t2300 – ARC SPRING COUPLING

Description

The t2300 is an arc spring coupling especially designed for deployment in test beds. It works like a dual mass flywheel. Because of its modular spring design, it is possible to tailor its stiffness behavior to the unit under test.

Naming

The product is named according to the following convention:

t2300-tttt-cccc-CVxx

- xx: joint size
- cccc: dynamic stiffness [Nm/rad]
- tttt: nominal torque [Nm]
- t2300: product name

Example: t2300-650-800-CV15

Operating Range

Torque: up to 740 Nm
Speed: up to 8000 rpm

Benefits

- suitable for high dynamic loads
- high damping and long lifetime
- stiffness adjusted by spring placement
- wide stiffness range

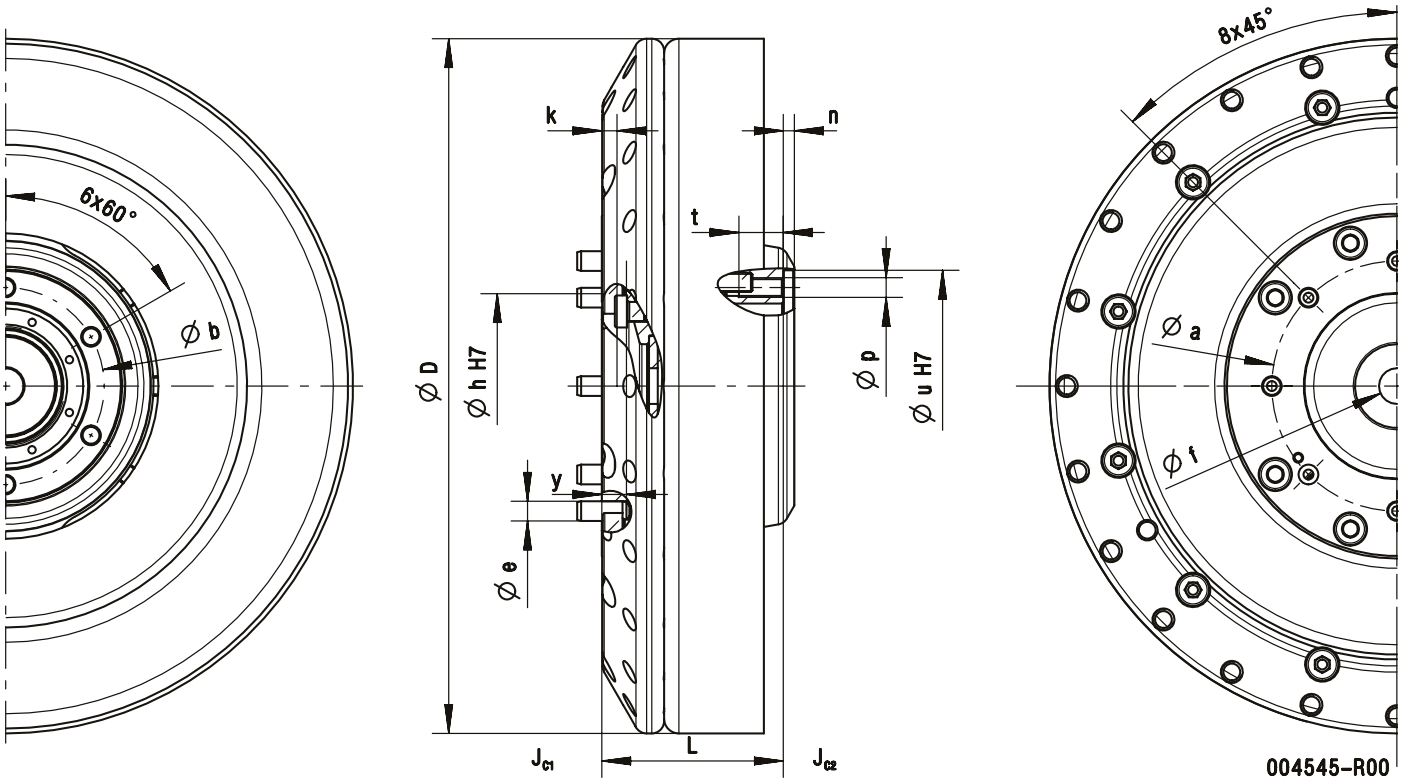
Function

As for a vehicle dual mass flywheel, the test bed dual mass flywheel boasts exceptional damping behavior.

Stiffness adjustment is achieved by using different spring configurations in the arc spring coupling. The standard t2300 specifications cover a nominal torque range of 580 - 740 Nm for a torsional stiffness of 720 - 920 Nm/rad.

Coupling	Joint	T_{KN} [Nm]	c_{Tdyn} [Nm/rad]	T_{Kmax} [Nm]	n_{max} [rpm]	m [kg]	x_S [mm]	J_1 [kgm^2]	J_2 [kgm^2]	Ψ [-]	d [Nms/rad]	φ_{max} [°]
t2300-580-720	CV10	580	720	720	8000	12.72	30.7	1.05E-01	2.00E-02	0.8	2.0	57
	CV15	580	720	720		12.65	30.5	1.05E-01	1.99E-02			
t2300-650-800	CV10	650	800	800		12.85	31.9	1.08E-01	2.27E-02			
	CV15	650	800	800		12.77	31.3	1.08E-01	2.25E-02			
t2300-740-920	CV10	740	920	920		13.17	31.5	1.09E-01	2.39E-02			
	CV15	740	920	920		13.09	31.4	1.09E-01	2.38E-02			

T_{KN} - Nominal torque[23]
c_{Tdyn} - Torsional stiffness
T_{Kmax} - Maximum torque
n_{max} - Maximum speed
m - Mass
x_S - Center of gravity flange-side
J_1 - Inertia flange-side
J_2 - Inertia shaft-side
Ψ - Relative damping
d - Damping
φ_{max} - Maximum torsional angle



Coupling	Joint	D [mm]	L [mm]	a [mm]	b [mm]	e (m6) [mm]	f [mm]	h (H7) [mm]	k [mm]	n [mm]	p [-]	t [mm]	u (H7) [mm]	y [mm]
t2300	CV10	282	74	101.5	80	8	14.5	75	6	4.5	M8	18	94	10
	CV15	282	74	101.5	94	8	14.5	75	6	4.5	M10	22	108	10

Other dimensions available on request