

AUTOMATIC

COOLANT NOZZLE



VARIO  
JET

Automatic and targeted  
application of coolant!

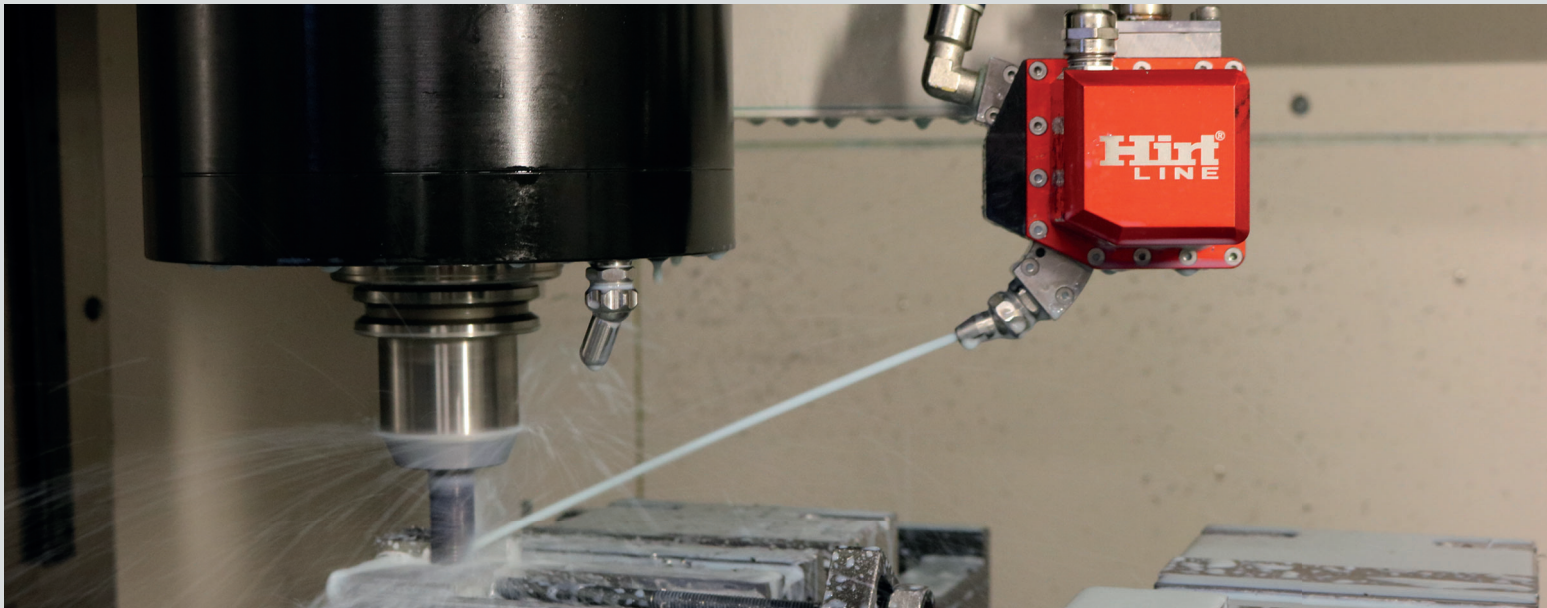
**Hirt**<sup>®</sup>  
LINE

## VARIO-JET VJ14

### The programmable nozzle for a longer tool service life

In order to meet current requirements, such as complete machining and chaotic manufacturing with minimal set-up times, modern tool machines have an increasingly larger number of available tools. Due to the complexity of the workpieces to be machined, it is unfortunately inevitable that the tools sometimes have considerable length differences. For the machine operator, this means adjusting the nozzles laboriously so that the cooling lubricant covers approximately all the different tool cutting edges. The best option are internally cooled tools, but these are not available for all usage requirements and furthermore are expensive.

In addition, guiding the lubricant on rotating tools externally on the milling shaft through the internal cooling is counterproductive at high rotational speeds due to the centrifugal force.



#### Automatic orientation of the nozzle for optimal lubrication

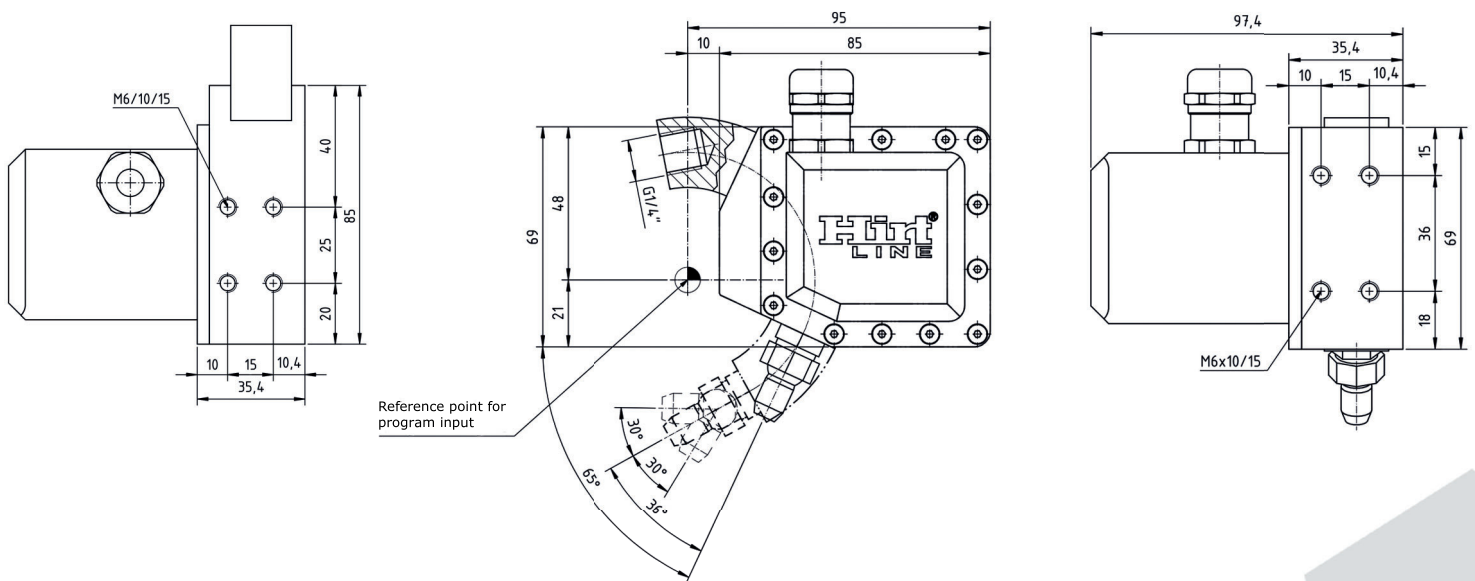
To achieve optimal machining results, a perfect and targeted coolant jet is essential. With Vario-JET, it is possible to point the jet automatically towards the required area of the tool. The tool is therefore always optimally lubricated and cooled, with efficient use of the coolant, leading to higher service lives.

The tool offset lengths of the respective tools are transmitted primarily through the RS-232 interface to the specially developed controls of the Vario-JET. This data now guides the nozzle into the required position in a targeted circular movement by means of a brushless DC motor with an encoder. The jet is directed as standard towards the tip of the tool but can be freely adjusted depending on the application, e.g. for hobbing.

It is only owing to the circular jet movement that a wide coverage of the different lengths is possible. Short tools are therefore wetted almost at a right angle, so that consequently the KSS jet hits the tool cutting edge optimally below interfering tool bracket contours such as collet nuts. A position confirmation is also possible through the Vario-JET controls, so that the machine only starts to work again when the coolant jet is securely in position.

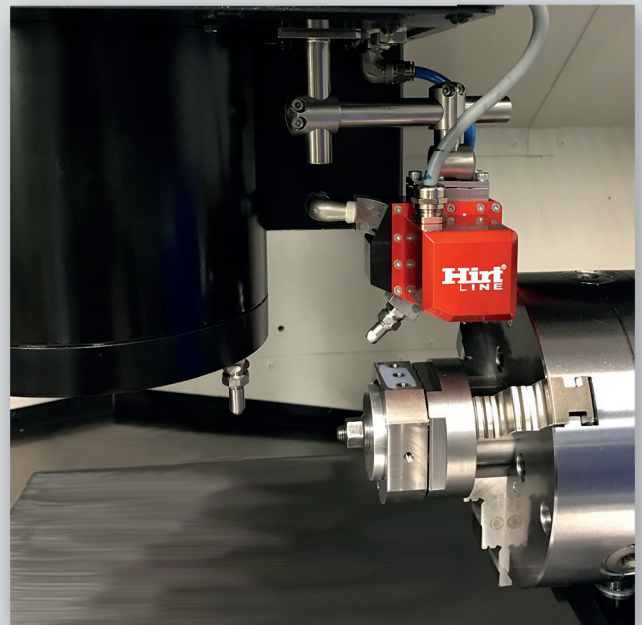
## Retrofittable on all standard machine controls

The Vario-JET VJ14 is set up for a conduit size of  $\varnothing 6$  mm, with a maximum pressure of 20 bar (standard version). The one-off parameter settings, as well as the manual setting of the reference length, can be completed simply via WLAN through a web browser (smartphones). Vario-JET can be retrofitted on all standard machine controls. A modular fixing system allows the firm fixing of the nozzle unit, but which can be set in all directions. The readout of the offset data by the machine, depending on the controls, can be either through a subprogram or directly integrated into the controls. The main field of use for the programmable jet includes milling and drilling works on 3/5-axis machining centers, horizontal and rotation centers, as well as grinders with robot operation.



### Technical data:

- Maximum rotating angle 35°, stepless
- Brushless DC motor with encoder
- Coolant connection thread G1/4"
- WLAN with WPA2 encryption
- Connection 230V AC (Changeable)
- Power consumption 50W
- Interface RS232
- Dimensions: 85mm x 70mm x 100mm



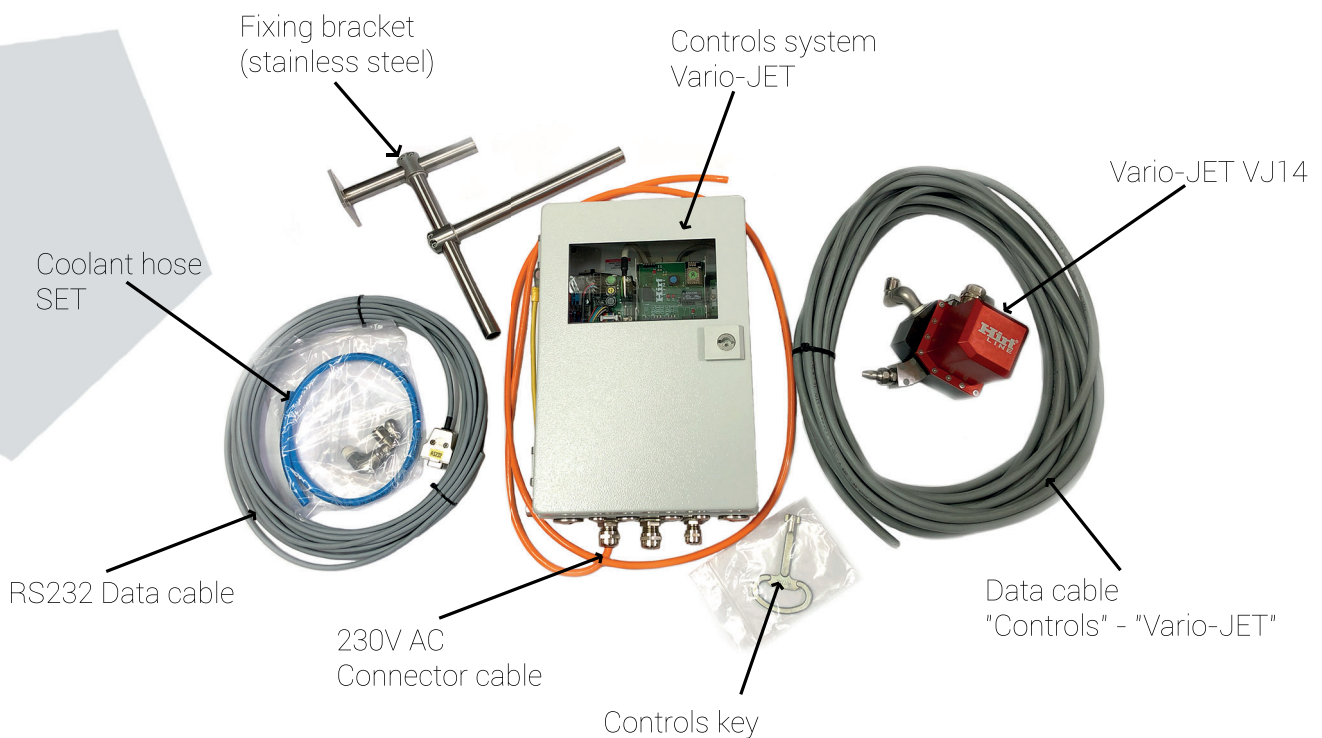
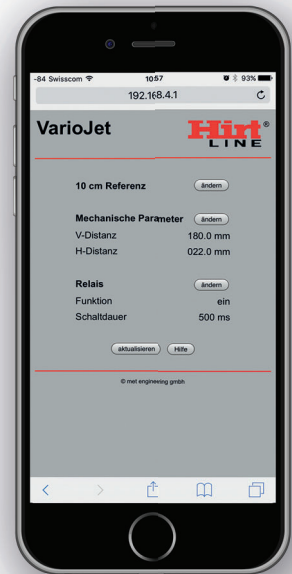


One-off setup  
via smartphone (web browser)

## Features of Vario-JET VJ14:

- Data exchange through tool offset by means of RS232 (or similar interface) on Vario-JET controls
- Retrofittable on all machines with tool offset data output
- Through the circular movement of the nozzle, the lubricant usage is dosed optimally also for short tools
- Standard version to max. cool water pressure 20 bar (optional to 80 bar)
- One-off input of the parameters as well as setup mode of the Vario-JET via WLAN through web browser
- Compatible with smartphone, tablet, laptop or PC
- Optionally with confirm signal for the machine "Vario-JET in position"
- Controls can be installed in the switch cabinet of the machine
- Exchangeable coolant nozzle system Hirt-Line (Type 1 or Type 0)

Optimised for current versions of the following browsers:



### Set includes:

- Variojet nozzle (with nozzle outlet  $\varnothing$  3.2mm)
- Special stainless steel fixing bracket
- Vario-JET Controls for switch cabinet IP65
- Hose set 2m to max. 20 bar
- Customized RS232 data cable 15m
- 15m data cable controls - Variojet
- 230V AC connector cable 3m
- Operating instructions