
PLANAR SPRINGS

ABSTRACT

The DS describes the planar springs designed and distributed by Phi Drive. It includes technical data and drawings.

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REVISION HISTORY

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1. Features

- Low encumbrance
- Fit for preload of small bearings
- Designed via FEM analysis
- Customizable
- Available in several sizes

2. Applications

- Applications which require preload
- Bearings preload
- Micro applications

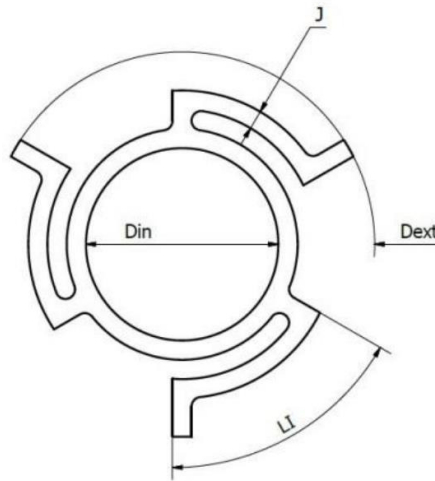
3. Description

Phi Drive has developed a line of planar springs with small size and low weight. The planar springs were designed for the preload of small bearings or similar systems.

They are designed by means of FEM analysis in order to grant the specific performances required by customers.

4. Dimensions

Fig. 1: Main dimensions of the planar springs proposed by Phi Drive



Tab. 1: Main dimensions of the planar springs proposed by Phi Drive

Code	D_{in}		D_{ext}		Thickness		J		LI	
D08.18C08E10	8	mm	18	mm	0.8	mm	1.0	mm	60	deg
D08.20C07E12	8	mm	20	mm	0.8	mm	1.0	mm	60	deg
D08.22C06E15	8	mm	22	mm	0.8	mm	1.0	mm	60	deg
D11.21C08E13	11	mm	21	mm	0.8	mm	1.2	mm	60	deg
D11.23C07E16	11	mm	23	mm	0.8	mm	1.2	mm	60	deg
D11.25C06E19	11	mm	25	mm	0.8	mm	1.2	mm	60	deg
D13.24C08E16	13	mm	24	mm	0.8	mm	1.4	mm	60	deg
D13.26C07E20	13	mm	26	mm	0.8	mm	1.4	mm	60	deg
D13.28C06E23	13	mm	28	mm	0.8	mm	1.4	mm	60	deg
D17.28C08E20	17	mm	28	mm	1.0	mm	1.2	mm	60	deg
D17.31C07E25	17	mm	31	mm	1.0	mm	1.2	mm	60	deg
D17.34C06E21	17	mm	34	mm	1.0	mm	1.2	mm	60	deg

5. Mechanical properties

Tab. 2: Mechanical properties of the planar springs proposed by Phi Drive

Code	K		L_y		E_y		L_b		E_b	
D08.18C08E10	80.0	N/mm	8	N	0.10	mm	17	N	0.24	mm
D08.20C07E12	58.3	N/mm	7	N	0.12	mm	15	N	0.27	mm
D08.22C06E15	40.0	N/mm	6	N	0.15	mm	13	N	0.32	mm
D11.21C08E13	61.5	N/mm	8	N	0.13	mm	16	N	0.26	mm
D11.23C07E16	43.8	N/mm	7	N	0.16	mm	15	N	0.33	mm
D11.25C06E19	31.6	N/mm	6	N	0.19	mm	14	N	0.41	mm
D13.24C08E16	44.4	N/mm	8	N	0.18	mm	16	N	0.35	mm
D13.26C07E20	35.0	N/mm	7	N	0.20	mm	15	N	0.42	mm
D13.28C06E23	26.1	N/mm	6	N	0.23	mm	14	N	0.50	mm
D17.28C08E20	40.0	N/mm	8	N	0.20	mm	16	N	0.40	mm
D17.31C07E25	28.0	N/mm	7	N	0.25	mm	15	N	0.53	mm
D17.34C06E21	19.4	N/mm	6	N	0.31	mm	14	N	0.70	mm

K : axial stiffness

L_y : yield load

E_y : yield elongation

L_b : breaking load

E_b : breaking elongation

NOTES:

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