DELLNER BUBENZER

## Spring applied, pressure released disc brake

Dellner Bubenzer model SKP 50 spring applied, hydraulically released disc brake offers a reliable and safe method of braking linear or rotary motion.

The brake consists of two symmetrical halves and can be supplied with or without a support. The brakes supplied with a support are adjusted for a 12 mm thick brake disc. When used with thicker discs the brakes can be supplied with spacers.

Each brake half has two cylindrical guide pins that transmit the tangential braking force from the brake lining to the brake housing and support. As a result, any radial forces on the brake pistons are minimized which contributes to longer brake life.

Two springs on each brake half retract the brake pads from the disc when pressure is applied. The disc spring pack must be adjusted to compensate for brake lining wear and to maintain full brake capacity. An extension of the brake piston through the adjustment nut gives an easy visual way to tell when adjustment is needed.

As an option, the brakes can be equipped with proximity or mechanical switches to indicate brake ON/OFF and/or NEED OF ADJUSTMENT.
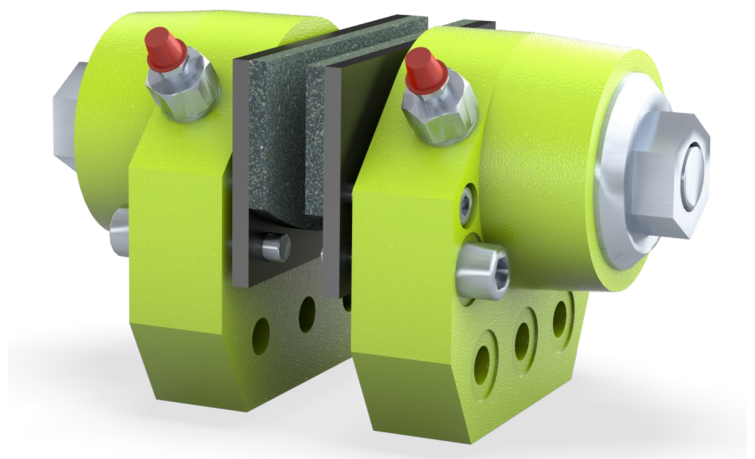
Model	Tangential braking force F [N] [1]		Releasing pressure [bar] [4]	Airgap between brake disc and lining [mm]		Estimated life of disc spring pack [no. of strokes]		Friction area per brake [cm²]	Weight [kg]
	max. [2]	min. [3]		max. [5]	min. [6]	max. [7]	min. [8]		
SKP 50-02	3600	2700	30	2x1,0	2x2,0	>2x10⁶	>2x10⁶	152	12
SKP 50-05	6900	5000	60	2x1,0	2x2,0	>1,8x10⁶	>2x10⁶	152	12
SKP 50-06	8100	6200	70	2x1,0	2x2,0	>2x10⁵	>1x10⁶	152	12
SKP 50-09	12400	9200	110	2x1,0	2x2,0	>3x10⁴	>2x10⁵	152	12

1) Calculated with an average frictional coefficient $\mu=0,42$. Consideration has not been taken for external factors.
2) Braking force with correctly adjusted disc spring pack.
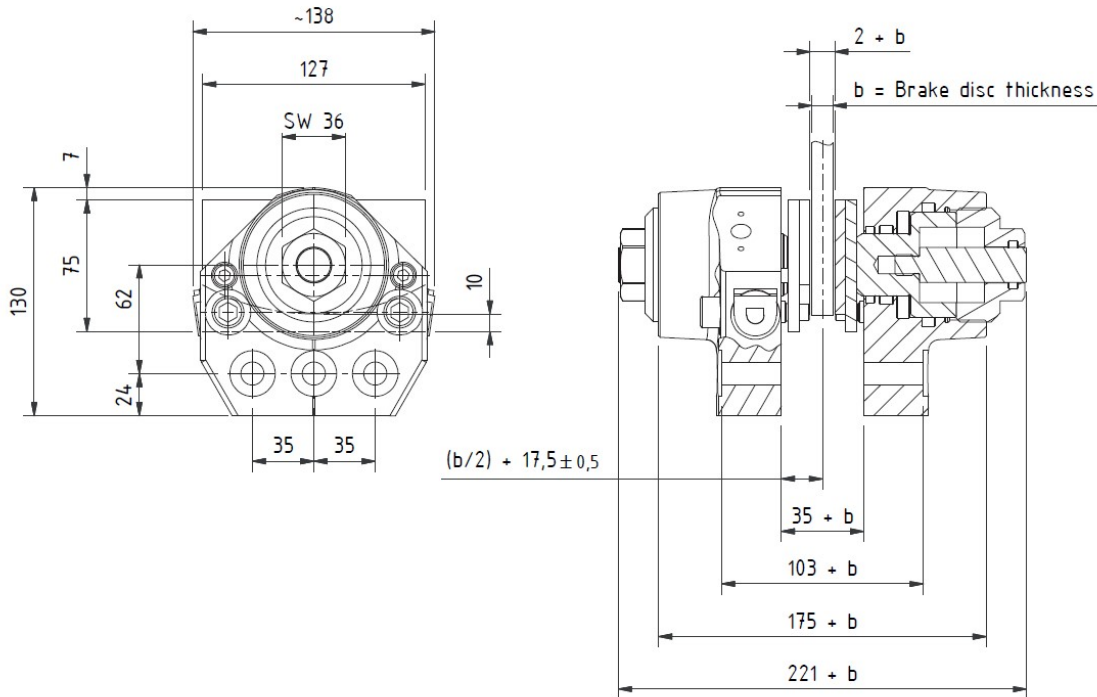3) Braking force with maximum recommended air gap before adjustment is needed.
4) Pressure to fully release brake.
5) Air gap for correctly adjusted brake.
6) Maximum recommended air gap before adjustment is needed.
7) Valid for minimum spring pack compression.
8) Valid for maximum spring pack compression.

DS-110-01E

~138
127
SW 36
130 75 62 24 10 7
35 35
2 + b
b = Brake disc thickness
(b/2) + 17,5 ± 0,5
35 + b
103 + b
175 + b
221 + b

TORQUES

The braking torque is calculated from the following formula:

$$M_{brake} = \frac{F \times (D_s - 2h)}{2}$$

q = number of brakes
F1 = braking force according to the table on page 1 [N]
p = pressure [bar]
D_s = brake disc diameter [m]
h = distance disc periphery to piston center [m] (SKP 50: 0,029)

Model	Tangential braking force F [N] [1]		Disc diameter D_s [mm]							
	max. [2]	min. [3]	ø300	ø350	ø400	ø450	ø500	ø600	ø700	ø800
SKP 50-02	3600	2700	325	390	460	525	595	730	865	1000
			435	525	615	705	795	975	1155	1695
SKP 50-05	6900	5000	605	730	855	980	1105	1355	1605	1855
			830	1005	1175	1350	1520	1865	2210	2555
SKP 50-06	8100	6200	750	905	1060	1215	1370	1680	1990	2300
			980	1180	1385	1585	1790	2195	2600	3005
SKP 50-09	12400	9200	1110	1340	1570	1800	2030	2490	2950	3410
			1500	1810	2120	2430	2740	3360	3980	4600

1) Calculated with an average frictional coefficient μ=0,42. Consideration has not been taken for external factors.
2) Braking force with correctly adjusted disc spring pack.
3) Braking force with maximum recommended air gap before adjustment is needed.

OPTIONS

• Proximity or mechanical switches for on/off, pad wear or "time to adjust" indication.
• Tube connection set (connects the two cylinders to one connection point).
• Supports in different configurations.
• Customer specific colour.

SUITABLE APPLICATIONS

Dellner Bubenzer models SKP are suitable wherever safety brakes are needed, for example in the following types of applications:

Cranes   Conveyors   Emergency stops
Winches   Wind mills   Parking appllictions

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DELLNER BUBENZER AB
Teknikergatan 1   SE-781 70 BORLÄNGE SWEDEN
Phone: +46 (0)23-78 30 50   info.se@dellnerbubenzer.com   www.dellnerbubenzer.com