

Data sheet FLENDER couplings

N-ARPEX ARN-6 NHN 251

Version according to the catalog FLE 10.1

2LC03710AL990AZ0

Product

Series	N-ARPEX ARN-6
Type	NHN
Size	251
Scope of supply	complete coupling
Torsional stiffness	Torsionally rigid
Torque transmission	Free of torsional backlash
	Overload withstand capability

Basic data¹⁾

Rated coupling torque	T_{KN}	10,500 Nm
Maximum coupling torque	T_{Kmax}	21,000 Nm
Coupling overload torque	T_{KOL}	26,250 Nm
Maximum coupling speed	n_{Kmax}	8,000 1/min
Operating temperature (min.)	T_{min}	-60 °C
Operating temperature (max.)	T_{max}	280 °C
Axial misalignment (tension) ²⁾	K_a	4.1 mm
Axial misalignment (pressure) ²⁾	K_a	4.1 mm
Angular misalignment (max.) ³⁾	K_W	1 °
Axial stiffness (tension)	C_a	681.1 N/mm
Axial stiffness (pressure)	C_a	681.1 N/mm
Angular stiffness	C_W	10.2 kNm/rad
Torsional stiffness, dynamic ⁴⁾	C_{Tdyn}	2.059 MNm/rad
Torsional angle for T_{KN}	ϕ_{TKN}	0.29 °
Axial restoring force (tension)	F_a	2,793 N
Axial restoring force (pressure)	F_a	2,793 N
Proportionate damping	Ψ	0.01
Total weight	m	7.2 kg

Connection 1 N-hub⁷⁾

Hub length	110 mm
Weight half coupling	3.6 kg

Permissible shaft offsets²⁾⁸⁾

Angular misalignment	K_W	$\pm$ °	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
Radial misalignment	K_r	mm	0	0	0	0	0	0	0	0	0	0	0
Axial misalignment (tension)	K_a	mm	4.1	3.7	3.3	2.9	2.5	2	1.6	1.2	0.8	0.4	0
Axial misalignment (pressure)	K_a	mm	4.1	3.7	3.3	2.9	2.5	2	1.6	1.2	0.8	0.4	0
Radial misalignment	$K_r = \pm 0 \cdot \tan(K_W)$ [mm]												



Overview of components

Part	Weight [kg]	Mass moment of inertia [kgm²]
Disc pack (incl. boltings)	3.6	0.0374
Disc pack (incl. boltings)	3.6	0.0374
Total	7.2	0.0748

Connection 2 N-hub⁷⁾

Hub length	110 mm
Weight half coupling	3.6 kg

Technical data per plate pack		
Torsional stiffness, dynamic	C_{Tdyn}	4.119 MNm/rad
Angular stiffness	C_w	10.2 kNm/rad
Axial stiffness (tension)	C_a	1,362.3 N/mm
Axial stiffness (pressure)	C_a	1,362.3 N/mm
Radial stiffness	C_r	288,385 N/mm

Balance state	
Method	DIN ISO 21940-11 component balance
Speed	1,500 1/min
Balancing quality	G 16

Corrosion protection	
Preservation	CUSTOS 70-51-3 - indoor storage up to 3 months

Additional data				
		30% TKN	60% TKN	100% TKN
Rated coupling torque	N/mm:	3,150	6,300	10,500
Torsional stiffness, dynamic	MNm/rad	2.353	2.353	2.059

Additional Data (one plate pack)												
Axial misalignment	$\pm$ [mm]:	2.05	1.84	1.64	1.43	1.23	1.02	0.82	0.61	0.41	0.2	0
Local axial stiffness	[N/mm]:	1,953	1,811	1,669	1,531	1,403	1,288	1,192	1,119	1,074	1,061	1,085
Axial natural frequency (coupl.)	[Hz]:	165	159	153	146	140	134	129	125	122	122	123

Note	
1) The formula symbols are defined in Catalog.	
2) The permissible axial offset is applicable for offsets that slowly occur, e.g. as a result of thermal expansion of the coupled shaft.	
4) Torsional stiffness at rated speed (linearised).	
7) The orderer is responsible for verifying the design strength of the shaft-hub connection.	
The permissible shaft misalignments ΔK_a , ΔK_r and ΔK_w are maximum values, and it is not permissible that they simultaneously occur. datasheet_texts.additional_data_pp=Additional Data (one plate pack)	