



Natural grip.
Full control.
Viper™ from Caldaro.

” It’s great, has a really good grip and the thumb fits well. Viper works like clockwork!
Peter Vadelid, Peter Vadelid Schakt

” I was sold on Viper directly, it’s important that it’s so easy to work with. And I like the thumb function. All I need to do is apply my thumb and press.
Pierre Nyburg, Nyburgs Entreprenad

” Our customers have been very satisfied with the Viper handle. It has a good shape and customers appreciate that they don’t have to keep thumb rolling all the time. Viper reacts to a much simpler movement. One previously had a very strange wrist angle while working.
Bjarne Bøe, Rishaug Anleggsmaskiner

” It feels completely natural to work with. It functions better than a roller, because that can lose its grip and end up offline. Now you can guide it with your thumb and avoid having to take a new grip.
Mikael Jönsson, Hans Carlsson Entreprenad

” It’s unbelievably reliable. Everyone’s asking for them. We have delivered masses of them and never had any problems.
Ulf Engström, Swecon



CALDARO
THE MMI & MMF SPECIALIST
ISO 9001 & 14001 CERTIFIED

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The natural grip.

Viper™ from Caldaro.

Viper™ (Viper and ViperPlus) from Caldaro are professional multi-function handles for excavators, wheel loaders, container trucks, mining machines and many other special vehicles. Thanks to its highly appreciated design, Viper™ allows variable grip positions, and thus prevents awkward angles and wear on the wrist joint. Proportional steering can be performed easily with the thumb via a rocker button, for maximum sensitivity and control, which means no more thumb rolling. As an option, you can even have a unique index finger controlled gear selector (F-N-R) that makes operation comfortable and distinct.

Build it after your own requirements

Viper™ is available in many different versions. You can see some of them on the next page. The possibilities for adapting the controls to your needs are almost endless.

A soft grip protects and provides comfort

The soft gripping surface gives superior comfort while at the same time effectively protecting the electronics in the handle. In addition, the controls have a unique encapsulation that makes them insensitive to dust, moisture, water, etc.

Millions of hours of operation

Besides the fact that Viper™ is currently fitted as standard to Komatsu's wheel driven and track driven excavators, the handle is requested by many as an option. Viper™ is tested and approved for tough environments and has a proven lifetime of more than 10 million operations.

Currently, Viper™ is fitted to more than 15,000 machines around the world, in the most important test bench of all – out in the field.

Avoid downtime

Viper™ is proof that quality pays for itself. You reduce your downtime since the need for repair lessens and the value of your machine increases the day you want to sell it.

With Viper and ViperPlus you get a tool that makes your daily life a little easier and more comfortable, at the same time as your work becomes more efficient with the natural grip – Viper™.



Specifications	Face Plate Panels
<p>Mechanical Performance</p> <ul style="list-style-type: none"> Material: Dual mould plastic (black) High grade silicon (button) Temp. range: -40°C to +85°C Ingress Protection: IP 66 & IP67 (Viper), IP65 (ViperPlus) Maximum load: 600 N <p>Operator Present Sensor (DMH) Optional contactless electronic sensor located inside handle.</p> <ul style="list-style-type: none"> Power supply: 7.0-28 VDC Characteristics of output: 5 VDC = ON (with hand present) and 0 V = OFF (with hand not present) Current consumption: 30 mA @ 28 VDC Switching time: 0.1 ms EMC: 100 V/m (preliminary) <p>Pushbutton and Trigger Switches</p> <ul style="list-style-type: none"> Function: Momentary type, tactile action Switch life: min 10,000,000 operations Power rating: 50 mA @ 24 VDC <p>F-N-R shifter</p> <ul style="list-style-type: none"> Function: Alternating type, haptic action 3-position rocker switch (F, N and R) Separate switch signal for each position Life expectancy: Min 10,000,000 operations Power rating: 1 A @ 24 VDC <p>Proportional Rocker</p> <ul style="list-style-type: none"> Sensor: Hall effect, ratiometric Single or dual output Mechanical travel: ~ ±12° from centre Power supply: regulated 5 VDC (±10%) Proportional voltage output: 10-90%, others upon request Life: min 10,000,000 operations. Current consumption: ~14mA EMC: 100 V/m ESD (Connector pin / air): ±8 kV / ±15 kV <p style="text-align: right;">Subject to change without prior notice.</p>	<p>Shown with standard orientation (Can be turned in steps of 90°)</p> <p>Type A Type A* Type B Type B* Type C Type D Type E Type F Type G Type H</p> <p style="text-align: right; font-size: small;">* Note: Rotated 270°</p>
<p>Cable outlet</p> <p>Note: Max 17 cores of diameter 1.2 mm possible 1: Centre (through shaft) 2: Side (standard)</p>	<p>Mounting</p> <p>Mating shaft dimensions (please consult us for various adapter types)</p>



H01 VIPER	Standard dimensions H01B-52NN-1HCS-TS	Panel H01B (standard)
<p>(unit: mm)</p> <p>Cable with braided sleeve, length 400 mm (0.22 mm²)</p>	<p>~105</p> <p>~164</p> <p>68</p> <p>70</p> <p>Dual trigger (standard)</p> <p>Single trigger</p> <p>F-N-R trigger**</p>	<p>Panel H01B (standard)</p> <p>70</p>
** Note: F-N-R trigger only with panels type D, E, F and G		
HX1 ViperPlus	Standard dimensions HX1B-61NN-1HCS-TS	Two top buttons and panel HX1B (standard)
<p>Cable with braided sleeve, length 400 mm (0.22 mm²)</p>	<p>~128</p> <p>~170</p> <p>68</p> <p>70</p> <p>Dual trigger</p> <p>Single trigger (standard)</p> <p>F-N-R trigger**</p>	<p>Two top buttons and panel HX1B (standard)</p> <p>70</p>
** Note: F-N-R trigger only with panels type D, E, F, G and type B*		