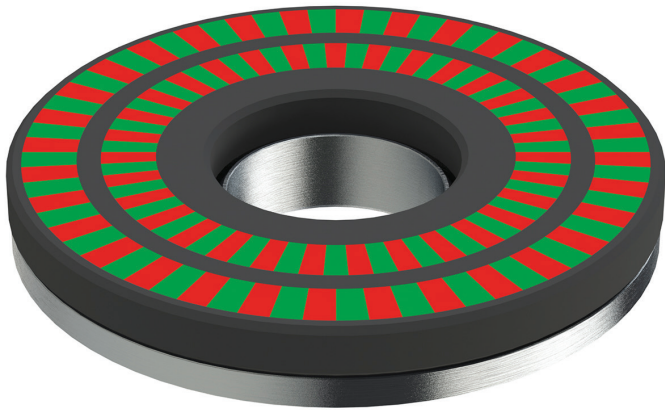




Counting



Controlling



RMSN Rotary Magnetic Scale Nonius

- Rotational applications
- All nonius proportion
- Master and nonius tracks

Features

- From low to very high accuracy producible on demand
- Two or three track magnetization
- 1.28 and 1.5 pole pitches, others on request
- Different scale geometries
- Customizable for many applications
- No wear from usage
- Resistant to dust, cooling lubricant emulsion, oil, etc.
- Wide range of selectable magnetic scale characteristics
- A variety of magnetic materials for several applications

Indicating movements with the RMSN Simple – precise – economic

The RMSN rotary magnetic scale can be used for continuous or discrete positioning, motion control, such as commutation, and many other solutions. BOGEN can produce rotary scales on the flange, outer or inner diameter. Production can start with prototype quantities and scale to large series production. In combination with the BOGEN sensor the highest system accuracy can be reached with especially optimized pole pitches.

Features

Magnetic Properties (Elastomer bonded ferrite/Isotropic)	
Residual induction (Br) mT	240-260
Coercive force (Hcb) kA/m	171-195
Intrinsic coercive force (Hcj) kA/m	223-279
Maximum energy product (Bhmax) MGOe	1.45-1.65
Reversing temperature modulus % / °C	-0.18
Physical Properties	
Tensile strength N/mm ² (MPa)	>2.5
Hardness shore D	30 -45
Density g/cm ³	3.55-3.7
Temperature range °C	-40 to 100
Chemical Properties	
Hydraulic oil (23°C×72h)	++
Alcohol (23°C×72h)	+
Weak alkali (23°C×72h)	++
Detergent (23°C×72h)	++
Aromatic solvent (23°C×72h)	-
Organic, anorganic acid (23°C×72h)	-
Aliphatic solvent (23°C×72h)	-
Water (60°C×72h)	++

- not suitable
+ good
++ very good

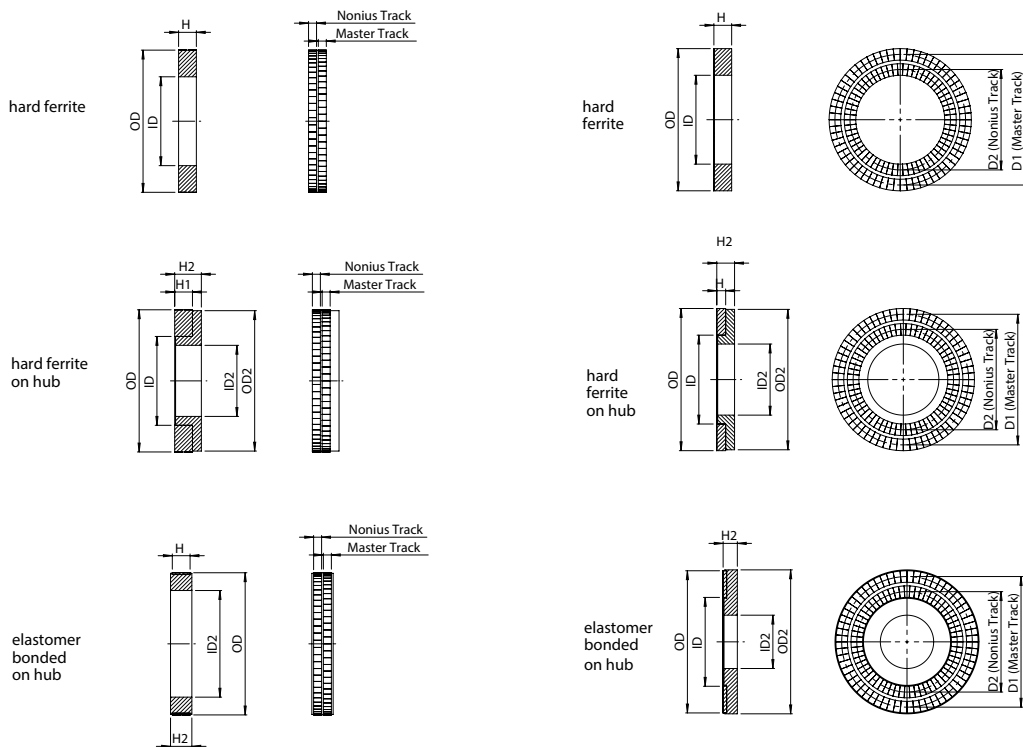
Magnetic Properties (Hard ferrite/Isotropic)	
Residual induction (Br) mT	200 -220
Coercive force (Hcb) kA/m	135 -140
Intrinsic coercive force (Hcj) kA/m	220 -230
Maximum energy product (Bhmax) MGOe	1.45 -1.65
Reversing temperature modulus % / °C	-0.19
Physical Properties	
Tensile strength N/mm ² (MPa)	50
Hardness HV	500 -600
Density g/cm ³	4.8-4.9
Temperature range °C	-40 to 250
Chemical Properties	
Hydraulic oil (23°C×72h)	++
Alcohol (23°C×72h)	+
Weak alkali (23°C×72h)	++
Detergent (23°C×72h)	++
Aromatic solvent (23°C×72h)	Chemical resistance depends on temperature, concentration and time of exposure to the medium
Organic, anorganic acid (23°C×72h)	
Aliphatic solvent (23°C×72h)	
Water (60°C×72h)	++

- not suitable
+ good
++ very good

Customized Rotary Magnetic Scale Nonius

Customized rotary magnetic scales with different dimensions and pole numbers can be produced economically. BOGEN scale production capabilities are designed for high flexibility at low cost. Please contact BOGEN to discuss your requirements.

Technical Drawing



Available Dimensions RMSN - Axial

Order-No.	Matchcode	Master-Nonius Relation	Magnetic Pole Pitch	Outer Diameter (OD)	Outer Diameter (OD2)	Inner Diameter (ID)	Inner Diameter (ID2)	Height (H)	Height (H2)	Master Track Diameter (D1)	Nonius Track Diameter (D2)
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
51558	RMSN16-15A-1.28-E-S	16-15	1.28	15.50	17.00	3.00	5.00	-	7.00	13.04	5.84
51701	RMSN16-15A-1.28-E-S	16-15	1.28	15.50	16.00	3.00	3.00	-	6.00	13.04	5.84
51216	RMSN32-31A-1.28-E-S	32-31	1.28	29.00	29.80	15.10	10.00	-	6.00	26.08	18.88
51499	RMSN32-31A-1.28-E-S	32-31	1.28	29.00	29.00	15.10	11.00	-	6.00	26.08	18.88
51217	RMSN32-31A-1.28-F-A	32-31	1.28	30.00	29.80	11.50	10.00	2.50	6.00	26.08	18.88
51694	RMSN32-31A-1.50-F-A	32-31	1.50	34.00	33.60	20.40	15.70	2.00	6.00	30.56	23.36
51352	RMSN32-31A-1.50-E-S	32-31	1.50	33.50	34.00	20.00	19.00	-	6.00	30.56	23.36
51353	RMSN32-31A-1.50-E-S	32-31	1.50	33.50	34.00	20.00	16.00	-	6.00	30.56	23.36

Available Dimensions RMSN - Radial

Order-No.	Matchcode	Master-Nonius Relation	Magnetic pole Pitch	Outer Diameter (OD)	Outer Diameter (OD2)	Inner Diameter (ID)	Inner Diameter (ID2)	Height (H)	Height (H2)
			[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
51218	RMSN32-31-1.28-F-A	32-31	1.28	24.50	24.00	17.00	10.00	6.00	7.00
51467	RMSN32-31-1.28-F-A	32-31	1.28	24.50	24.00	17.00	16.35	6.00	10.00
51269	RMSN64-63-1.28-F-A	64-63	1.28	50.55	50.00	38.00	31.00	8.00	9.50
51356	RMSN64-63-1.28-E-S	64-63	1.28	50.55	-	48.55	25.00	10.00	11.00
51521	RMSN64-63-1.50-F-A	64-63	1.50	59.50	50.00	43.50	35.00	6.00	7.50
51529	RMSN64-63-1.50-E-S	64-63	1.50	59.60	-	57.60	52.60	6.00	6.00

RMSN Rev2.0 (2016/20/06)

Order Code

Parameters

RMSN M-N S - P - M - H - G - P

		Code	Explanation *
Parameters	M-N	Number of pole pairs	Number of pole pairs: Master-Nonius, i.e. 32-31
	S	Surface of magnetization	Radial, on the circumference (default, no input required)
			A Axial, on the end surface
	P	pole pitch (mm)	Pole pitch of master track in millimeter, i.e. 1.28
	M	Magnetization material	F Hard ferrite (8/22)
			E Elastomer bonded ferrite
			V Vulcanized ferrite
			P Plastroferrite
	H	Hub material	A Aluminum
			S Steel
			M Sheet metal
	G	Accuracy class	300 Arc seconds (default, no input required)
			G... (Only necessary if deviates from default)
P	Protection	Without protection (default)	
		S Stainless steel	
		F Fibre	
		P Plastic	

¹⁾ standard parameters are bold

Ordering Example

RMSN32-31-1.28-E-A-G100 Rotary Magnetic Scale Nonius, number of pole pairs 32 Master-31 Nonius, surface of magnetization radial, pole pitch 1.28 mm, magnetization material elastomer bonded ferrite, hub material aluminum, accuracy class 100 arc seconds

RMSN64-63A-1.50-E-S-S Rotary Magnetic Scale Nonius, number of pole pairs 64 Master-63 Nonius, surface of magnetization axial, polepitch 1.50 mm, magnetization material elastomer bonded ferrite, hub material steel, accuracy class 300 arc seconds , protection stainless steel