



Measuring



Positioning

RMSI Rotary Magnetic Scale Incremental

- Rotational Applications
- Different ring materials available
- Different pattern configurations

Areas of Application

Industrial Goods

Automation

Life Science

High-Tech Industry

Features

- From low to very high accuracy producible on demand
- One or two track magnetization
- Several pole pitches
- Different scale geometries
- Customizable for many applications
- No attrition 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 RMSI
Simple – precise – economic

Features

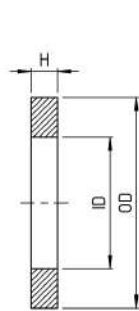
Magnetic Properties (Elastomer bonded ferrite/Isotropic)		
Residual Induction (Br)	mT	240-260
Coercive force (Hcb)	kA/m	171-195
Intrinsic coercive force (Hcj)	kA/m	223-279
Maximum energy product (Bhmax)	MGOe	1.45-1.65
Reversing temperature modulus	(% / °C)	-0.18
Physical Properties		
Tensile Strength	N/mm ² (MPa)	>2.5
Hardness	Shore D	30-45
Density	(g/cm ³)	3.55-3.7
Temperature Range	°C	-40...100
Chemical Properties		
Hydraulic Oil (23°C×72h)	+++	- bad + good ++ very good +++ Excellent
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)	+++	

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...250
Chemical Properties		
Hydraulic Oil (23°C×72h)	+++	- bad + good ++ very good +++ Excellent
Alcohol (23°C×72h)	++	
Weak Alkali (23°C×72h)	+++	
Detergent (23°C×72h)	+++	
Aromativ 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)	+++	

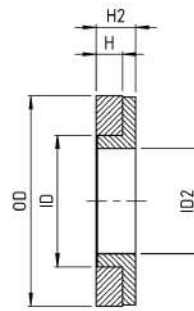
Magnetic Properties (Vulcanized ferrite/Isotropic)		
Residual Induction (Br)	mT	185
Coercive force (Hcb)	kA/m	129
Intrinsic coercive force (Hcj)	kA/m	257
Physical Properties		

Hardness	Shore A	85 ± 3
Density	(g/cm ³)	4.13
Temperature Range	°C	-40...160
Chemical Properties		
Hydraulic Oil (23°C×72h)	+++	- bad + good ++ very good +++ Excellent
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)	+++	

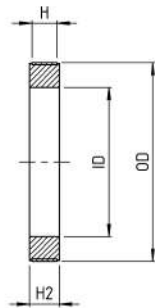
Technical Drawing



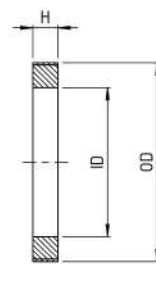
Ferrite Magnetic Scale



Ferrite Magnetic Scale with hub



Elastomer bonded ferrite



Vulcanized ferrite

Available Rotary Magnetic Scale Incremental Dimensions

	Order-No.	Matchcode	Pole Pairs (Master/Nonius)	Magnetic Pole Pitch	Outer Diameter (OD)	Inner Diameter (ID)	Height (H)
				[mm]	[mm]	[mm]	[mm]
Ferrite Rings (Radial)	51559	RMSI30.9-100-F	100	1,00	30,9	21,3	5
	50954	RMSI30.9-50-F	50	2,00	30,9	21,3	5
	50357	RMSI30.9-40-F	40	2,50	30,9	21,3	5
	50182	RMSI30.9-20-F	20	5,00	30,9	21,3	5
	51560	RMSI21.3-28-F	28	2,50	21,3	14,7	4,1
	51561	RMSI21.3-16-F	16	5,00	21,3	14,7	4,1
	51562	RMSI32.21-102-F	102	1,00	32,21	25,5	10
	51563	RMSI32.21-22-F	22	5,00	32,21	25,5	10
	51564	RMSI48.7-156-F	156	1,00	48,7	37,2	5
	50666	RMSI48.7-64-F	64	2,50	48,7	37,2	5
	50232	RMSI48.7-32-F	32	5,00	48,7	37,2	5
	51565	RMSI19.75-64-F	64	1,00	19,75	14,7	4,1
	50536	RMSI19.75-32-F	32	2,00	19,75	14,7	4,1
	51566	RMSI19.75-26-F	26	2,50	19,75	14,7	4,1
	50460	RMSI72-228-F	228	1,00	72	54	7
	50240	RMSI72-88-F	88	2,50	72	54	7
	50365	RMSI38-120-F	120	1,00	38	30	6,5
	50239	RMSI38-50-F	50	2,50	38	30	6,5
	50204	RMSI38-24-F	24	5,00	38	30	6,5
	51567	RMSI41.2-130-F	130	1,00	41,2	25,05	10
	50592	RMSI41.2-64-F	64	2,00	41,2	25,05	10
	51568	RMSI31-100-F	100	1,00	31	24	10
	50887	RMSI31-50-F	50	2,00	31	24	10
	51569	RMSI31-40-F	40	2,50	31	24	10
	50466	RMSI31-20-F	20	5,00	31	24	10
	51570	RMSI45-144-F	144	1,00	45	34	10
	50888	RMSI45-72-F	72	2,00	45	34	10
	51571	RMSI48-152-F	152	1,00	48	40	10
	50437	RMSI48-32-F	32	5,00	48	40	10
	51572	RMSI48.3-154-F	154	1,00	48,3	36,6	10
	51573	RMSI48.3-80-F	80	2,00	48,3	36,6	10
	50828	RMSI48.3-36-F	32	5,00	48,3	36,6	10
	51574	RMSI54.7-172-F	172	1,00	54,7	41,6	10
	50889	RMSI54.7-36-F	36	5,00	54,7	41,6	10
	51575	RMSI62.6-198-F	198	1,00	62,6	52,6	10
	50699	RMSI62.6-100-F	100	2,00	62,6	52,6	10
	51576	RMSI62.6-80-F	80	2,50	62,6	52,6	10
	51577	RMSI62.6-40-F	40	5,00	62,6	52,6	10
	51578	RMSI24.3-78-F	78	1,00	24,3	20	4
	51579	RMSI24.3-40-F	40	2,00	24,3	20	4
51108	RMSI24.3-32-F	32	2,50	24,3	20	4	
51580	RMSI24.3-16-F	16	5,00	24,3	20	4	
51581	RMSI24.5-80-F	80	1,00	24,5	17	6	
51582	RMSI24.5-40-F	40	2,00	24,5	17	6	
51583	RMSI24.5-32-F	32	2,50	24,5	17	6	
51584	RMSI24.5-16-F	16	5,00	24,5	17	6	
51585	RMSI24-76-F	76	1,00	24	5	3	
51586	RMSI24-40-F	40	2,00	24	5	3	
51587	RMSI24-32-F	32	2,50	24	5	3	
51588	RMSI24-16-F	16	5,00	24	5	3	
51589	RMSI30-96-F	96	1,00	30	11,5	5	
51590	RMSI30-50-F	50	2,00	30	11,5	5	
51591	RMSI30-40-F	40	2,50	30	11,5	5	

	51592	RMSI30-20-F	20	5,00	30	11,5	5
	51593	RMSI30-96-F	96	1,00	30	11,5	2,5
	51594	RMSI30-50-F	50	2,00	30	11,5	2,5
	51595	RMSI30-40-F	40	2,50	30	11,5	2,5
	51596	RMSI30-20-F	20	5,00	30	11,5	2,5

	Order-No.	Matchcode	Pole Pairs (Master/Nonius)	Magnetic Pole Pitch	Outer Diameter (OD)	Inner Diameter (ID)	Height (H)
				[mm]	[mm]	[mm]	[mm]
Ferrite Rings (Axial)	51597	RMSI30.9-18A-F	18	5,00	30,9	21,3	5
	51598	RMSI14-20A-F	20	2,00	14	8	1,5
	51599	RMSI14-16A-F	16	2,50	14	8	1,5
	51600	RMSI14-10A-F	10	5,00	14	8	1,5
	51601	RMSI32.21-20A-F	20	5,00	32,21	25,5	10
	51602	RMSI48.7-70A-F	70	2,00	48,7	37,2	5
	51603	RMSI48.7-30A-F	30	5,00	48,7	37,2	5
	51604	RMSI19.75-20A-F	20	2,50	19,75	14,7	4,1
	51605	RMSI19.75-10A-F	10	5,00	19,75	14,7	4,1
	51606	RMSI72-200A-F	200	1,00	72	54	7
	51607	RMSI72-100A-F	100	2,00	72	54	7
	51608	RMSI72-80A-F	80	2,50	72	54	7
	51609	RMSI72-40A-F	40	5,00	72	54	7
	50748	RMSI72-38A-F	38	5,00	72	54	7
	51610	RMSI38-108A-F	108	1,00	38	30	6,5
	50614	RMSI38-54A-F	54	2,00	38	30	6,5
	51611	RMSI38-44A-F	44	2,50	38	30	6,5
	51612	RMSI31-20A-F	20	5,00	31	24	10
	51613	RMSI45-50A-F	50	2,50	45	34	10
	51614	RMSI48-30A-F	30	5,00	48	40	10
	51615	RMSI54.7-32A-F	32	5,00	54,7	41,6	10
	51616	RMSI24.3-16A-F	16	5,00	24,3	20	4
	51617	RMSI24.5-16A-F	16	5,00	24,5	17	6
51618	RMSI24-24A-F	24	2,00	24	5	3	
51619	RMSI24-20A-F	20	2,50	24	5	3	
51620	RMSI24-10A-F	10	5,00	24	5	3	
51621	RMSI30-16A-F	16	5,00	30	11,5	5	
51622	RMSI30-28A-F	28	1,00	30	11,5	2,5	
51623	RMSI30-16A-F	16	1,00	30	11,5	2,5	

Customized Rotary Magnetic Scale Incremental

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.

Order Code

Parameters

RMSI -

P	D	N	S	M	H	A
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		Code	Explanation
P	Principle of Measurement	I	Incremental
D	Outer Diameter [mm]		Outer diameter of ring surface in millimeter
N	Number of Poles		Even positive integer number
S	Surface of Magnetization		Radial (default)
		A	Axial
M	Magnetization Material	F	Hard ferrite (8/22)
		E	Elastomer bonded ferrite
		V	Vulcanized ferrite
		P	Plastoferrite
H	Hub Material	A	Aluminum
		S	Steel
		M	Sheet metal
A	Accuracy Class		600 Arc seconds (default)
		G...	(Only necessary if deviates from default)

Order Example

RMSI-50-64-F-A-G100

Rotary Magnetic Scale Incremental, 50mm Outer Diameter, 64 Poles on the circumference (Radial), Ferrite Magnetization (Material), Aluminum (Hub Material), 100 Arc Seconds (Accuracy Class)

RMSI-50A-E-S

Rotary Magnetic Scale Incremental, 50mm Outer Diameter, Surface of Magnetization (Axial), Elastomer Magnetization (Material), Steel (Hub Material)