width:	200 mm
Pad area: (organic)	110,000 mm^2 (*)
Max. wear of pad: (organic)	5 mm (*)
Nominal coefficient of friction:	μ = 0.4
Total piston area - each caliper half:	2 x 145 cm^2 = 290 cm^2
Total piston area - each caliper:	2 x 145 cm^2 = 290 cm^2
Volume for each caliper at 1 mm stroke:	30 cm^3
Volume for each caliper at 3 mm stroke:	90 cm^3
Actuating time (guide value for calculation):	0.4sec
Pressure connection/P-port:	G3/8, ISO 288
Air breathing connection/A-port:	G3/8, ISO 288
Drain connection/L-port:	G1/4, ISO 288
Recommended pipe size:	16/12 mm
Operating temperature range - general	from -20°C to +70°C

(For temperatures outside this range contact Svendborg Brakes)
(C = Brake disc thickness)
(*) On each brake pad.