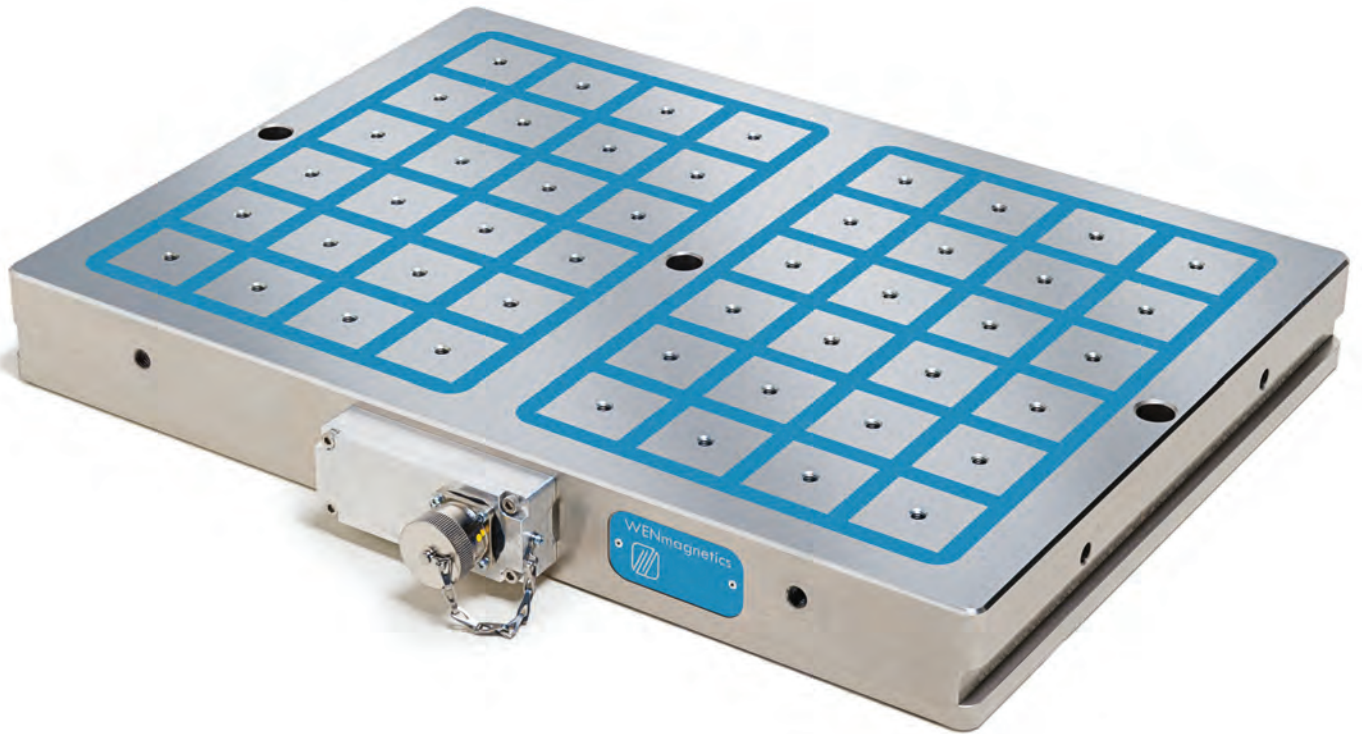
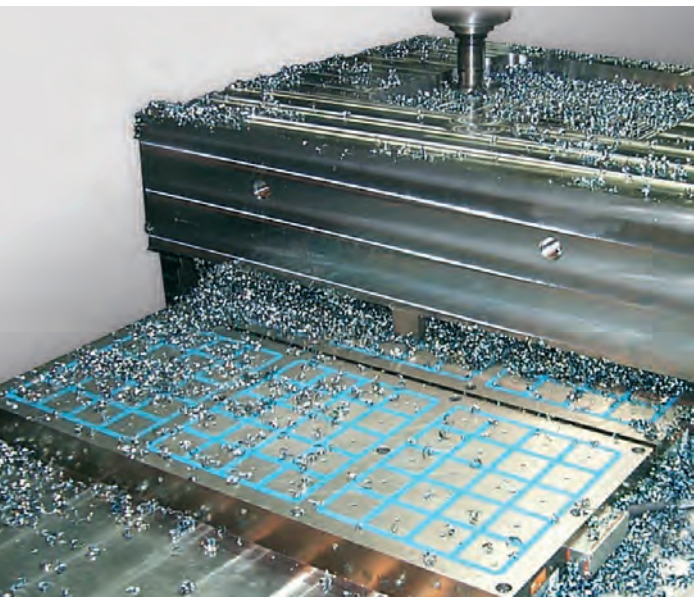


# NeoGrid

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

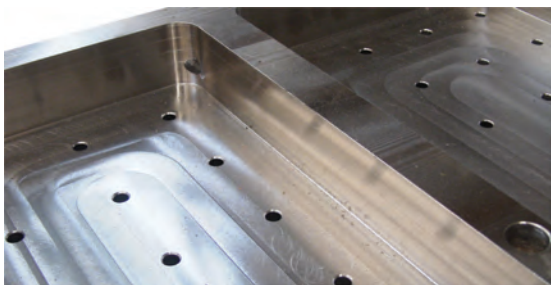
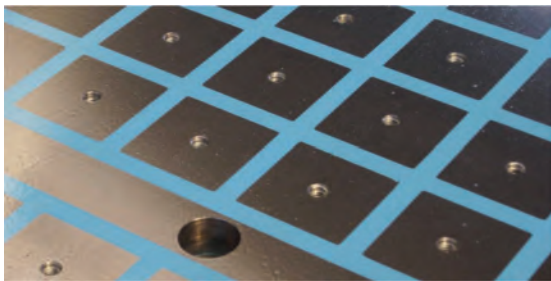
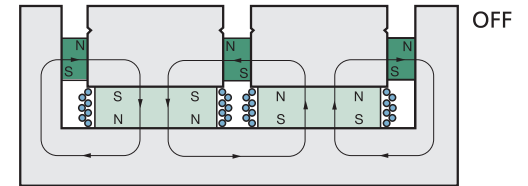
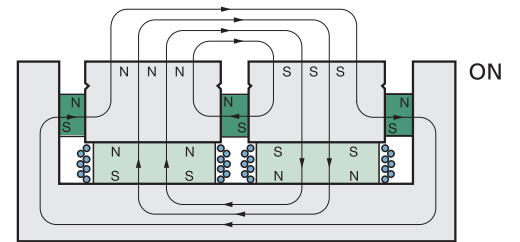
- Rapid and consistent part loading
- Fast change-over
- Absolute repeatability

## ELECTRO-PERMANENT MAGNETIC CHUCKS FOR MILLING

### 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

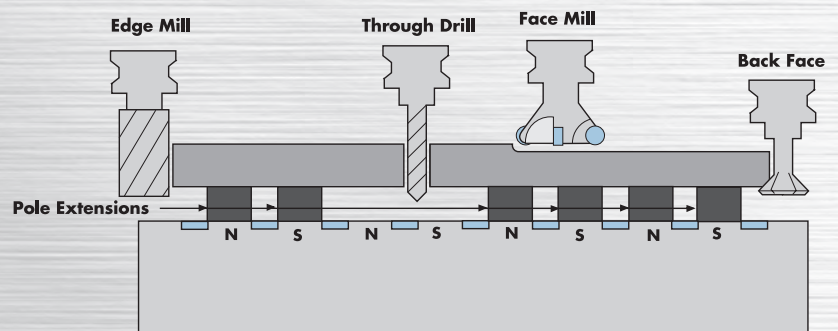
NeoGrid magnetic modules start with a case cut from mono-blocks of 0.45% carbon steel, all steel components are electro-less nickel plated prior to assembly and the assembled system is multi-stage sealed with resin – assured durability, stability and accuracy.

The modular nature of the NeoGrid 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.



NeoGrid Magnetic Chuck

## With Flexible/Cost-Effective/Productive

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

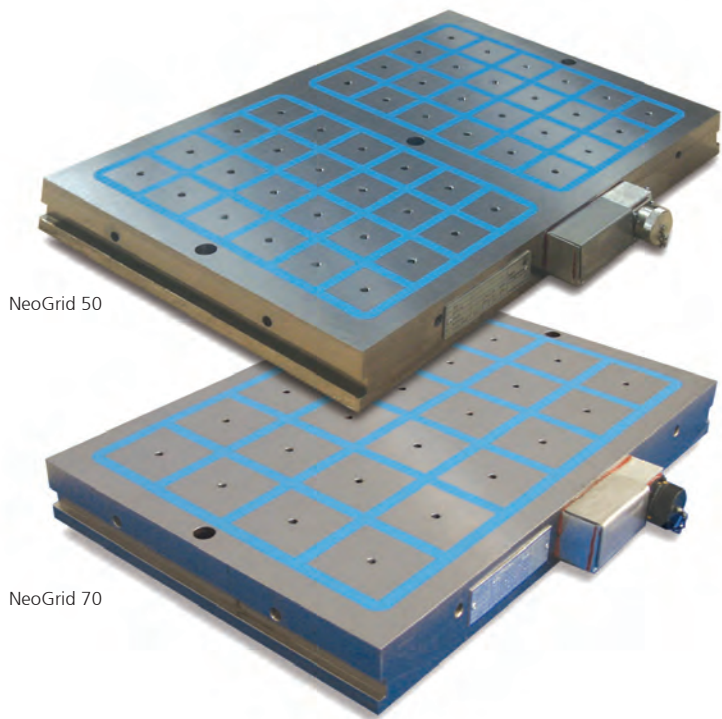
**No power** → Works for pallets and tombstones, no distortion from internal heating, safe

**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

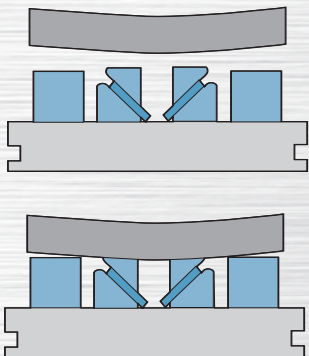
- Fine pole version with 2" square poles.
- Best suited for workpieces min. 10" x 10" (16 pole coverage) and min. 0.4" thick.
- Smaller, thinner workpieces can be accommodated with reservation – please consult.

### NG70

- Standard pole version with 2.75" square poles.
- Best suited for workpieces min. 16" sq. (16 pole coverage) and min 0.75" thick.

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

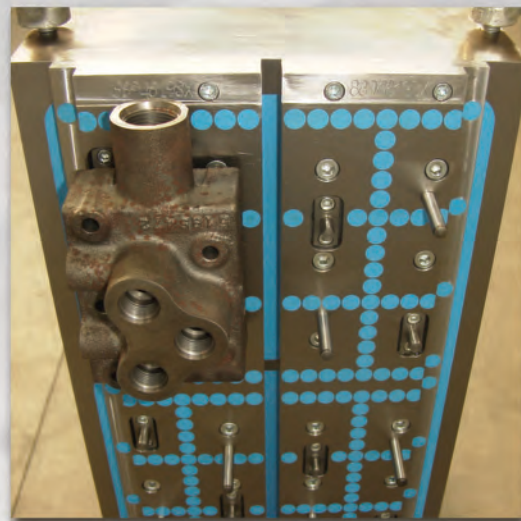
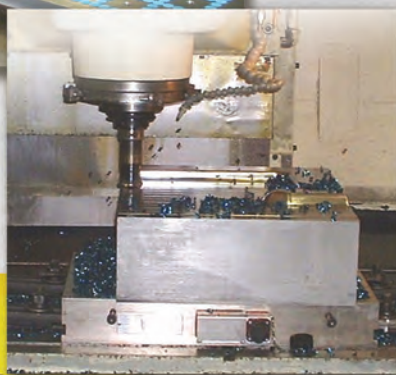
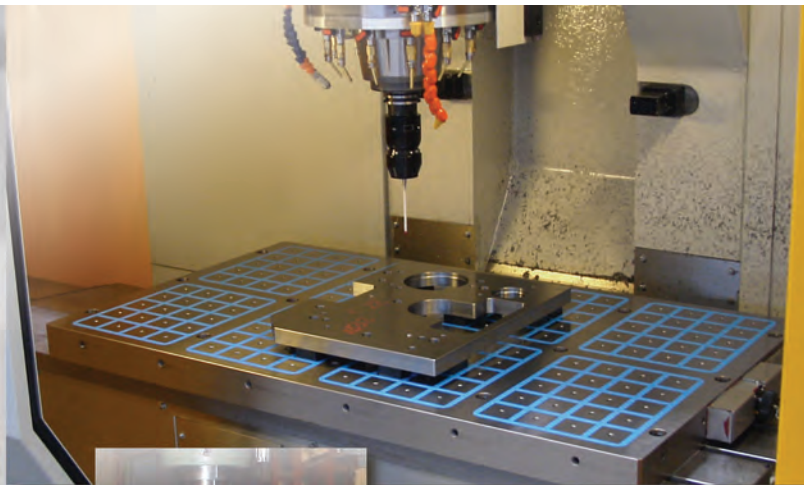
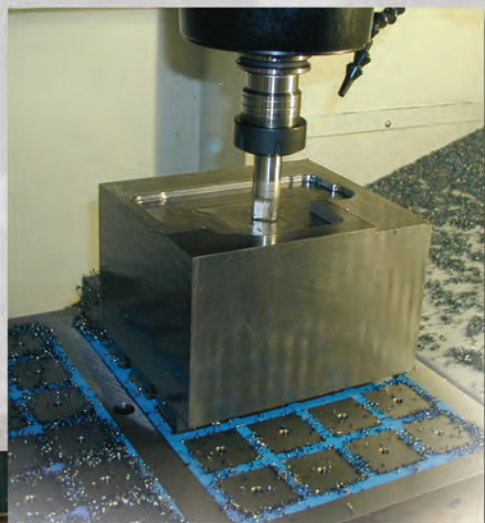
Self-shimming pole extensions are the ultimate solution for holding rough or deformed parts.

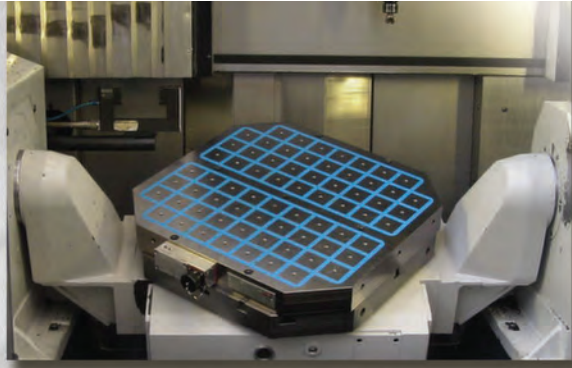
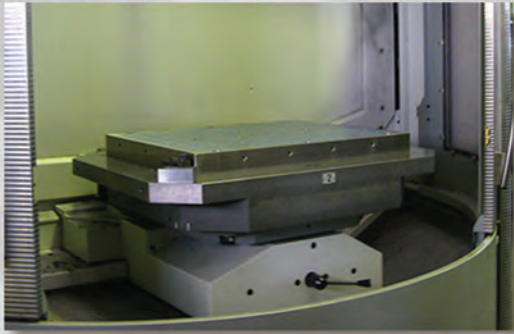
Cut in half at a 45° angle, these blocks conform to the shape of the part when the chuck is "off". Once the chuck is magnetized, the self-shimming pole extensions not only lock to the part, they also lock in position without deformation.

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

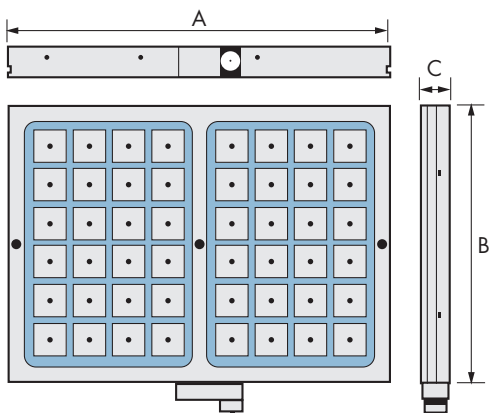


# NeoGrid POSSIBILITIES





# 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 480 or 230 Vac 60Hz
- Instruction manual

## Options

- Additional fixing holes (max M16 or 5/8" UNC)
- Alignment keys
- Extended cables
- Fixed, sealed discharge cable
- 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"

## NG50 Series

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

Size Code	Size (Inch)	A (mm)	B (mm)	C (mm)	M1 Standard		M2 High Power	
					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

## NG70 Series

2.75" square poles - 70 x 70 mm on 80 mm centers

Size Code	Size (Inch)	A (mm)	B (mm)	C (mm)	M1 Standard		M2 High Power	
					Weight (lb)	# Poles	C (mm)	Weight (lb)
040.030	16 x 12	400	310	66	127	12	76	146
040.040	12 x 16	400	390	66	160	16	76	184
050.050	20 x 20	480	470	66	231	25	76	266
060.030	24 x 12	600	310	66	191	18	76	219
060.040	24 x 16	600	390	66	240	24	76	276
060.050	24 x 20	600	470	66	289	30	76	333
060.060	24 x 24	600	560	66	344	36	76	396
080.030	32 x 12	760	310	66	241	24	76	278
080.040	32 x 16	760	390	66	304	32	76	350
080.050	32 x 20	760	470	66	366	40	76	421
080.060	32 x 24	760	560	66	436	48	76	502
100.030	40 x 12	960	310	66	305	30	76	351
100.040	40 x 16	960	390	66	383	40	76	442
100.050	40 x 20	960	470	66	462	50	76	532
100.060	40 x 24	960	560	66	551	60	76	634

## Extended Ranges

Larger sizes and multi-chuck tables available on request.

## Controls

For NG series chucks (DM double magnet circuit)

Code	Description	Size (Inch)
EC301M	Single channel	12 x 12 x 5
EC302M	Dual channel w/o channel selection	12 x 12 x 5
EC204S1M	Four channel with channel selection	16 x 12 x 5

Custom controls as required



Control with hand pendant

### Advanced Electronic Control

Housed in an IP65 sealed electrical cabinet, the control is complete with 16' discharge cable and power cord.

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!

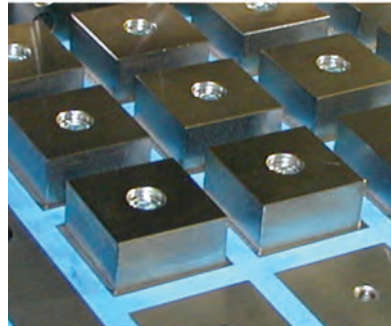
All WEN controls include advanced protection systems firmware for both operator safety and the prevention of damage to either the chuck or control. Common faults such as chips or coolant in connectors result in the chuck being immediately isolated from mains supply and a fault code indicated – no drama, no damage, correct the problem and move on. Patented.

### Accessories

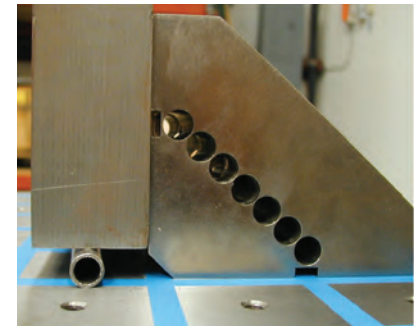
Mild steel pole extensions bolt directly to the magnetic modules and provide the facility to lift, locate and magnetically side grip the workpiece.

#### 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



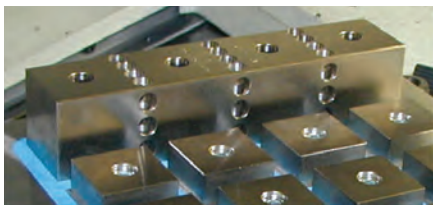
Fixed pole extensions



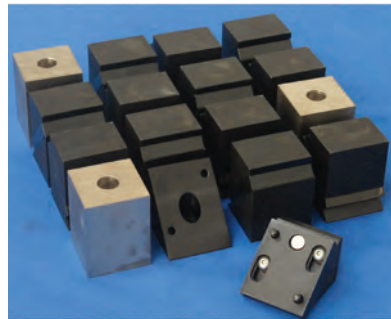
Right-Angle Square

#### For NG75

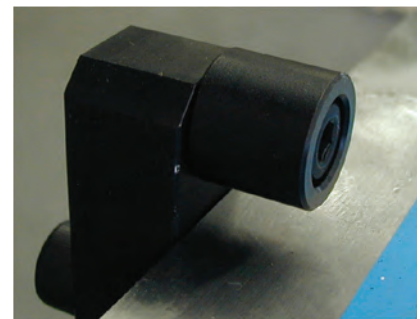
- FPE75.30 – Fixed pole extension
- KMPE75.70 – Self-shimming pole extension set



Magnetic Side Stop



Self-shimming pole extensions



Fixed Stop

### Technical Data for NeoGrid 50 and 75 series modules

Series	Versions	Poles Density		Pull/Pole		Pull/Area		Pull/Pole thr' Airgap	
		(#/sq.ft.)	(#/m <sup>2</sup> )	(lbf)	(kgf)	(Ton/sq.ft.)	(Tonf/m <sup>2</sup> )	@ 0.040"	@ 0.060"
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%
NG70	Standard	9.3	100	1,590	720	10	107.2	19%	11%
NG70	High Power	9.3	100	1,590	720	10	107.2	45%	24%

# TECHNOLOGY AT YOUR SERVICE

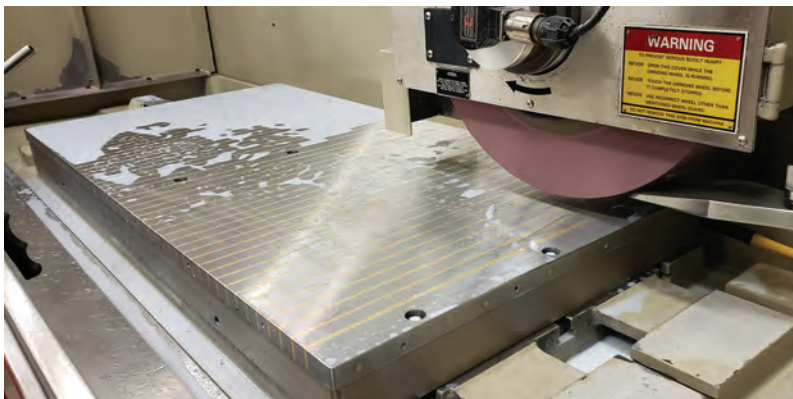
Located in Raleigh, NC, Wen Magnetics has served American industry in the field of magnetic workholding for over 25 years. We have specialized and focused on electro-permanent magnetic systems for metal-cutting applications. With a dedication to engineering, we are able to handle complicated applications – 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!



Custom Systems – Magnetic Trunion Table 5,000 x 500 mm (16' x 20"), +/- 45°



Grinding and EDM – 24" x 48" Electro-Permanent with demag shown



Radials for Rings – Ø1,250 mm 24 pole (Ø48"),  
hard turn & grinding



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