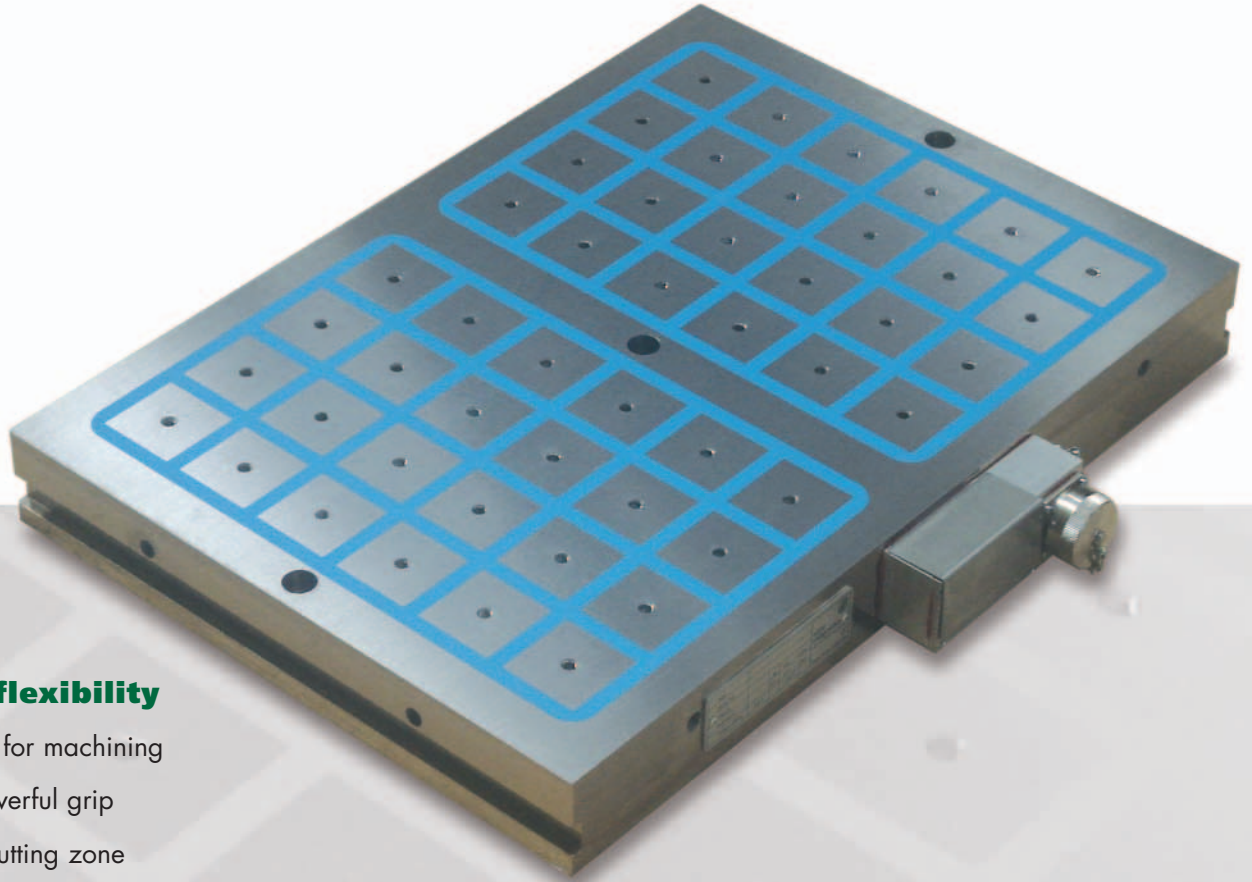


NeoGrid

Square pole
grid system

Magnetic workholding modules for milling



Magnetic flexibility

- 5-sides clear for machining
- Uniform, powerful grip
- Clamp-free cutting zone

Electro-permanent technology

- Stable, safe
- Pallet and tombstone compatible

An advanced work-holding system

- Rapid and consistent part loading
- Fast change-over
- Absolute repeatability



WENmagnetics

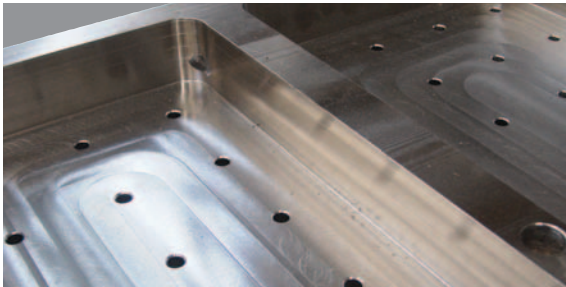
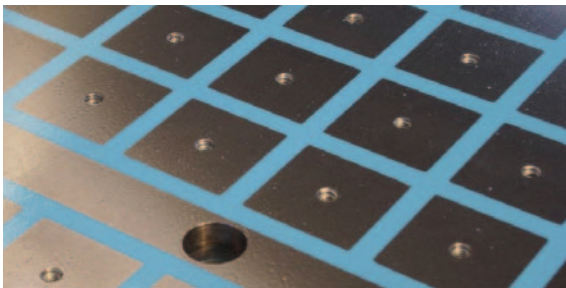
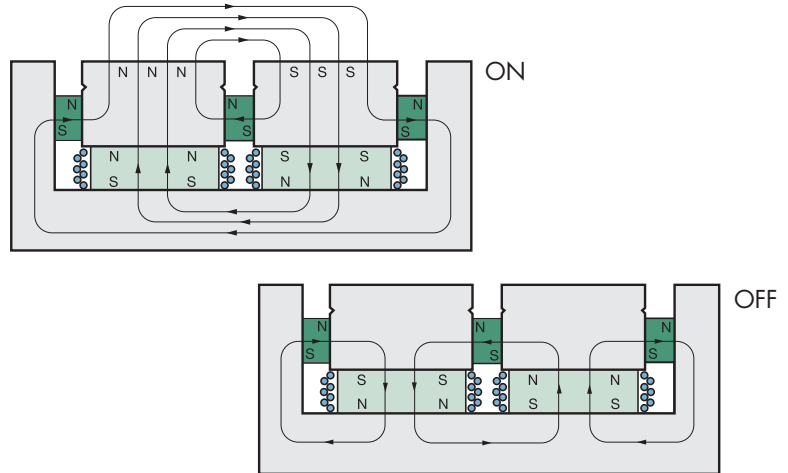
www.wenmagnetics.com

NeoGrid *Electro-Permanent Magnetic Chucks*

Electro-permanent circuit

Electrically switched, permanent magnet circuit only uses power during the switching process and will then remain in either the "on" or "off" state indefinitely.

- No heat build-up during use for exceptional dimensional stability
- Pallet and Tombstone friendly, just disconnect and let it go
- Safe, no loss of magnetic grip in a power failure



NeoGrid system

With a grid layout alternating North/South polarity in both the X and Y axes and Neodymium Rare-Earth magnets, the result is the ultimate in magnetic performance, modular construction and compact design.

- Low magnetic flux penetration in the workpiece
- Part location and magnetic side grip possibilities
- Large tables by modular assembly

Quality Construction

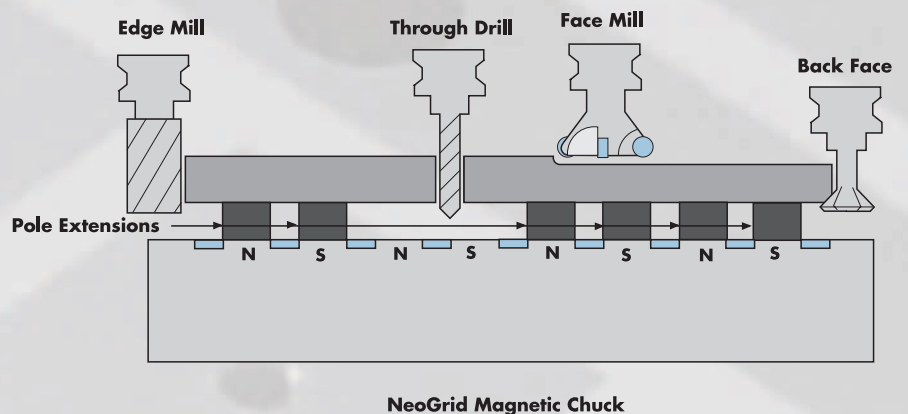
Neo-Grid magnetic modules start with a case cut from mono-blocks of 0.45% carbon steel, all steel components are electro-less nickel plated prior to assembly and the assembled system is multi-stage sealed with resin - assured durability, stability and accuracy.

The modular nature of the Neo-Grid system also facilitates producing custom layouts—our engineering staff will be happy to work with you!

The magic of pole extensions

Simple, mild steel blocks called "pole extensions" bolted to the chuck face can be used to lift the part up providing clearance for through drilling, edge milling and back machining.

These "pole extensions" can also be configured to facilitate part location, magnetic side grip for holding small parts and clearance for through machining.



Flexible/Cost-Effective/Productive

No clamps » 5-sides clear for machining, process in fewer operations

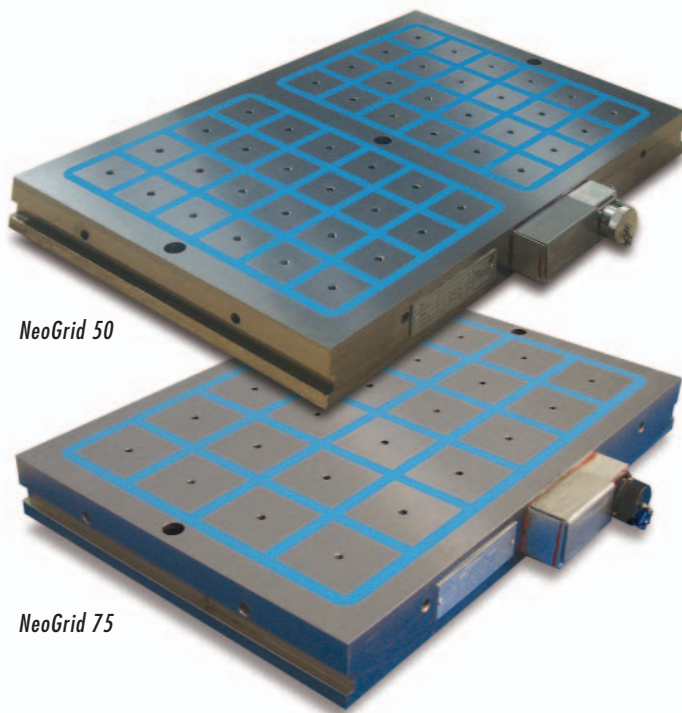
No power » Works for pallets and tombstones, no distortion from internal heating, safe

Entire surface clamped evenly » Better surface finish, better tool life, absolute repeatability

Modular top tooling » Quick set-up, clearance for through machining, side grip, magnetic angle blocks and part location

Self-Shimming Pole Extensions » For deformation free grip and support

High holding power » Meet or exceed your existing cut capabilities!



Standard Series Versions

NG50

- Fine pole version with 2" square poles.
- Best suited for workpieces min. 10" x 10" (16 pole coverage) and min. 0.4" thick.
- Smaller, thinner workpieces can be accommodated with reservation – please consult.

NG75

- Standard pole version with 3" square poles.
- Best suited for workpieces min. 16" sq. (16 pole coverage) and min 0.75" thick.

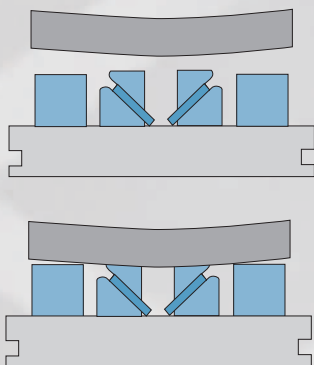
NG100

- For large applications – 4" square poles.

Each NG series chuck is offered in two "magnetic powers"

- M1 Standard Power – suitable for larger parts with good contact surfaces.
- M2 High Power – preferred for optimal performance with high alloy, high hardness steels, cast irons, small or irregular parts, and/or cast, forged or sawn surfaces.

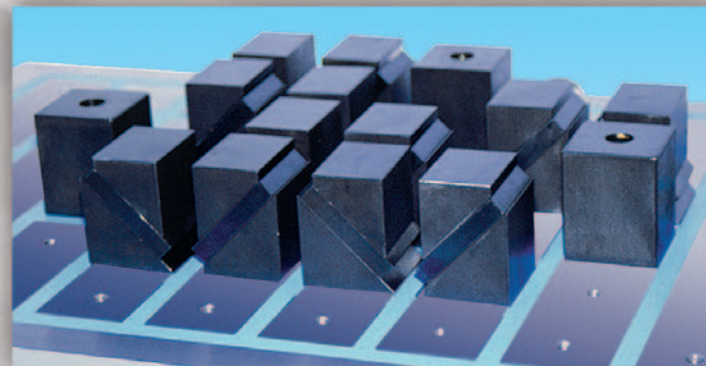
Self Shimming Support



Self-shimming pole extensions are the ultimate solution for holding rough or deformed parts.

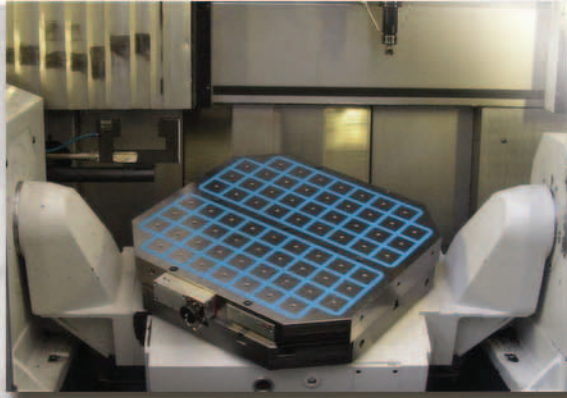
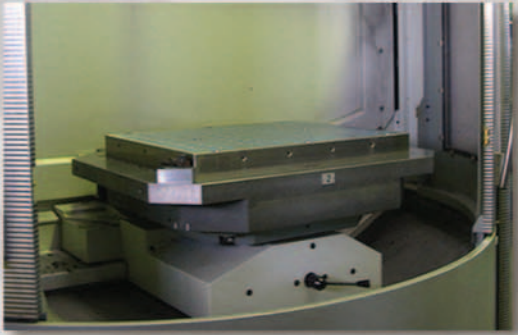
Cut in half at a 45° angle, these blocks conform to the shape of the part when the chuck is "off". Once the chuck is magnetized, the self-shimming pole extensions not only lock to the part, they also lock in position without deformation.

Warped plates can be machined flat and stepped parts can be machined without warping!

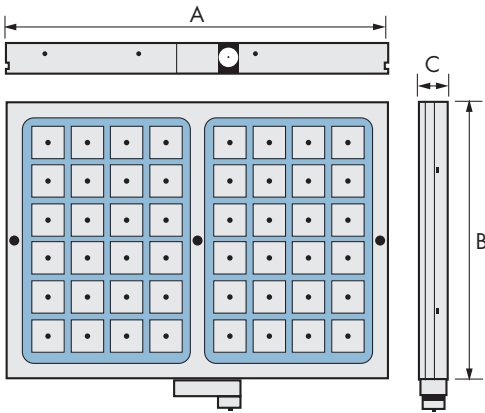


NeoGrid Possibilities





NeoGrid Standard System



Standard Supply

Electro-permanent magnetic module with:

- Waterproof quick disconnect
- Fixing holes on centerline for M12 or 1/2" UNC SHCS's
- End clamping slots
- Electronic control unit with 12' waterproof, over-braided discharge cable
- Robust industrial hand pendant
- PLC interface for direct control and/or interlocking
- Mains voltage 460V ac 60Hz
- Instruction manual

Options

- Additional fixing holes (max M16 or 5/8" UNC)
- Alignment keys
- Extended cables
- Fixed, sealed discharge cable
- Mains voltage 220/240V 60Hz
- Custom case layout by agreement

Order Code

Example for a Standard Power NG50 module, 17" x 23" size –

NG50. 1. 060.040

Series = NG50

Power = M1 Standard

Size = 600 x 400 mm or 23" x 17"

Standard Sizes

NG50 Series

2" square poles - 50 x 50 mm on 60 mm centers

Size Code	Size (inch)	A (mm)	B (mm)	M1 Standard			M2 High Power	
				C (mm)	Weight (lb)	# Poles (#)	C (mm)	Weight (lb)
030.030	12 x 12	310	300	66	97	16	76	110
040.030	17 x 12	430	300	66	132	24	76	151
040.040	17 x 17	430	420	66	183	36	76	210
060.030	23 x 12	590	300	66	180	32	76	207
060.040	23 x 17	590	420	66	251	48	76	285
060.050	23 x 19	590	480	66	288	56	76	334
060.060	23 x 24	590	600	66	361	72	76	557
080.030	30 x 12	750	300	66	229	40	76	264
080.040	30 x 17	750	420	66	321	60	76	367
080.050	30 x 19	750	480	66	365	70	76	421
080.060	30 x 24	750	600	66	458	90	76	528
090.030	35 x 12	870	300	66	266	48	76	305
090.040	35 x 17	870	420	66	372	72	76	426
090.050	35 x 19	870	480	66	425	84	76	488
090.060	35 x 24	870	600	66	530	108	76	612
100.030	40 x 12	990	300	66	301	56	76	348
100.040	40 x 17	990	420	66	422	84	76	486
100.050	40 x 19	990	480	66	484	98	76	557
100.060	40 x 24	990	600	66	603	126	76	695

NG75 Series

3" square poles - 75 x 75 mm on 88 mm centers

Size Code	Size (inch)	A (mm)	B (mm)	M1 Standard			M2 High Power	
				C (mm)	Weight (lb)	# Poles (#)	C (mm)	Weight (lb)
040.030	17 x 12	425	327	66	141	12	85	183
040.040	17 x 17	425	415	66	189	16	85	231
060.030	23 x 12	639	327	66	198	18	85	257
060.040	23 x 17	639	415	66	253	24	85	326
060.050	23 x 19	639	503	66	310	30	85	310
060.060	23 x 24	639	591	66	378	36	85	378
080.030	30 x 12	815	327	66	253	24	85	350
080.040	30 x 17	815	415	66	319	32	85	442
080.050	30 x 19	815	503	66	396	40	85	537
080.060	30 x 24	815	591	66	484	48	85	631
100.030	40 x 12	1,029	327	66	330	30	85	440
100.040	40 x 17	1,029	415	66	429	40	85	559
100.050	40 x 19	1,029	503	66	528	50	85	678
100.060	40 x 24	1,029	591	66	616	60	85	796

Extended Ranges

Larger sizes and multi-chuck tables available on request.

Controls

For NG series chucks (DM double magnet circuit)

Code	Description	Size (inch)
EC201	Single channel	12 x 12 x 5
EC202	Dual channel w/o channel selection	12 x 12 x 5
EC202S1	Dual channel with channel selection	12 x 12 x 5
EC204	Four channel w/o channel selection	16 x 12 x 5
EC204S1	Four channel with channel selection	16 x 12 x 5



Advanced Electronic Control

Housed in an IP65 sealed electrical cabinet, the control is complete with 12' over-braided discharge cable and power cord (connector not supplied).

In addition, a robust industrial hand pendant is provided and the control supports PLC interfacing for direct control and/or interlocking.

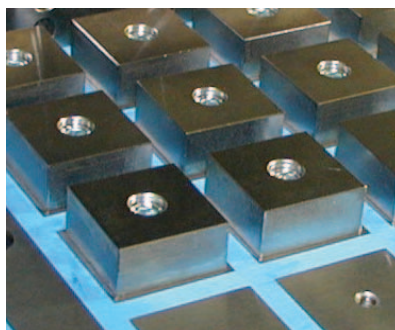
The standard single channel control is shown. For larger systems, multi-channel controls are also available

Accessories

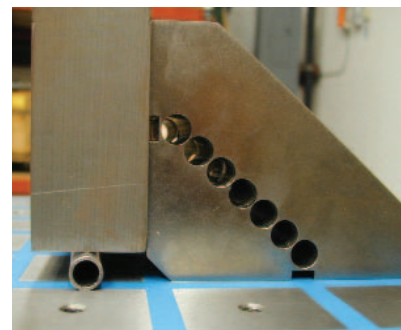
Mild steel pole extensions bolt directly to the magnetic modules and provide the facility to lift, locate and magnetically side grip the workpiece.

For NG50

- FPE50.20 – Fixed pole extension
- KMPE50.54 – Self-shimming pole extension set
- SS50S – Fixed Stop
- MSS50.4 – Magnetic Side Stop
- RSQ50.2 – Right-Angle Square



Fixed pole extensions



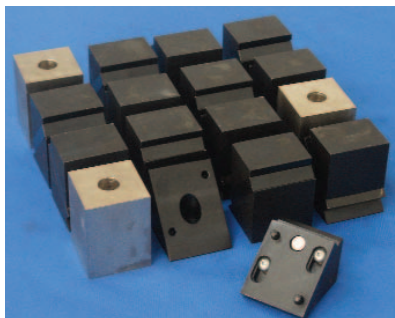
Right-Angle Square

For NG75/100

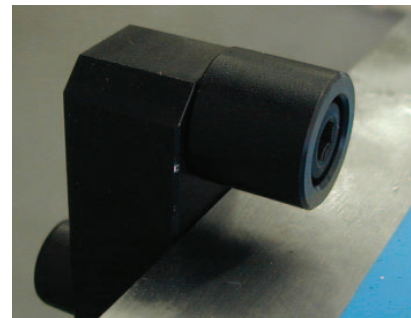
- FPE75.30 – Fixed pole extension
- KMPE75.70 – Self-shimming pole extension set



Magnetic Side Stop



Self-shimming pole extensions



Fixed Stop

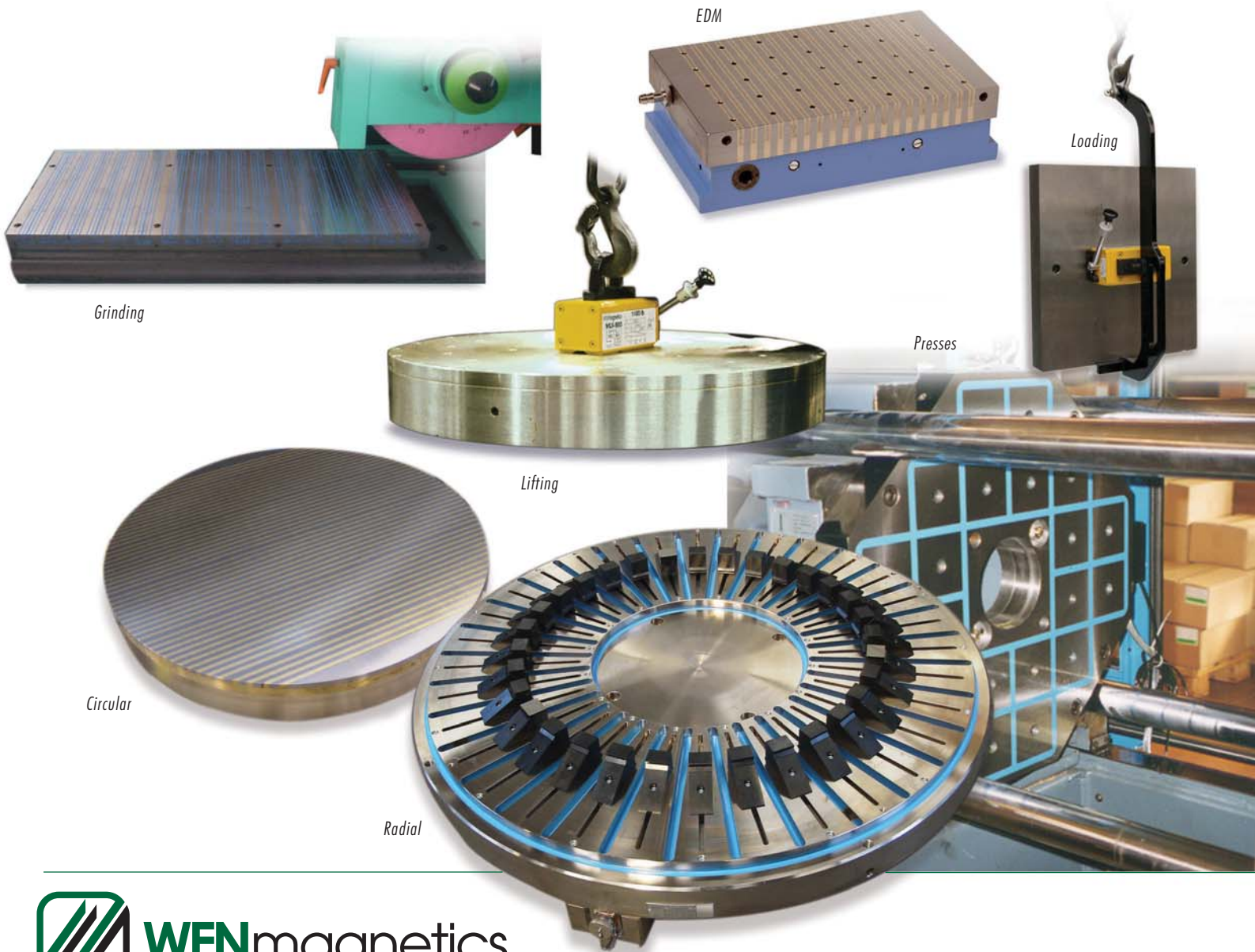
Technical Data for Neo-Grid 50, 75 and 100 series modules

Series	Version	Poles Density		Pull/Pole		Pull/Area		Pull/Pole thr'Airgap	
		(#/sq.ft.)	(#/m ²)	(lbf)	(kgf)	(Ton/sq.ft.)	(Tonf/m ²)	@ 0.040" (1 mm)	@ 0.060" (1.5 mm)
NG50	Standard	18.2	196	836	380	9.8	105.6	19%	11%
NG50	High Power	18.2	196	836	380	9.8	105.6	45%	24%
NG75	Standard	9.3	100	1,826	830	10	107.2	19%	11%
NG75	High Power	9.3	100	1,826	830	10	107.2	45%	24%
NG100	Standard	5.9	64	1,826	830	6	65	19%	11%
NG100	High Power	5.9	64	1,826	830	6	65	45%	24%

Technology at your service

Located in Raleigh, NC, Wen Magnetics has served American industry in the field of magnetic workholding for over 10 years. We have specialized and focused on electro-permanent magnetic systems for metal-cutting applications. With a strong dedication to engineering, we are able to handle complicated applications - large or small - and provide turn-key solutions using both standard and custom systems.

We welcome repairs and maintain the facility to repair our own and most other brands of electro-permanent magnetic chucks. We look forward to working with you!



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