

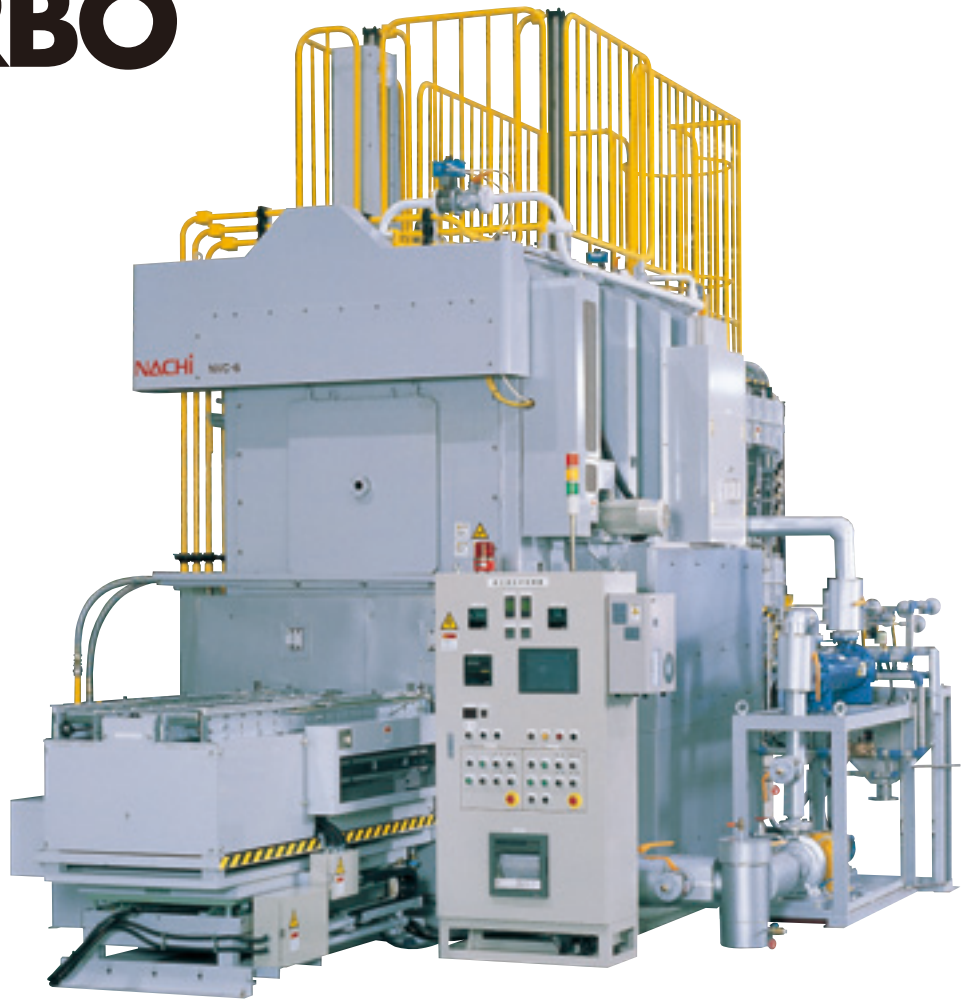
Vacuum Carburizing Furnace **EN-CARBO**



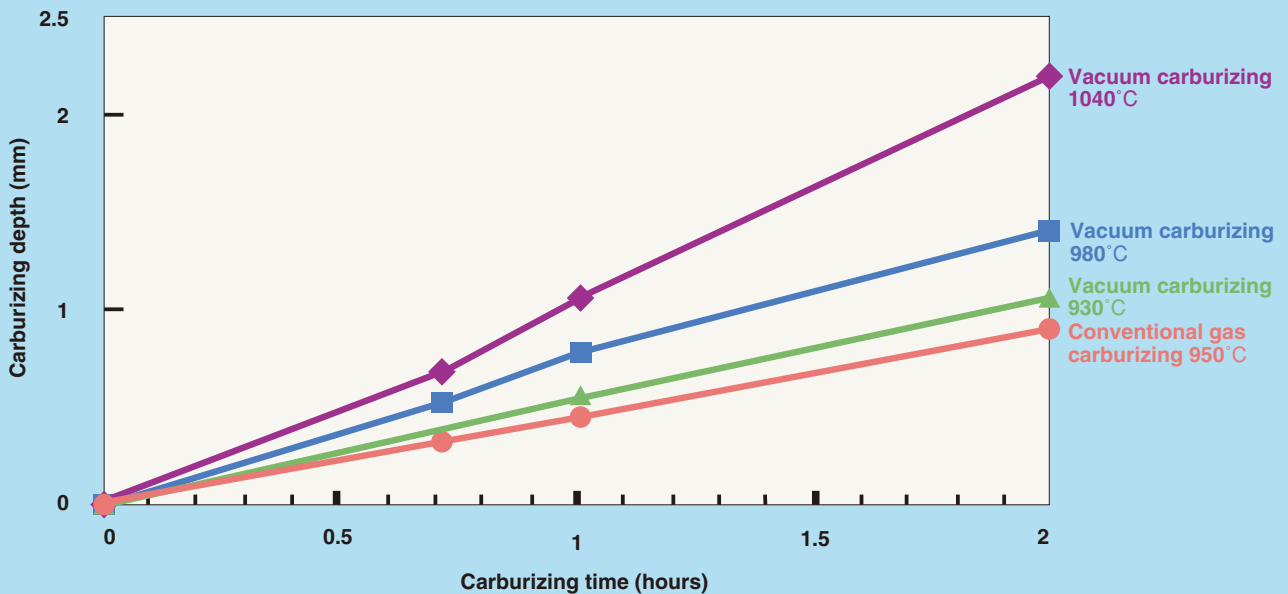
Vacuum Carburizing Furnace

NVC Series

EN-CARBO



High-temperature carburizing reduces carburizing time



Features of EN-CARBO

Advantages of ethylene as a carburizing gas

Ethylene gas, used in (C₂H₄) EN-CARBO (patent pending), has the following properties good for decompressed carburizing.

- Less than 5% the gas emissions compared to gas carburizing
- As easy to manage as propane
- Simple exhaust system reduces maintenance work

Safe and clean environment

Flameless operation eliminates worries of fire for a safe and clean work environment. Easy to configure assembly lines with production machinery and heat treatment, which is not possible with conventional gas carburizing, to eliminate dangerous dirty and demanding work.

Reducing running costs

Saves energy and reduces heat loss by using a cold wall method and can operate unattended all night to greatly reduce operating costs.

Operation so easy even someone inexperienced with heat treatment can do it

Atmosphere control is not required so carburizing depth is easy to control just by setting the time and temperature. Once the carburizing pattern is set, operations can be easily done from the touch panel. After installation, full automation from processing to finished work is possible.

Flexibility

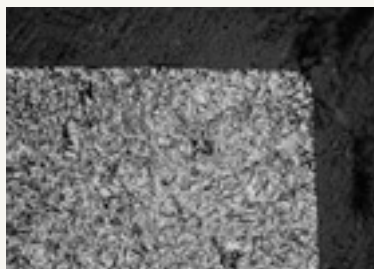
Installation is easy for a wide selection of equipment to match production targets (laboratory or factory setups) so that it is easy to handle production many products in small lots.

Carburizing quality of EN-CARBO

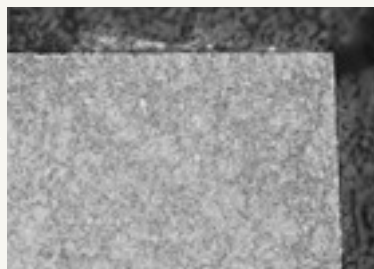
High performance pulse carburizing and super carburizing are possible with vacuum carburizing

Results of pulse carburizing

Comparison photos of surface for carburizing depth of 0.7 mm (Hv550)

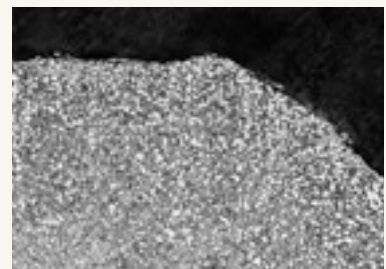


Conventional vacuum carburizing
Example of excess carburizing of sharp edge



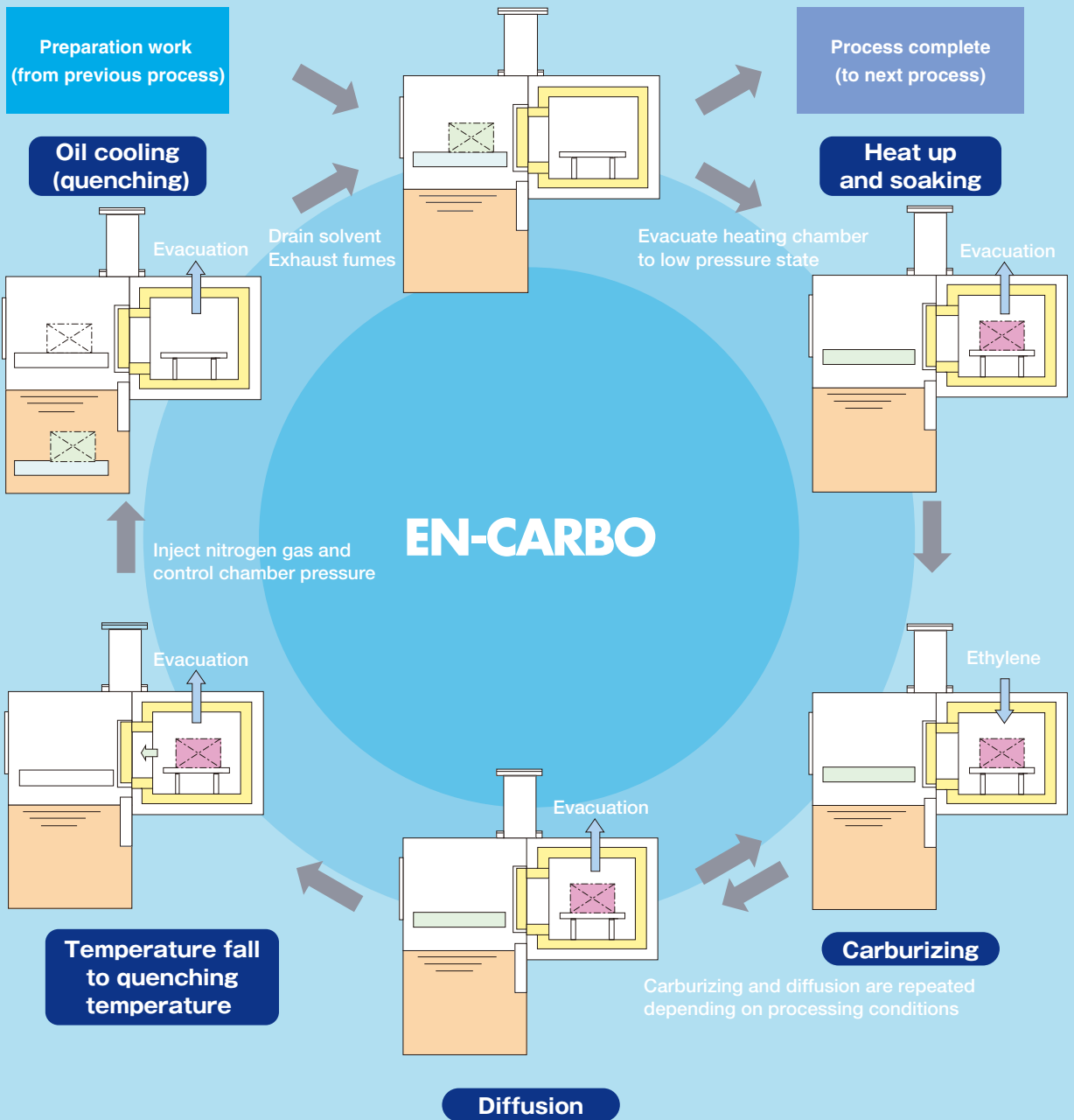
Pulse carburizing
Improved results with pulse carburizing

Image of texture of super carburizing

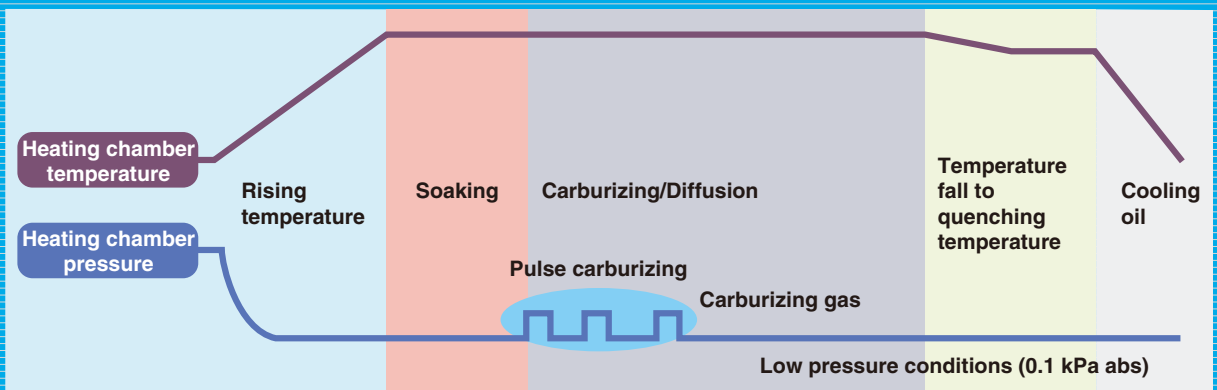


Globular carbide is produced to (1) improve fatigue strength and (2) increase abrasion resistance. (Hv900 for SCM415)

Carburizing workflow diagram



Typical heat cycle



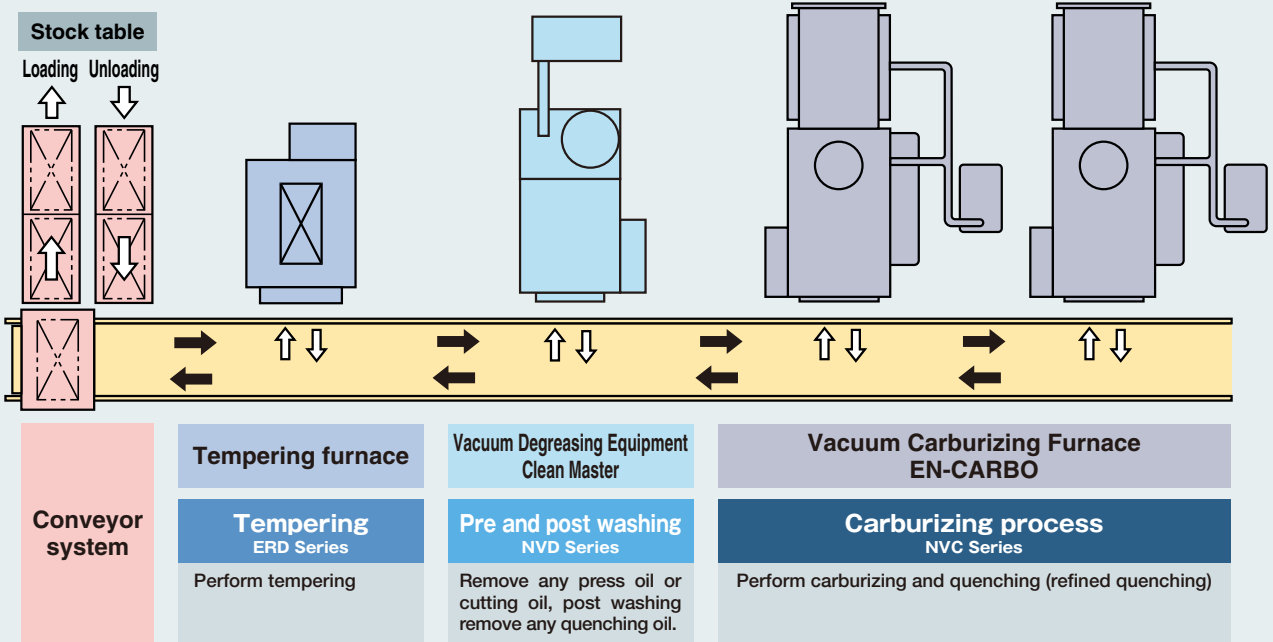
Automated NVC line



Automated vacuum carburizing line (NVC-6)

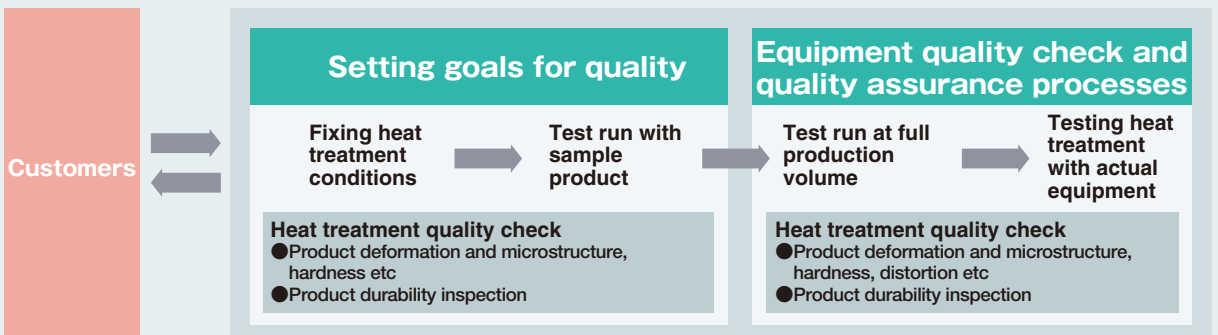
Automated line (options)

A fully automated line can be set up by combining the clean vacuum carburizing furnace (NVC) and vacuum degreasing equipment (NVD) and tempering furnace (ERD).



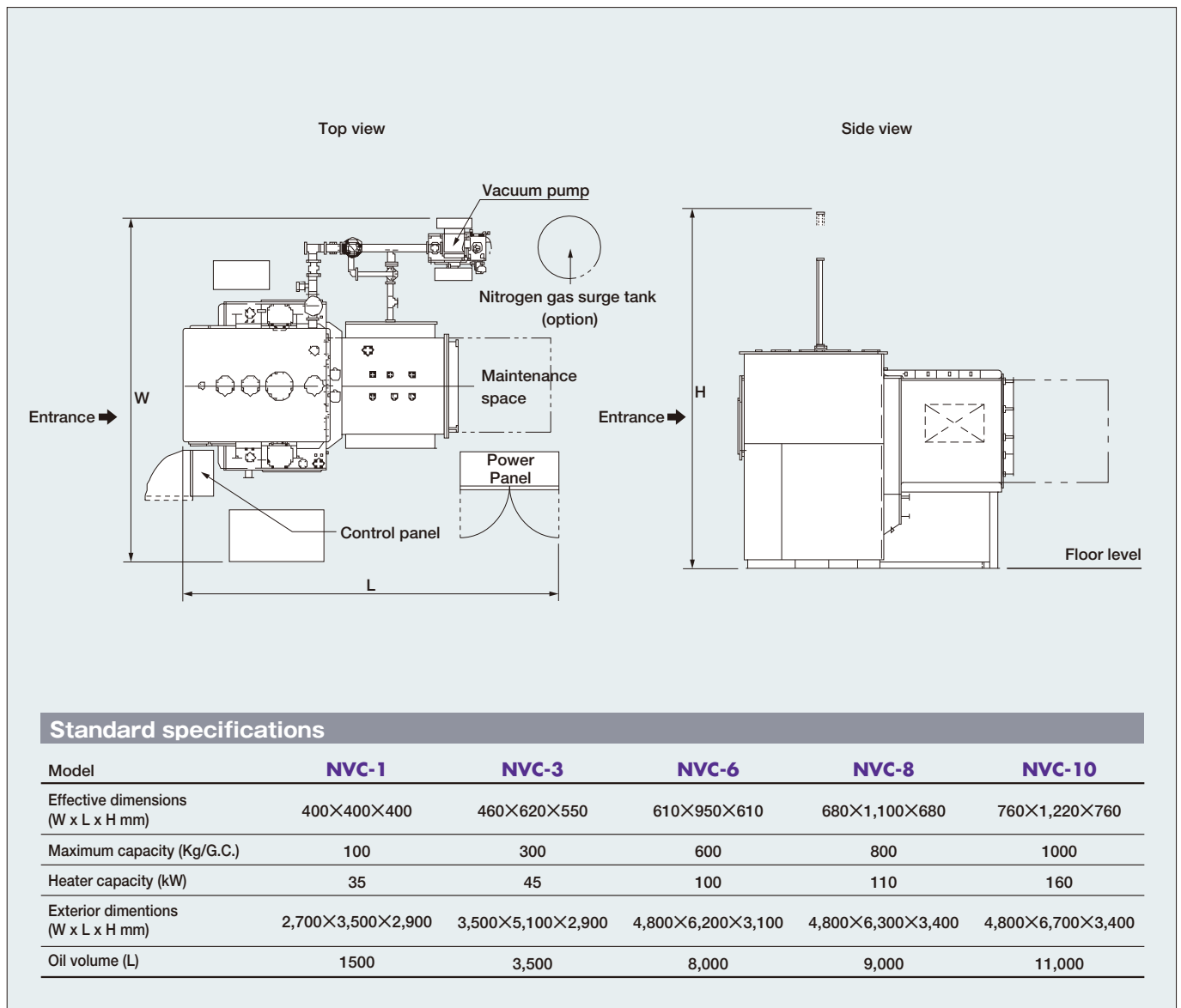
Equipment check and quality assurance offered by NACHI

Supporting assurance of quality for our customers.



EN-CARBO

Exterior dimensions



Options

Refining mechanism	Required for super carburizing, high-temperature carburizing, and reheating.
Carbonitriding mechanism	Required to nitro carburizing structure.
Convection heating mechanism	Required to shorten soaking time with convection fan installed in heating chamber.
Remote monitoring system	Required to diagnose malfunctions via a telephone line.
Conveyor equipment (front table and automated carts)	Required to load and unload the tray from the furnace.
Automated line system	A fully automated cycle can be configured by combining the vacuum carburizing furnace (NVC) and vacuum degreasing equipment (NVD), tempering furnace (ERD) and a stock table.

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Specifications and configurations may change due to product developments without prior notice.

CATALOG NO. F5246E

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