

271
409

COUPLINGS

Adjustable Friction Clutches

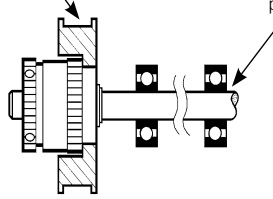
For Mounted Components

271
409

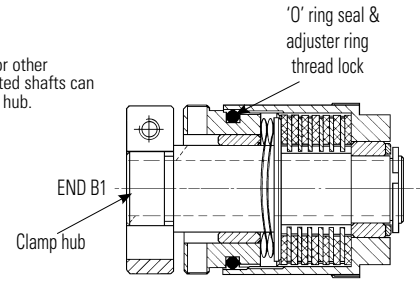


Pulley (or gear, etc.) bonded to register. Press fits not permissible.

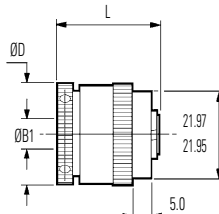
Motor, gearbox, or other externally supported shafts can pass thro' hollow hub.



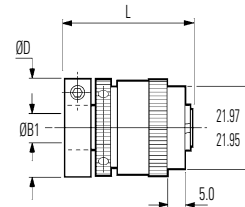
Set Screw Hub



Clamp Hub



Ref. 271 (2 plate)
279 (6 plate)



Ref. 401 (2 plate)
409 (6 plate)

Series Part No.	Hub Type	Max Drag Torque (in.lb)	Watts @20°C	Outside Dia.	Overall Length L	Min. / Max. Bore Dia. +0.0012/-0	Mount Dia. -0.001	Weight grams
271.25	Set Screw	4.7	7.0	1.02	1.04	6mm to 8mm	0.865	37
279.25	Set Screw	11.7	8.6	1.02	1.28	6mm to 8mm	0.865	48
279.48	Set Screw	26.6	18	1.89	2.56	8mm to 16mm	1.457	278
401.25	Clamp	4.7	7.0	1.02	1.35	6mm to 8mm	0.865	47
409.25	Clamp	11.7	8.6	1.02	1.60	6mm to 8mm	0.865	58

Materials

Housing & Adjuster Ring: Aluminum 2014 T6

Hub: Heat Treated Steel

Clutch Plates: Size 25, Heat Treated Steel, Size 48, Brass

Bearings: Sintered Bronze

Performance

Max. Slipping Speed: 1000 Rpm

Max Backlash: 2°

Temp. Range: -10°C to + 80°C

SIZE	AVAILABLE BORES												
	INCH						METRIC						
	1/4	5/16	3/8	1/2	5/8	6	8	9	10	12	14	15	16
25	.	.				.	.
48			.	.	.	.	.	.	.	.	.	.	.
Bore Code	24	27	31	36	41	22	28	30	32	35	38	40	42

ADJUSTABLE FRICTION CLUTCHES

Technical Notes

Calculating for Power Dissipation

Given the slipping speed in rpm and the drag torque in inch-lbs, the following equation can be used for calculating the power dissipation in watts (W)

$$W = \frac{(\text{torque})(\text{rpm})}{84.08}$$

Breakaway torque

After a period during which no slipping has taken place, the breakaway torque can be up to 2-1/2 times the set value.

Torque Decay

There is an inverse relationship between clutch temperature and slipping torque. The slipping torque reduces from the set value as the power being dissipated causes the clutch temperature to rise. When slipping continuously, torque settles at approximately 70% of the value set on a new clutch and approximately 80% of the value set on a used clutch. This characteristic is not speed dependent.

Speed Related Torque Fluctuations

Variations in slipping speed cause a momentary increase in the prevailing output torque. The clutches behave more consistently at high speed/low torque than low speed/high torque. High Speed in this instance starts at about 500rpm.

When applications call for sustained slipping, the housing temperature should be maintained below 80°C. Clutches mounted concentrically within pulleys, gear wheels, etc, will be more effective at dissipating heat generated during slipping