t1000-4000 – HEAVY-DUTY CLAW COUPLING

Description

The t1000-4000 is a single-row elastomer claw coupling for test beds with a nominal torque of 4000 Nm. The coupling is particularly suited for wheel hub drives. This coupling is characterized by its relatively low weight, very robust design, high damping capability and easy maintenance.

By using elastomers of different hardness grades, the damping characteristics can be adapted to different requirements.

Operating Range

Torque: up to 4000 Nm
Speed: up to 4000 rpm

Benefits

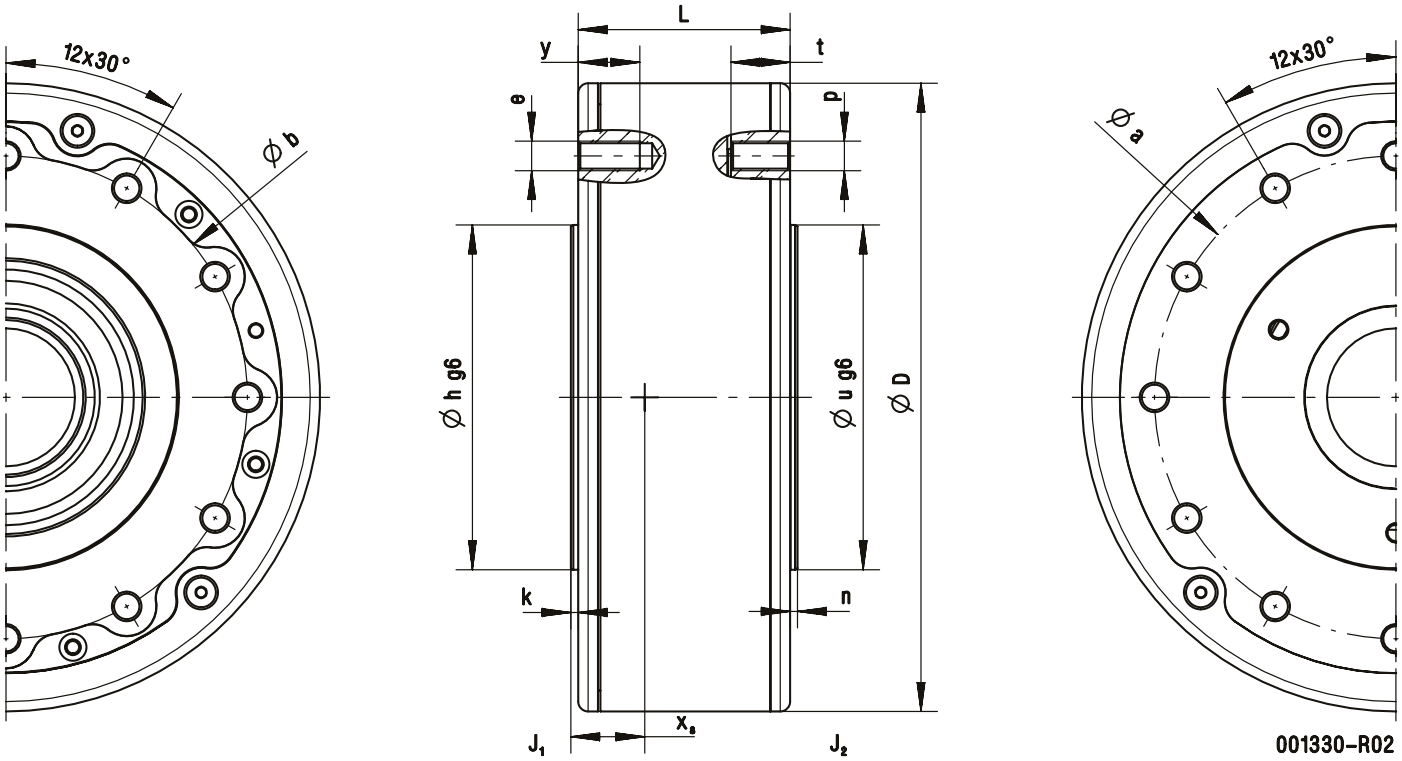
- suitable for high dynamic loads
- compact and modular design allows fast exchange of the elastomer
- no shaft damage when elastomer fails
- high damping and long lifetime
- stiffness adjustment by elastomer placement

Function

The design provides a strongly non-linear coupling characteristic. The special design allows problem-free adaptation to new applications and a short downtime when exchanging the elastomers.

t1000-4000		
Nominal torque[19] T_{KN}	[Nm]	4000
Maximum torque T_{Kmax}	[Nm]	16000
Maximum alternating torque T_{KW}	[Nm]	4000
Maximum speed	[rpm]	4000
Torsional stiffness c_{Tdyn}	[Nm/rad]	55000 - 110000
Relative damping Ψ	[-]	0.3
Inertia J_1 (flange-side)	[kgm^2]	3.13E-02
Inertia J_2 (shaft-side)	[kgm^2]	5.21E-02
Mass	[kg]	10.66
Center of gravity x_s (flange-side)	[mm]	30.3
Maximum torsional angle	[°]	6
Operating temperature for elastomer made of natural rubber[20]	[°C]	80

Elastomer type	Material	Shore hardness
HN	Natural rubber	45 - 50° Shore A
EN		50 - 55° Shore A
WN		53 - 58° Shore A
NN		63 - 68° Shore A
SN (Standard)		73 - 78° Shore A
UN		83 - 88° Shore A



Coupling	D [mm]	L [mm]	a [mm]	b [mm]	e [-]	h (g6) [mm]	k [mm]	n [mm]	p [-]	t [mm]	u (g6) [mm]	y [mm]
t1000-4000	255	86	196	196	M12	140	3	3	M12	24	140	25

Other dimensions available on request