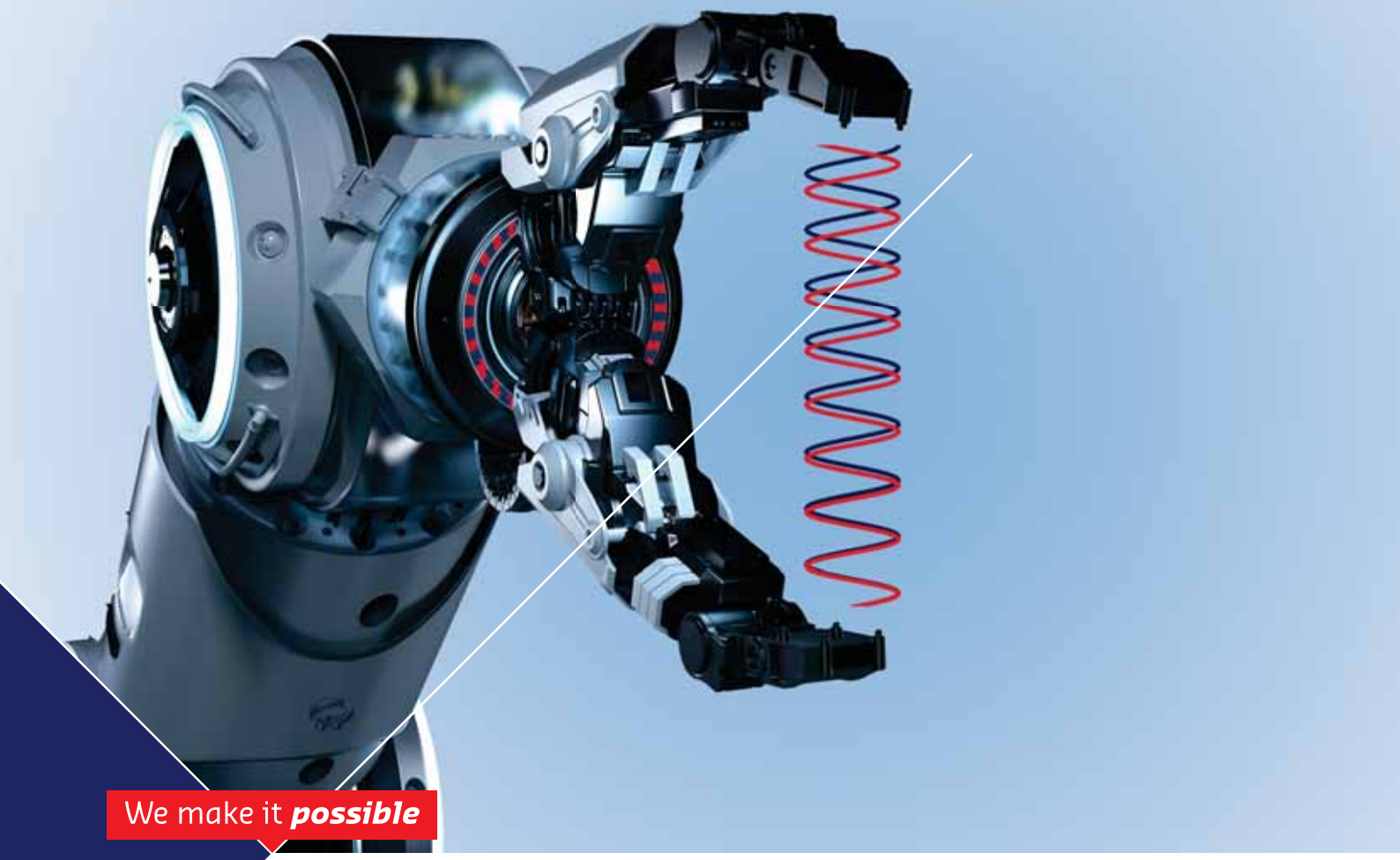
HUTCHINSON®



We make it ***possible***

Nonius Magnet Rings

INDUSTRIAL APPLICATIONS

Genuine parts produced in our factories in Europe

AVE
ADDED VALUE ELECTRONICS

HUTCHINSON NONIUS MAGNET RINGS

Hutchinson Nonius magnet rings consist of 2 magnetic tracks.

The **Master track** is composed of an even number of magnetized poles. This first track is used for high precision position definition.

The second track referred as the **Nonius track** has one less pair of poles than the Master track. This track is used to calculate an absolute position by calculating the offset to the Master track.

The elastic properties of the rubber, combined with good rubber-metal adhesion, ensure good performance under extreme environments.

The combination of magnetic rings with Hall effect sensors of the iC-MU series create absolute position measuring systems.

Hutchinson Nonius magnet rings respond efficiently to industrial applications. They are fully adapted to robots used in medical applications, for automated production lines or machine tools.

FEATURES

- Magnetic vulcanized rubber compound
- Bonding stainless steel insert
- Temperature range -40 to 140 ºC
- Dimensions from 20 to 90 mm
- Axial & radial designs

BENEFITS

- Optimized magnetic signal
- Optimum adhesion adapted to high speed
- Permanent magnetic material
- Thin design for downsized housing (1,1mm for axial design)
- Adapted to robotic and motor control applications
- Compatible with the iC-MU Series from iC-Haus

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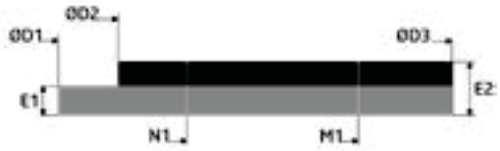
AXIAL NONIUS MAGNET RINGS
DATA SHEET



ITEM	PARAMETER	HUT128A32	HUT150A32	HUT150A64	HUT200A32
DIMENSION TABLE					
ØD1	Ring inner diameter (mm)	15,00 +0,03 -0,02	18,00 +0,03 -0,02	47,40 +0,03 -0,02	25,00 +0,05 -0,00
ØD2	Magnetic track inner diameter (mm)	16,00 +0,1 -0,1	20,50 +0,1 -0,1	49,90 +0,1 -0,1	29,10 +0,1 -0,1
ØD3	Ring outer diameter (mm)	29,00 +0,2 -0,2	34,50 +0,2 -0,2	65,10 +0,2 -0,2	44,50 +0,2 -0,2
E1	Insert thickness (mm)	0,60	0,60	0,60	0,60
E2	Total thickness (mm)	1,10 +0,1 -0,1	1,10 +0,1 -0,1	1,10 +0,1 -0,1	1,40 +0,1 -0,1
MAGNETIC DIMENSION TABLE					
N1	Number of pole pairs on Nonius track	31	31	63	31
	Scanning reading diameter of Nonius track (mm)	18,88 +0,1 -0,1	23,36 +0,1 -0,1	53,90 +0,1 -0,1	32,80 +0,1 -0,1
	Pole width of Nonius track (mm)	0,96	1,18	1,34	1,66
M1	Number of pole pairs on master track	32	32	64	32
	Scanning reading diameter of master track (mm)	26,08 +0,1 -0,1	30,56 +0,1 -0,1	61,10 +0,1 -0,1	40,80 +0,1 -0,1
	Pole width of master track (mm)	1,28	1,50	1,50	2,00
MAGNETIC MATERIAL CHARACTERISTICS					
Br	Remanence @20ºC (mT)	190			
Tc	Temperature coefficient of the remanence (%/K)	-0,19			
RECOMMENDED CHIP POSITION					
	Radial position of chip center (mm) *refered to axial center*	11,24	13,48	28,75	18,40
	Recommended mechanical air gap (mm) *refered to magnetic coating surface*	0,40	0,40	0,40	0,60
THERMAL DATA					
	Magnet ring operating ambiant temperature range (ºC)	-40 to 140			
	iC-Haus Chips	iC-MU128	iC-MU150	iC-MU150	iC-MU200

External fields can change the functional properties and may reduce system accuracy or damage the disc magnetization. The functionality of the system may no longer be ensured. Direct contact with magnetic clamps or other permanent magnets must be avoided.

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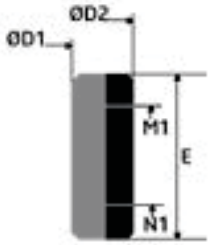
RADIAL NONIUS MAGNET RINGS

DATA SHEET



ITEM	PARAMETER	HUT128R32	HUT150R64
DIMENSION TABLE			
ØD1	Ring inner diameter (mm)	20 +0,02 -0,00	53,1 +0,03 -0,00
ØD2	Ring outer diameter (mm)	24,50 +0,1 -0,1	59,6 +0,15 -0,15
E	Height (mm)	6 +0,1 -0,1	8 +0,2 -0,0
MAGNETIC DIMENSION TABLE			
N1	Number of pole pairs on Nonius track	31	63
	Scanning reading position of Nonius track (mm)	1,2	2,2
	Pole width of Nonius track (°)	360/62	360/126
M1	Number of pole pairs on master track	32	64
	Scanning reading position of master track (mm)	4,8	5,8
	Pole width of master track (°)	360/64	360/128
MAGNETIC MATERIAL CHARACTERISTICS			
Br	Remanence @20°C (mT)	190	
Tc	Temperature coefficient of remanence (%/K)	-0,19	
RECOMMENDED CHIP POSITION			
	Radial position of chip center (mm) *refered to axial center*	3	4
	Recommended mechanical air gap (mm) *refered to magnetic coating surface*	0,40	0,40
THERMAL DATA			
	Magnet ring operating ambiant temperature range (°C)	-40 to 140	

iC-Haus Chips	iC-MU128	iC-MU150

External fields can change the functional properties and may reduce system accuracy or damage the disc magnetization. The functionality of the system may no longer be ensured. Direct contact with magnetic clamps or other permanent magnets must be avoided.

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