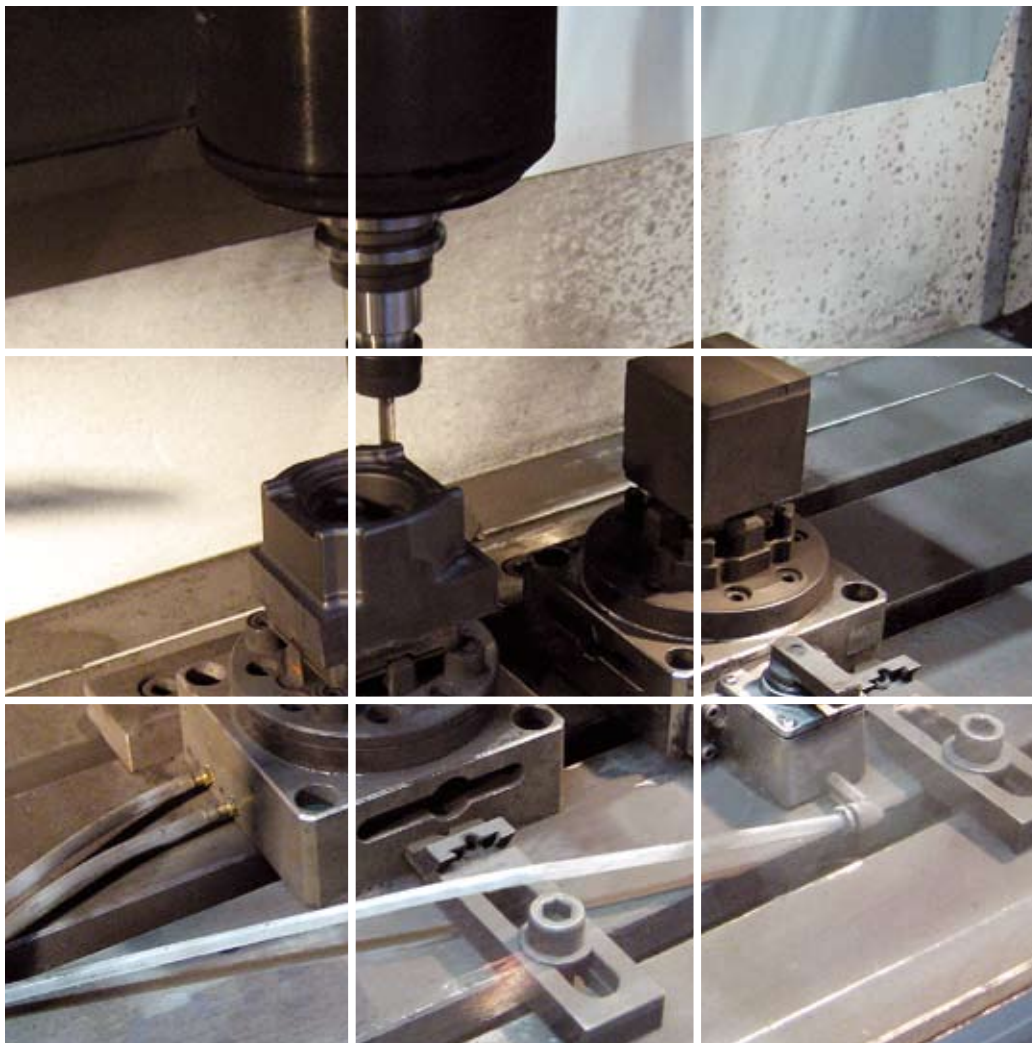


Reference systems for electrode manufacture
and die-sinking EDM.
The standard range.



THE BEST OF TWO WORLDS

MacroCombi – a unique tool for electrode production and EDM machining. MacroCombi combines the best of two worlds. Two perfect systems in one.

Both small and large electrodes can be mounted in the same chuck. Two systems. One chuck. No adapters. Always with fixed references you can rely on.

The same chuck for the Macro holder with its immovable stability and precision, and for the small, cost-effective MacroJunior holder. No tricky, time-consuming re-setting. Maximum flexibility! System 3R offers a complete range of combination chucks. Whatever chucks and accessories you need for your operations, we can provide them. Everything to ensure that you get the highest possible yield from your business, and that you always have access to a system that can tackle the tasks you need it to do.

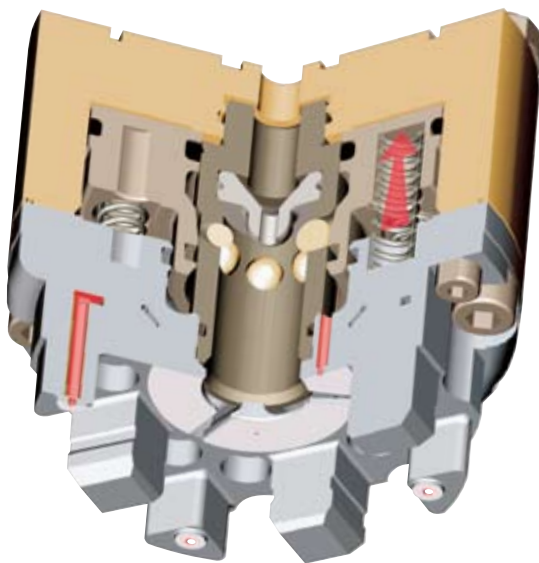
There are no limitations. Only possibilities.

*One chuck,
two systems, no
adapters.*

*Turbo locking
boosts the
clamping force*

*No bending
forces. Locking
mechanism
separate from the
references.*

*Automatic air-
blast cleaning.*



FACTS

Repetition accuracy
0.002 mm

Recommended tightening
torque, manual chucks:
4 Nm

Permitted torque, 25 mm
holders
10 Nm

Permitted torque, 30 mm
holders
25 Nm

Maximum flushing pressure
15 bar

Clamping force
5 000 N



OVERVIEW OF CHUCKS AND CHUCK ADAPTERS

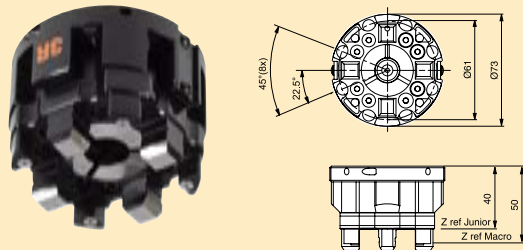
MacroCombi – spindle chucks			PAGE
MANUAL	3R-460.34		36
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PNEUMATIC AUTOMATIC / MANUAL	3R-460.1-1		36
PNEUMATIC AUTOMATIC / MANUAL	3R-460.83-1	MACHINE-ADAPTED	36
PNEUMATIC AUTOMATIC / MANUAL	3R-460.86-1	MACHINE-ADAPTED	36
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PNEUMATIC AUTOMATIC / MANUAL	3R-460.86-2.9	MACHINE-ADAPTED / 90°	37
PNEUMATIC AUTOMATIC / MANUAL	3R-460.87-1	MACHINE-ADAPTED / LONG	37
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MacroCombi – lathe chuck			
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MacroCombi – built-in chucks			
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MANUAL	3R-467.34	MAXI → MACROCOMBI	62
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PNEUMATIC AUTOMATIC / MANUAL	3R-467.1-1	MAXI → MACROCOMBI	63
MANUAL	D-40011	MINI → MACROCOMBI	67



✓ Manual chuck 3R-460.34

For mounting in the machine spindle by means of 3R-A11489, or on the machine table by means of 3R-A19724 or alternatively 3R-A21944, or in a fixture.

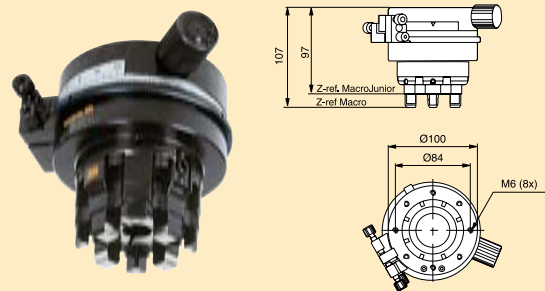
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Weight 0.8 kg



Manual C-axis 3R-460.35

For mounting on machine spindle with 3R-A3620.

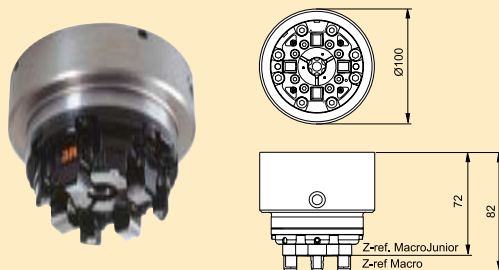
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Fixed index positions 8x45° and 3x120°
- Vernier scale
- Weight 4.3 kg



Pneumatic chuck 3R-460.1-1

Pneumatic chuck for mounting on machine spindle with 3R-A3620.

- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6±1 bar
- Air-blast cleaning of Z-references
- Turbo locking
- Weight 2.5 kg

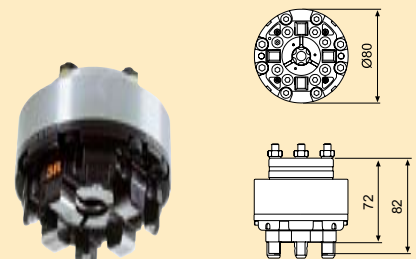


✓ Machine-adapted pneumatic chuck 3R-460.83-1

Pneumatic chuck for mounting directly on the machine spindle. All X/Y/Z references in hardened and ground steel.

Note: When ordering state machine make and type.

- Four M6 clearance holes, Ø 45 mm
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6±1 bar
- Air-blast cleaning of the Z-references
- Flushing connection
- Weight 2.5 kg

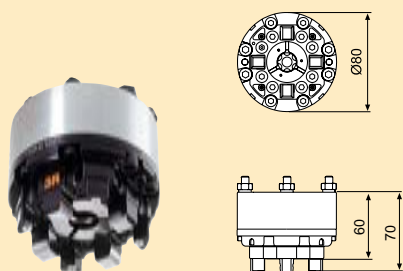


✓ Machine-adapted pneumatic chuck 3R-460.86-1

Pneumatic chuck for mounting directly on the machine spindle. All X/Y/Z references in hardened and ground steel.

Note: When ordering state machine make and type.

- Four M6 clearance holes, Ø45 mm and four M5 clearance holes, 62x26 mm
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6±1 bar
- Air-blast cleaning of the Z-references
- Flushing connection
- Weight 2.5 kg

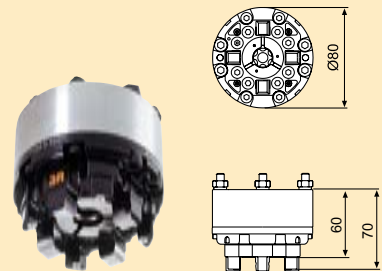


✓ Machine-adapted pneumatic chuck 3R-460.86-2

Pneumatic chuck for mounting directly on the machine spindle. All X/Y/Z references in hardened and ground steel.

Note: When ordering state machine make and type.

- Four M6 clearance holes, Ø45 mm and four M5 clearance holes, 62x26 mm
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6±1 bar
- Air-blast cleaning of the Z-references
- Flushing connection
- Weight 2.5 kg

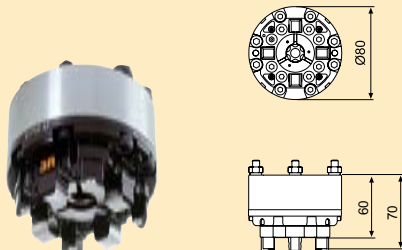


Machine-adapted pneumatic chuck 3R-460.86-2.9

Pneumatic chuck for mounting directly on the machine spindle. MacroJunior references offset 90°. All X/Y/Z references in hardened and ground steel.

Note: When ordering state machine make and type.

- Four M6 clearance holes, Ø45 mm and four M5 clearance holes, 62x26 mm
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6±1 bar
- Air-blast cleaning of the Z-references
- Flushing connection
- Weight 2.5 kg

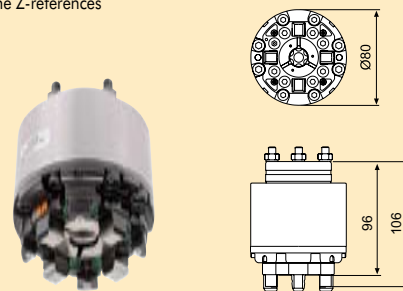


Machine-adapted pneumatic chuck 3R-460.87-1

Long pneumatic chuck (+24 mm) for mounting directly on the machine spindle. All X/Y/Z references in hardened and ground steel.

Note: When ordering state machine make and type.

- Four M6 clearance holes, Ø 45 mm
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6±1 bar
- Air-blast cleaning of the Z-references
- Flushing connection
- Weight 2.5 kg

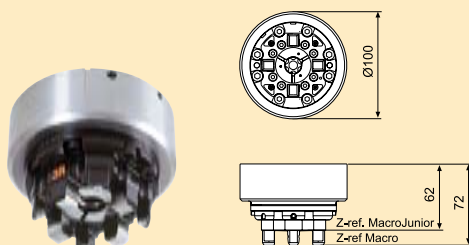


Machine-adapted pneumatic chuck 3R-460.EX8-1

Pneumatic chuck for mounting directly on the machine spindle. All X/Y/Z references in hardened and ground steel.

Note: When ordering state machine make and type.

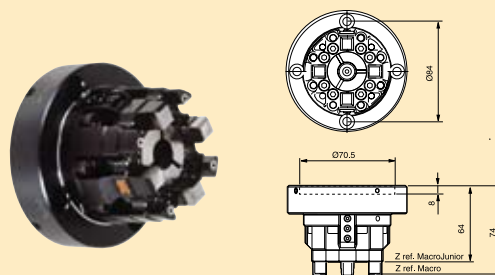
- Four M6 clearance holes, Ø45 mm and four M5 clearance holes, 62x26 mm
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6±1 bar
- Air-blast cleaning of the Z-references
- Flushing connection
- Weight 2.5 kg



Manual lathe chuck 3R-460.32

For mounting on a lathe taper

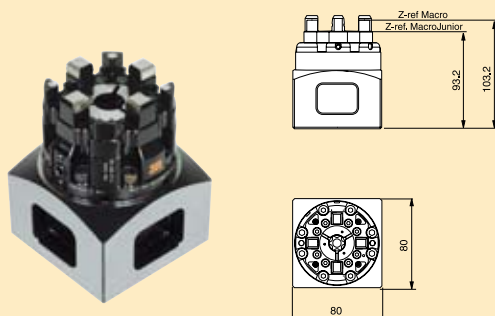
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Weight 2.5 kg



Manual chuck 3R-460.31-5

Chuck in HighPerformance version. Five ground surfaces for vertical or horizontal mounting on the machine table.

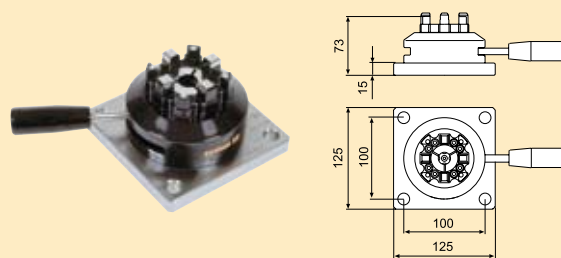
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Weight 3.5 kg



Manual chuck 3R-460.37

The locking mechanism is operated by a removable handle.

- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Weight 4.5 kg



Dividing head 3R-460.45

Three adjustable axes.

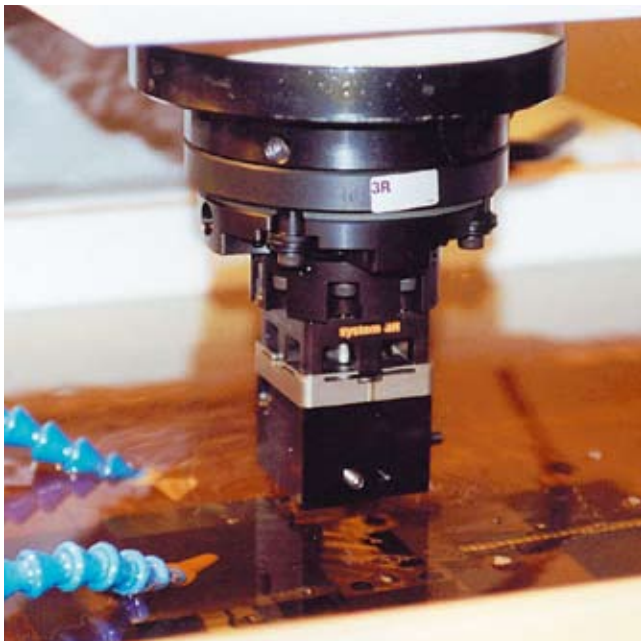
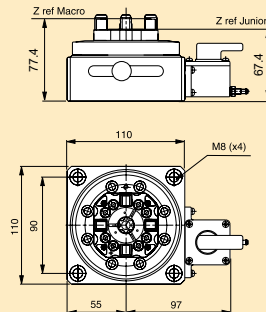
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Fixed index positions in the first axis 24x15°
- Fixed index positions in the other axes 2x90°
- Vernier scale
- Weight 20 kg



✓ Pneumatic table chuck 3R-460.46

Pneumatic chuck with integral air unit.

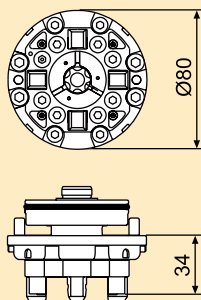
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6 ± 1 bar
- Air-blast cleaning of Z-references
- Turbo locking
- Weight 4.4 kg



✓ Pneumatic chuck 3R-SP18286

Pneumatic chuck for building-in, for example in a fixture, dividing head or B-axis.

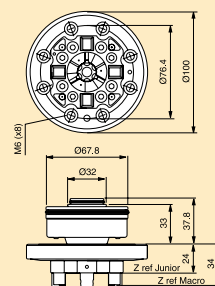
- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6 ± 1 bar
- Air-blast cleaning of the Z-references
- Turbo locking
- Weight 2.1 kg



✓ Pneumatic chuck 3R-SP19047

Pneumatic chuck for building-in, for example in a fixture, dividing head or B-axis.

- Required drawbar for Macro holder 3R-405.16
- Required drawbar for MacroJunior holder 3R-405.11
- Required air pressure 6 ± 1 bar
- Air-blast cleaning of Z-references
- Turbo locking
- Weight 2.1 kg



OVERVIEW OF HOLDERS

MacroJunior – holders			PAGE
Ø25 mm	3R-491E		9
Ø25 mm WITHOUT GRIPPER STOP	3R-491E-MONDO		9
Ø25 mm PARALLEL-GROUND	3R-491E-HP		9
Ø26 mm PARALLEL-GROUND / JOURNAL Ø8.8 mm	3R-461-8.8-HP		10
Ø28 mm JOURNAL Ø10 mm	3R-461.1E-GA		9
Ø28 mm CONE	3R-465.1E-A		10
ELECTRODES Ø0.1-2 mm	3R-469-10		10
ELECTRODES Ø0.5-10 mm	3R-469-16		10
ELECTRODES Ø1-4 mm	3R-465-VE		10
ELECTRODES Ø4-8 mm	3R-465-LE		10
3READY-TO-RUN	3R-494-XXX		11
MacroStandard – holder 54x54 mm			
HARDENED PALLET 12.5 mm	3R-651.7E-XS		19
HARDENED PALLET 12.5 mm	3R-651.7E-S	SURFACE-TREATED	19
SPACER PLATE	3R-658.1E-S		19
UNHARDENED HOLDER FOR ELECTRODES <30 mm	3R-658.2E-S		19
UNHARDENED HOLDER FOR ELECTRODES <30 mm	3R-658.4E-S		20
MacroHighPerformance – holder 54x54 mm			
HARDENED PALLET 12.5 mm	3R-651.7E-P		29
HARDENED PALLET 30 mm	3R-651E-P		29
HARDENED PALLET 30 mm	3R-651.3	52x52 mm, 3REFIX	29
UNHARDENED PALLET	3R-658.31E	52x52 mm, 3REFIX	29
HARDENED / UNHARDENED JOURNAL Ø30 mm	3R-651.105E		29
HARDENED HOLDER FOR ELECTRODES <30 mm	3R-651.13		29
THREE-JAW CHUCK 0-3 mm	3R-US611.4		30
COLLET CHUCK ER16	3R-659.16-P		30
COLLET CHUCK ER20	3R-659.20-P		30
COLLET CHUCK ER32	3R-659.32-P		30
MacroHighPerformance – pallets 70x70 mm			
UNHARDENED PALLET	3R-608.31E	3REFIX	30
HARDENED PALLET 12.5 mm	3R-601.7E-P		30
HARDENED PALLET 30 mm	3R-601.1E-P		30
HARDENED PALLET 30 mm	3R-601.3	3REFIX	30



User kit 3R-468.31-S

3R-405.11	Drawbar, MacroJunior	x5
3R-405.16	Drawbar, Macro	x5
3R-460.31-S	Manual table chuck	x1
3R-465-L	Holder, MacroJunior	x2
3R-465-V	Holder, MacroJunior	x2
3R-491	Holder, MacroJunior	x30
3R-651.7-S	Pallet Macro 54x54 mm	x6
3R-656.1	Check ruler	x1
3R-658.1-S	Intermediate plate, Macro 54x54 mm	x2
3R-658.2-S	Holder, Macro 54x54 mm	x2
3R-658.4-S	Holder, Macro 54x54 mm	x2
3R-333-T20	Screwdriver, TORX	x1
3R-PI4.5x14	TORX screw	x100
3R-414-04	Torque wrench, 4 Nm	x1



Sealing ring 3R-SP19764

Rubber ring, used for debris protection/sealing for the MacroJunior references in electrode manufacturing on Macro holders in MacroCombi chucks.



Drawbar 3R-405.11E

Drawbar Ø15 mm to mount MacroJunior holders in chucks 3R-400. XX and 3R-460-XX.
• Supplied in sets of ten



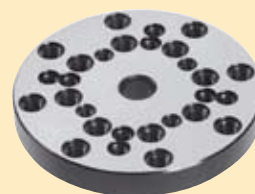
Drawbar 3R-405.16E

Drawbar Ø15 mm to mount Macro holders in chucks 3R-460-XX.
• Supplied in sets of ten



Adapter plate D-40001.20

For mounting 3R-460.34 in systems of other makes.



Splash guard 90027.02

Intended for MacroCombi chucks. Can also be used as a cover for unused chucks.



Adapter 90376

Gives access to MacroCombi on machines fitted with SNT.



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+GF+

system 3R the Pioneer

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