

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, and 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 various 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.

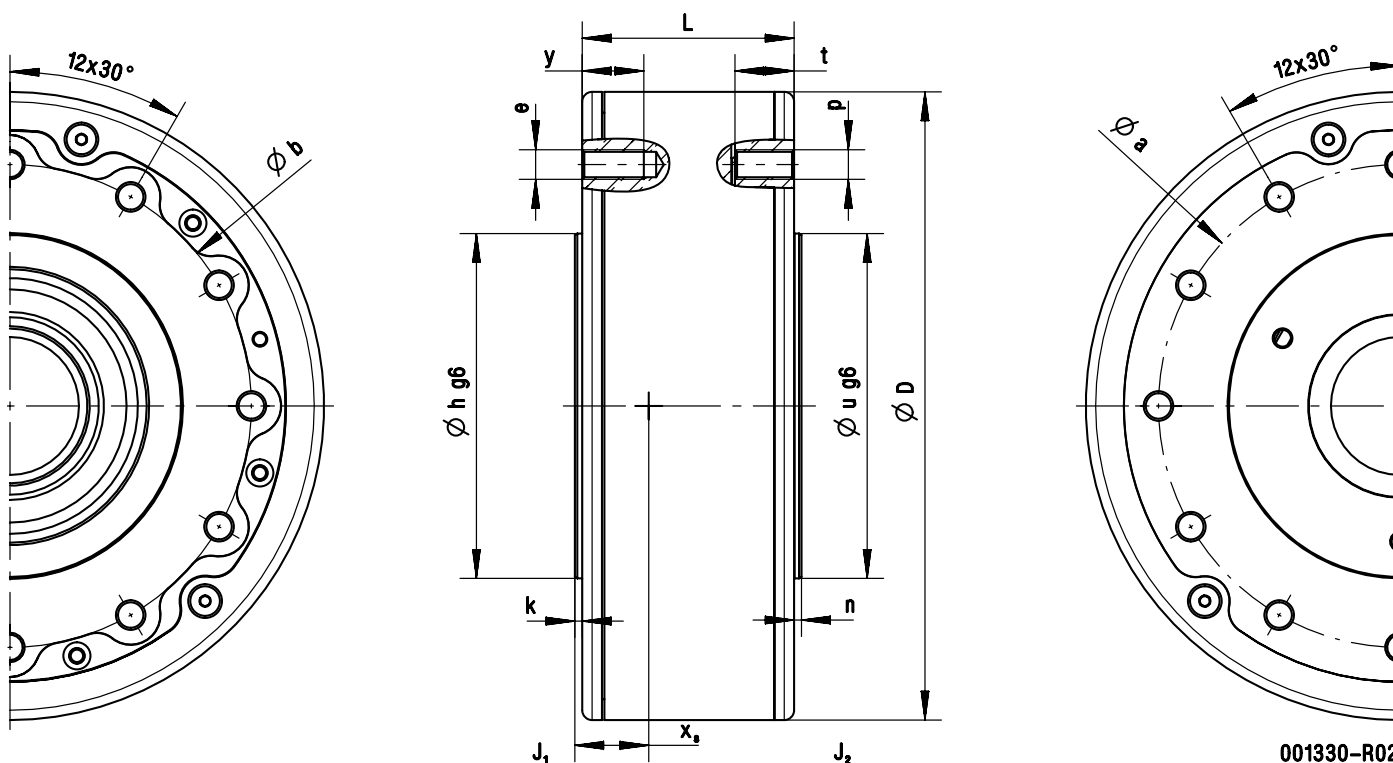
Coupling	T_{KN} [Nm]	T_{Kmax} [Nm]	T_{KW} [Nm]	n_{max} [rpm]	C_{Tdyn} [Nm/rad]	Ψ [-]	J_1 [kgm ²]	J_2 [kgm ²]	m [kg]	x_s [mm]	φ_{max} [°]	ϑ [°C]
t1000-4000	4000	1600	4000	4000	55000 - 110000	0.3	3.13E-02	5.21E-02	10.66	30.3	6	+80

T_{KN} - nominal torque¹¹
 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
 ϑ - operating temperature¹²
 φ_{max} - maximum torsional angle

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

Other dimensions available on request.

¹¹The nominal torque must be equal to or greater than the maximum combustion engine torque

¹²Operating temperature for elastomer made of natural rubber, elastomer made of silicone for higher operating temperatures are available on request