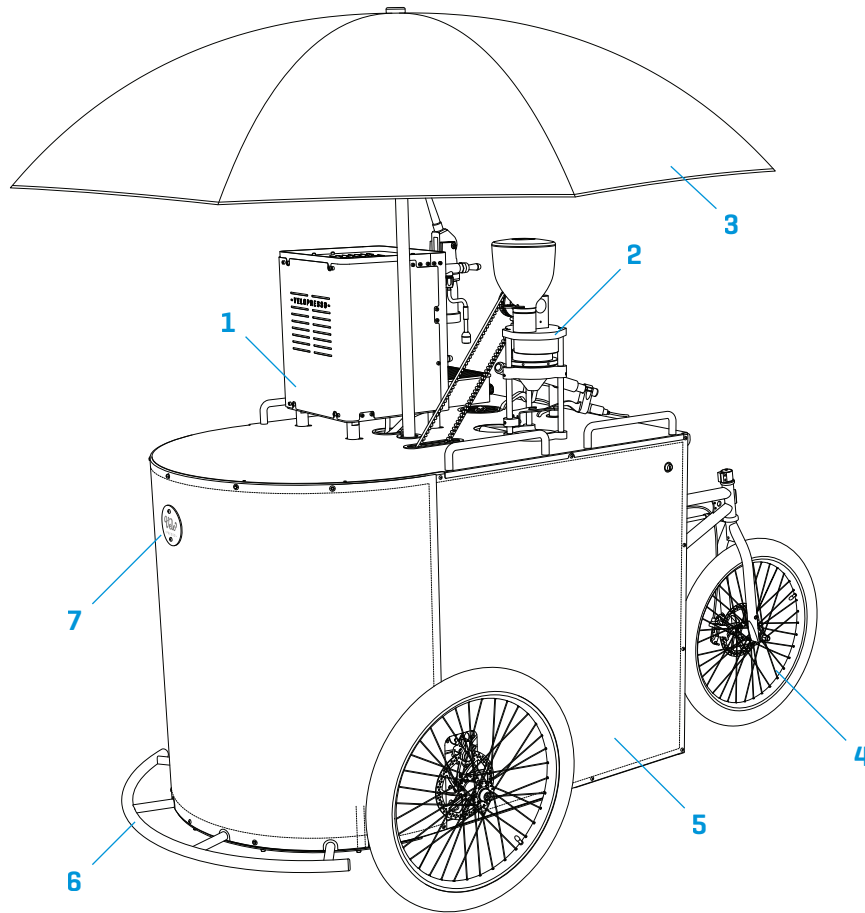


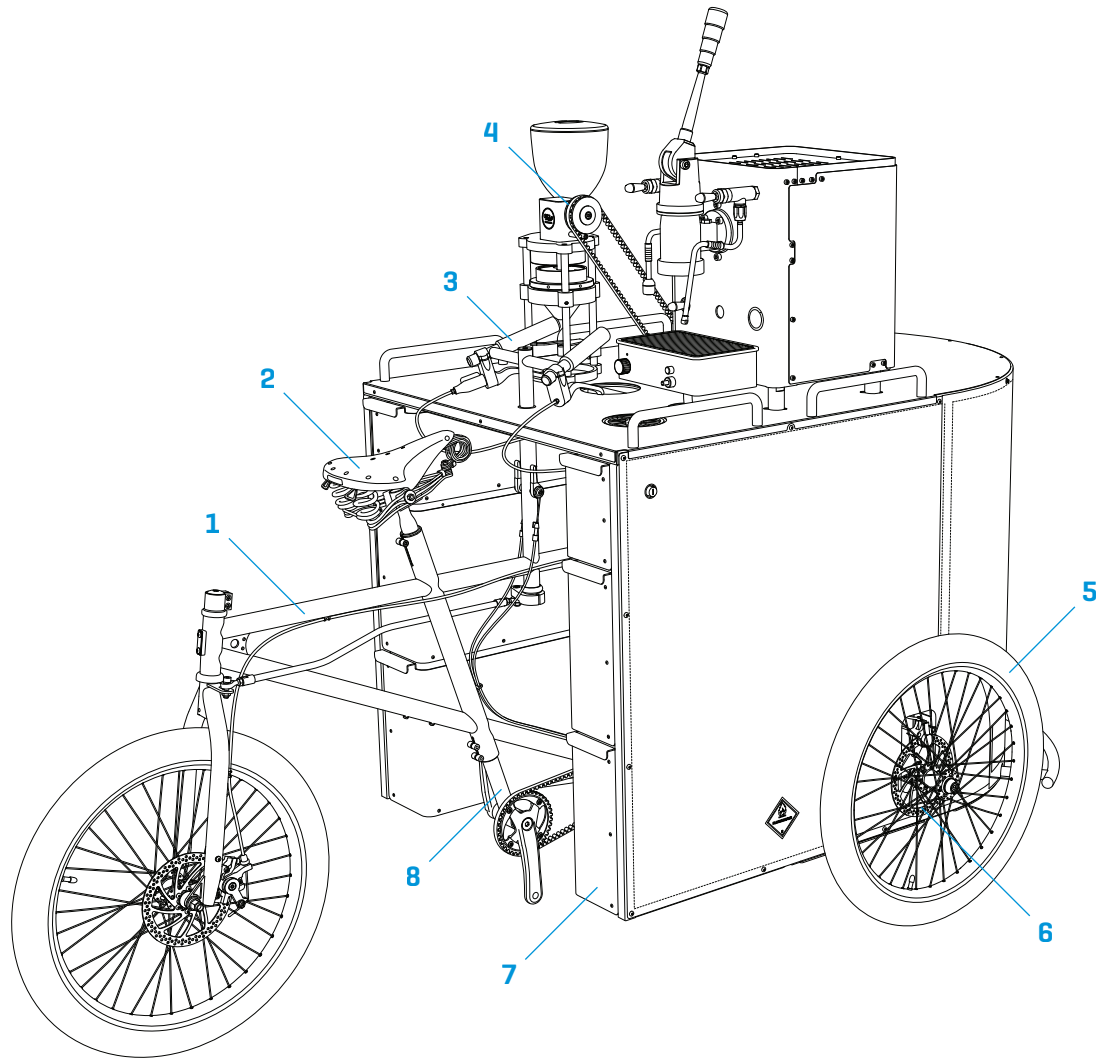


# VELOPRESSO SPECIFICATION



The Velopresso is a unique, highly innovative and fully integrated coffee tricycle, that combines great mobility and excellent espresso machinery with an ultra low-carbon, pedal-powered operation that requires no electricity. The machine is both designed to perform beautifully with minimal maintenance, and engineered to last. Our unique componentry is precision engineered in England, and every Velopresso is built to order by hand in our east London factory, from the TIG-welding of the steel frames to the final assembly and testing. The Velopresso is made in England, to the highest standards, by our team.

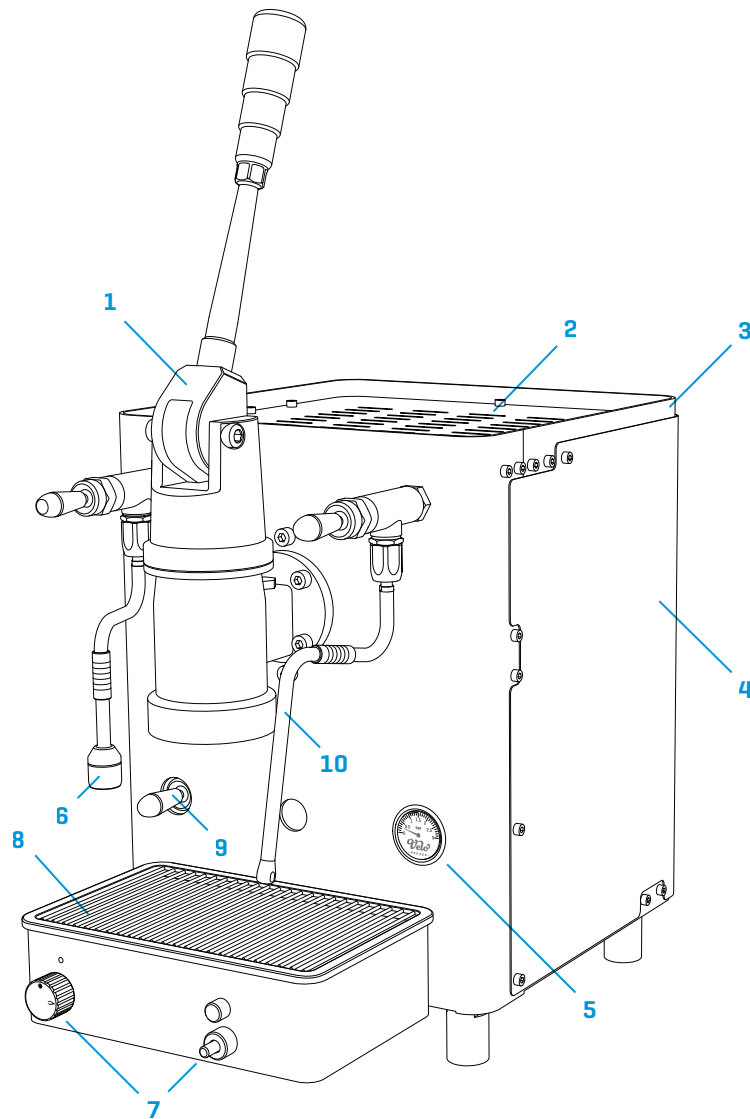
- 1** Espresso machine: FCL1-Velo, gas-fired, commercial spring-lever machine
- 2** Grinder: GR1-Velo, pedal-grinder, with conical Ø71mm burrs, no electricity required
- 3** Umbrella\*: 2.4m / 8' canopy, fibreglass frame and aluminium pole \*optional extra
- 4** Wheels: heavy duty Halo SAS DH pro wheels, 24" rims, 48 spoke, custom for Velopresso
- 5** Branding panels: 3 square metres for company branding / artwork, digitally printed, full-colour, weatherproof PVC panels, bolt-on
- 6** Bumper: stainless steel (304) bumper, bolt-on
- 7** Marque: stainless steel Velopresso marque, bolt-on, secures front panel



The steel frame is designed to meet the structural, spatial and ergonomic requirements necessary to locate and transport the combined weight of the cyclist, machine and on-board supplies, and allow from-the-saddle operation of the coffee machinery. The rear ‘bicycle’ frame uses the renowned Reynolds 631 tubing for strength and lightness. Rear-wheel steering allows the trike to turn on the spot. The handlebar unit is stainless steel and is completely removed in seconds for coffee-making mode and stored out of the way. Two gear levers operate the 3-speed hub gear and the clutch, which switches transmission from ‘drive mode’ to ‘coffee mode’ directly driving the grinder and rotary pump. Two sets of 3 key-lockable aluminium drawers, each side of the rider, provide main storage. The use of Gates Carbon Drive belts keeps the exposed transmission low-maintenance, grease-free and near silent. Magura hydraulic disc-brakes provide positive stopping power.

- 1** Frame: Reynolds 631 plain gauge steel alloy tubing, box section ERW steel, powder-coated black\* (RAL 9005) \*colours available as an option
- 2** Saddle: Brooks B33 sprung leather delivery saddle – for optimum comfort
- 3** Steering: stainless steel (304) handlebar unit and steerer-rod, aluminium tiller / steerer clamp
- 4** Drive belt: Gates Carbon-Drive™ CenterTrack™ drive belts for grinder and crank transmission
- 5** Tyres: Schwalbe ‘Crazy Bob’ super-strong reinforced cruiser tyres give cushioned ride
- 6** Disc brakes: Magura ‘Big Twin’ hydraulic (front), mechanical (rear), parking brake lever
- 7** Drawers: aluminium, key-lockable; 4 × large, receive coolbox inserts; 2 × small
- 8** Boom bottom bracket: stainless steel boom for rider height adjustment

## ESPRESSO MACHINE



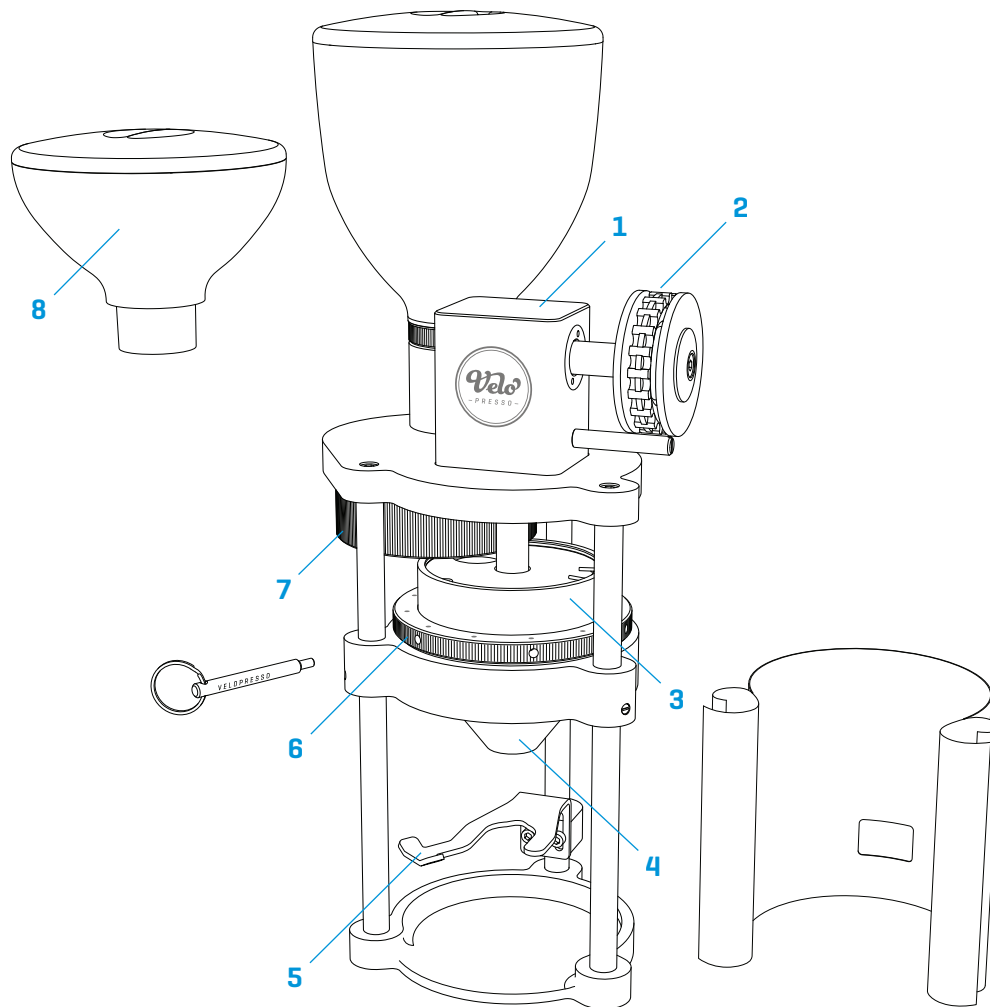
The FCL1-Velo is a gas-fired commercial lever espresso machine designed specifically for the Velopresso in collaboration with its award-winning manufacturers Fracino. The lever group is the finest made for commercial use. The 7-litre copper boiler is heated by a powerful but silent burner running on LPG propane or butane from an on-board cylinder. A pedal-driven rotary pump synced to the grinder refills the boiler as water is used. A stainless steel hot water outlet, steam tube and 'rattle-free' silicon drip tray with stainless steel grille complete the machine. With no electrical equipment to fail and superb build quality, the FCL1-Velo is one of the most robust, simple and reliable espresso machines made today... and it makes beautiful espresso with rich crema!

Safety features: thermocouple flame-failure safety device, and boiler pressure-release valve.

Certification: EC declaration of conformity. Boiler safety test certificate. CE marked. Made in England.

- 1** Commercial (58mm) spring-lever group: 7kg forged brass group, polished chrome
- 2** Boiler: 7L copper boiler with powerful 1.8kW rated LPG gas burner (not illustrated)
- 3** Chassis: strong steel chassis, powder-coated black\* (RAL 9005) \*colours available as an option
- 4** Stainless steel cover: vented with stencil type Velopresso logo on rear
- 5** Boiler pressure gauge: with Velopresso logo
- 6** Hot water valve: stainless steel tube, anti-splash nozzle, push-to-lock-on / flick operation
- 7** Gas controls: on/off setting, push-and-turn safety, pilot and piezo-ignition controls
- 8** Drip tray: stainless wire grille in silicon 'rattle-free' tray, plumbed-in waste connection
- 9** Water inlet valve: lock-in-position lever valve
- 10** Steam tube: 2 or 4 hole steam nozzles (stainless steel), push-to-lock-on / flick operation

## GRINDER

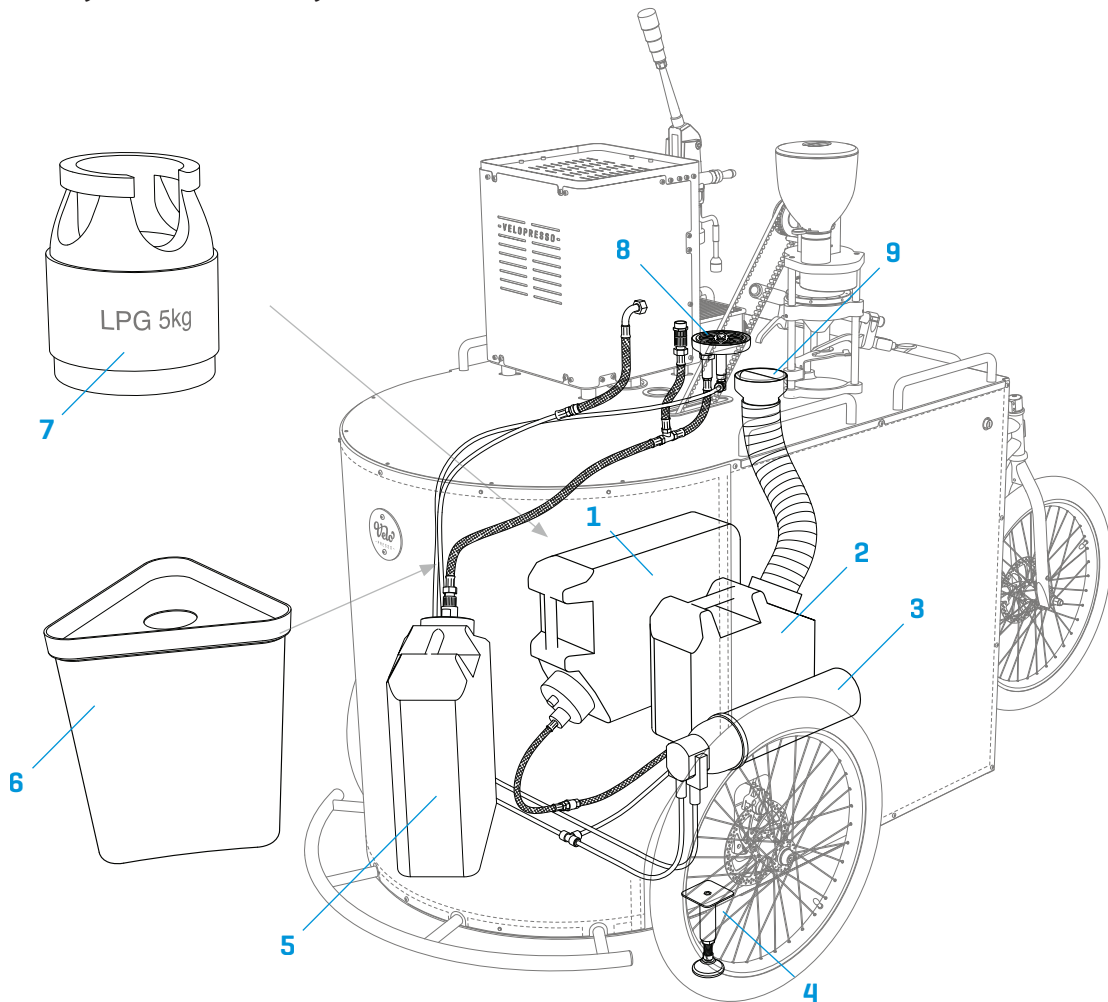


The GR1-Velo is the first pedal-driven commercial coffee grinder in the world. Precision engineered to last a lifetime\* in stainless steel, and hard-anodised aluminium, the grinder uses large conical burrs, has stepless grind adjustment, volumetric pre-dosing of beans and very low grind retention. The grinder is directly pedal-driven, so there is no electricity required and therefore no motor noise or electrical failure. With easy pedalling at 100rpm the burrs rotate at 300rpm, grinding a double shot in under 8 seconds with no overheating of the beans. Magnetic grind funnel and bolted assembly allows for easy dismantling for cleaning, burr changes or part replacement. GR1-Velo: rapid, fresh and cool on-demand grinding by pedal-power.

\*burrs need replacing periodically according to use

- 1** Gearbox: stainless steel shafts, hardened gears, silent, sealed unit with foodsafe grease
- 2** Drive sprocket: Gates Carbon-Drive™ CenterTrack™ sprocket, 9-spline mount
- 3** Burrs: conical Ø71mm burrs – ‘Mazzer Robur’ type, typical rpm range 250 – 350
- 4** Grind funnel: magnetic stainless steel for easy access to clean burrs, guides grinds direct from burrs to portafilter
- 5** Portafilter support fork: height adjustable with handle rest, stainless steel
- 6** Grind adjustment collar: stainless steel, precision stepless grind adjustment
- 7** Doser: volumetric rotary bean doser, can be set to nominal 9g, 8g or 7g single dose with reducer sleeves. Rotate twice for double shot
- 8** Hopper: 0.8kg hopper – model Compak K3, mount compatible with all K-series hoppers

## UTILITIES: GAS, WATER & WASTE, ETC.



Velopresso's utilities are quick to install and remove. The fresh-water tank has a quick-release stop valve that connects it to the rotary pump (pedal-driven), which pushes the water either direct to the on-board pitcher rinser or to the espresso machine via the filter. Liquid waste from the espresso drip tray and pitcher rinser sink is collected in the waste tank. Waste coffee pucks are collected in a tank via the knock bar, stainless steel funnel and ducting. An optional waste bin for customer use can be stacked along with up to 4 Rotostacka stools and carried inside the trike. Six robust aluminium drawers with key-operated central locking provide storage for beans, tools, cups, and up to 24 litres of milk in insulated coolbox inserts, cooled by freezer blocks. Bolt-on Jack stands can be used in coffee-mode to ensure level surface and total stability, or for puncture repair.

- 1** Fresh water tank: blue 20L Scepter MWC and QR hoses, all approved for potable water use
- 2** Knock-box tank: black 10L Scepter MWC
- 3** Filter: Brita Purity Quell ST C300, Brita Purity C 30% head
- 4** Jack support stands: bolt-on, for puncture repair or in coffee-mode for total stability or levelling on uneven ground, stainless steel (304)
- 5** Waste liquid tank: black 20L Scepter MWC
- 6** Rotostacka waste bin\*: recyclable polyethylene, stainless steel lid \*optional extra
- 7** Gas cylinder: the espresso machine runs on LPG gas, propane or butane (cylinder not supplied)
- 8** Pitcher rinser sink: pedal-driven pressure rinser for milk jugs, stainless steel sink, plumbed in
- 9** Knock-out: knock bar, stainless steel funnel

## TECHNICAL SPECIFICATION

### TRICYCLE

#### TYOPOLOGY:

The Velopresso tricycle is an original design, but its general configuration can be described as a 'tadpole' format delivery tricycle with rear-steering and front-wheel drive. For customs / import purposes the Velopresso is shipped under 'HS Code: 8712007099 Bicycles including delivery tricycles'.

#### DIMENSIONS:

2.5m long × 1.1m wide × 1.7m high

#### Lengths:

Bumper to rear wheel, straight: 2.46m

With rear wheel turned: 2.20m

– and bumper removed: 2.08m

#### Widths:

At front wheels: 1.11m

Width of worktop: 0.90m

#### Heights:

To top of espresso machine incl. lever: 1.89m

– and with lever arm removed: 1.67m

To top of hand rails: 1.20m

To top of worktop: 1.13m

#### Weights:

Complete trike unladen: approx. 175kg

Complete trike \*laden: approx. 260kg

\* for this purpose laden weight includes the gas cylinder, a handwash unit, fresh water × 25L, milk × 24L, 4kg of beans, cups, freezer blocks, coolbox inserts, tools, etc., but excludes the rider

#### CYCLIST HEIGHT LIMITATIONS:

The Velopresso rear frame is currently one size. As there is an optimal saddle height relative to the coffee machinery and work surface, nearly all main height adjustment is done at the boom bottom bracket ('at the pedals') and allows for a user height range of approx. 1.68m (5'6") to 1.93m (6'4"). If the intended user is at either end of this range please contact us to discuss in detail before ordering. Velopresso is not suited to frequent height adjustments as it takes time and tools to raise or lower the 'boom' and correctly reset belt tension. Small adjustments can be made quickly at the seatpost ('saddle'). If two or more baristas of similar height are to use one Velopresso regularly it may be possible to find a median position that can work satisfactorily for the riders to avoid making regular height adjustments to the 'boom'.

#### MODULAR FRAME:

The trike frameset consists of five main modules that bolt together. Modularity allows the Velopresso to be disassembled if required for transportation in compact form, or entry into buildings with doorways

narrower than its assembled width, e.g. if it is to be operated inside a gallery space with poor access. Modularity also allows for ease of fabrication, and the replacement of damaged modules instead of entire frames in the event of an accident. In addition, the modular frame anticipates future developments by Velopresso Ltd to create alternative machine modules that would fit on top of the core module and trike, in order to offer new functionality.

Each frame module is made up of 3D laser-cut steel tubes or box section, laser-cut and formed steel plates, brackets and other specialist fittings. Fabrication is by TIG welding. Finished with extra tough, high quality powder-coat process, black\* (RAL 9005) satin. \* colours available as an option

**Rear frame module:** Reynolds 631 air-hardening, seamless steel alloy over-size tubing

**Front frame modules:** box section ERW steel

**Fork:** custom Identiti Rebate 1420 DH jump fork, Cr-Mo 4130, with M5 bosses for mudguard or rack

**Boom bottom bracket:** custom machined BB shells, BSA/English thread × 68mm, stainless steel (304)

**Headset – rear:** heavy duty 1 1/8" threadless, steel cups, oversize 1/4" bearings, alloy clamp and cap

**Headset – front:** alloy 1" threadless, sealed bearing

**Bumper:** removable front bumper, stainless steel (304), TIG-welded, bolt-on

**Worktop:** Brushed ferritic stainless steel, bolted and riveted in place with stainless steel fixings, and protective HDPE plastic gaskets and grommets at openings

**Hand rails:** brushed stainless steel (304), bolt-on

#### BRANDING PANELS:

Wrap-around branded panels, approx. 3 square metres for company branding / artwork, left, right and front, digitally printed – to customer's design – in full colour and high resolution, on heavyweight, weatherproof PVC, with stitched hems, eyelets, stainless steel bolts, Velcro.

**Front panel:** dimensions 146 × 92cm, bolt-on at centre only, Velcro and studs used for quick access, opening each side of centre line to reach all water and waste tanks, bin, storage, hand-wash unit (optional) and transmission, etc.

**Side panels:** left and right side panels, dimensions 109 × 92cm, bolt-on

**Front Brace:** stainless steel (304) tube, bolt-on; mounting points for marque and front panel strap

**Marque:** stainless steel Velopresso logo badge, two security bolts hold marque and front panel in place

## STEERING:

Velopresso has rear-wheel steering and front-wheel drive. The steering is transferred from handlebars to rear fork via a rigid 'steerer-rod'.\* The handlebars and stem are a single stainless steel unit. In order to have a clear work surface when making coffee, the unit is completely removed in seconds and bolted on a separate mount point underneath the worktop.

\* the cable steering on the prototype and first three production Velopressos has been replaced by rod-steering in all subsequent machines to reduce cost and to simplify maintenance

**Handlebar unit:** stainless steel (304), 3D laser-cut, TIG-welded, brushed finish, stainless steel M6 hex bolt, plain black plugs, ESI Chunky silicon grips

**Tiller:** CNC-machined aluminium tiller clamp

**Steerer-rod:** CNC-bent, machined ends, universal joints and bolts, stainless steel (304)

## BRAKES:

Velopresso's weight requires serious stopping power:

**Front:** Magura Big Twin hydraulic disc brakes

**Rear:** mechanical (cable) disc brake, with Magura lock lever for parking brake

## WHEELS:

Velopresso custom-order Halo SAS DH pro wheels, 24", silver

**Rims:** Halo SAS, double eyelet, double joint, 48 hole alloy rims, silver, subtle laser-etched logos

**Hubs:** Halo Spin Doctor, 48 hole, sealed bearing alloy disc hubs, for Ø20mm through-axles, silver

**Spokes:** Halo stainless steel, 14 gauge, non-buttet

**Tyres:** Schwalbe Crazy Bob, 60–507 (24×2.35 inch), strengthened side walls

**Tubes:** Schwalbe AV10D, 60–507 (24×2.35 inch), downhill schrader tube, reinforced valve

## AXLES:

On the Velopresso only the left front wheel is driven, there is no differential and the right front wheel is passive. Flange bearings bolted to steel axle plates in the chassis support stainless steel (304) axles.

**Front axles:** Ø20mm solid stainless steel (304), drive side–left, passive axle–right, machined aluminium wheel washers, stainless steel M8 bolts

**Bearings:** sealed flange bearings inner Ø20mm, stainless steel, galvanised flanges, stainless steel M8 bolts, stainless steel nyloc nuts

**Rear axle:** Identiti Rebate Ø20/14mm through-axle, Halo chrome M14 wheel nuts

## TRANSMISSION, GEARS, CLUTCH:

The Velopresso incorporates many innovations in the transmission. At the centre is a clutch mechanism and changer that enable the pedalling motion to be switched between driving the front wheel to move the trike to powering the coffee machinery while stationary, and vice versa. The exposed drives at the pedals and the grinder use clean and lubrication-free, state of the art Gates Carbon-Drive™ system ('belt drive'), while the internal transmission uses standard 3/32" chains, sprockets and tensioners. Short cranks are used for ergonomic and pedalling efficiency.

**Bottom bracket:** sealed bearing, square taper

**Cranks:** Andel TMS1 single-ring crankset, 150mm alloy, silver, 104 BCD

**Pedals\* & shoes\*\*:** operating the Velopresso requires 'click-in' cycling shoes and pedals. These are not supplied with the Velopresso – as explained in the Order Guide – but Shimano SPD pedals can be selected as an optional extra.

\* We offer the option of two Shimano SPD type pedals – see below

\*\* There are a wide range of SPD cycling shoes on the market

**Chainring:** Gates Carbon-Drive™ CenterTrack™ black alloy chainring 39T, stainless steel bolts

**Belt:** Gates Carbon-Drive™ CenterTrack™ belt

**Sprockets:** Gates Carbon-Drive™ CenterTrack™ sprocket, 9-spline; Velosolo bolt-on disc sprockets

**Hub gear:** Sturmey Archer F30 CS-RK3, 3-speed

**Gear lever:** Sturmey Archer 3-speed control lever

**Clutch lever:** SunRace matching clutch control lever

## TOOLS / ACCESSORIES SUPPLIED:

### Jack support stands:

Height adjustable Jack support stands (2 supplied) can be quickly bolted in position to elevate either front wheel off the ground for repairing a puncture, or a pair can be used for greater stability if operating stationary for a long event or for levelling on uneven ground, an adaptor is also supplied to support the rear fork for wheel removal for puncture repair, all stainless steel (304), TIG-welded

**Tool bag:** holds Jack support stands and has space for recommended puncture repair tools (not supplied) e.g. spanner, repair kit, spare inner tube, tyre levers, pump, etc.

## ESPRESSO MACHINE

**Commercial lever group:** 7kg forged-brass spring-lever group, polished chrome

**Boiler:** 7L copper boiler

**Burner:** powerful 1.8kW LPG gas burner, in stainless steel burner box housing

**Chassis:** strong 3mm thick Zintec steel chassis, powder-coated black\* (RAL 9005) satin, machine is bolted to trike frame through aluminium feet, lateral position adjustable +/-23mm \*colours available as an option

**Stainless steel cover:** back and sides in 0.9mm thick stainless steel, vented with stencil logo on rear

**Boiler pressure gauge:** with enamelled logo

**Drip tray:** cantilevered Zintec steel band, injection-moulded silicon 'rattle-free' tray, polished stainless steel wire grille, plumbed-in waste connection

**Gas controls:** on/off control knob with push-and-turn safety, pilot and piezo-ignition controls

**View porthole:** for visual flame check and manual lighting in the event of piezo ignition failure.

**Sight glass:** for monitoring boiler water level

**Water inlet valve:** allows boiler water level to be topped up semi-automatically, with pedal-driven rotary pump and push-to-lock-on / flick operation lever

**Hot water valve:** stainless steel tube, anti-splash nozzle and push-to-lock-on / flick operation lever, for americano, teas, etc.

**Steam tube:** stainless steel steam tube, supplied with CNC machined stainless steel 2 and 4 hole steam nozzles with push-to-lock-on / flick operation lever

Safety features: thermocouple flame-failure safety device, and boiler pressure-release valve.

Certification: EC conformity. Boiler safety test certificate.

CE marked. Made in England.

## TOOLS / ACCESSORIES SUPPLIED:

**Portafilters – double:** twin spout and double basket (quantity 2)

**Tamper seat:** modified Cafelat Tamper seat, black, fits over steering mount, providing location for tamper and preventing grinds from entering steering mount

**Steam nozzles:** spare 4 hole and 2 hole CNC-machined stainless steel steam nozzles (quantity 1 of each)

## GRINDER

**Gearbox:** stainless steel shafts, hardened gears, hard-anodised aluminium casing, industrial sealed bearings, greased for life, foodsafe, sealed unit

**Drive sprocket:** Gates Carbon-Drive™ CenterTrack™ sprocket, 9-spline mount, safety guard

**Drive belt:** Gates Carbon-Drive™ CenterTrack™ belt

**Burrs:** conical Ø71mm burrs – 'Mazzer Robur' type – for rapid and cool grinding

**Grind funnel:** stainless steel grind funnel

**Portafilter support fork:** height-adjustable stainless steel portafilter support fork with handle rest

**Grind adjustment collar:** stepless grind adjustment with sprung stainless collar

**Doser:** volumetric rotary bean doser, with sleeves to give choice of single shot doses of approx. 7, 8 or 9g

**Hopper:** 0.8kg hopper – model Compak K3, hopper mount compatible with all Compak K series hoppers

**RPM:** 300rpm when pedalling in gear no.2 at 100rpm

## TOOLS / ACCESSORIES SUPPLIED:

**Grind adjustment tool:** assists adjustment of grind collar, stainless steel, supplied on key-ring loop

**Spanner:** 15mm flat spanner to hold grinder gearbox shafts still while removing inner burr for cleaning

**Multi-tool:** bicycle multi-tool for on-the-road maintenance of grinder and trike

**Wind break:** fabric wind break to prevent grinds being blown from portafilter prior to tamping

## UTILITIES: GAS, WATER, WASTE, PLUMBING & STORAGE, ETC.

**Fresh water tank:** 20L Scepter MWC, blue, FDA approved for potable water

**Hoses & fittings:** John Guest fittings and hose, stainless braided EPDM hoses, WRAS and/or FDA approved for potable water, brass QR fittings for liquid waste hose connections

**Pump:** Fluid-O-Tech P0204F rotary pump

**Filter:** Brita Purity C300 Quell ST professional filter, Brita Purity C 30% head

**Knockbox:** acetal knock bar, stainless steel funnel, PU smooth bore ducting to tank

**Knock-box tank:** 10L Scepter MWC, black knock-out waste coffee pucks are collected, est. capacity 300 double pucks



**Waste liquid tank:** 20L Scepter MWC, black

**Gas cylinder & regulator (not supplied):** must be sourced locally by customer – see Order Guide

**Gas connection (not supplied\*):** must be sourced locally by you and fitted by registered gas engineer  
\*supplied to UK customers only, as loose parts, for installation and safety test certification by registered Gas-Safe engineer

**Pitcher rinser & sink:** pedal-driven Celli fountain pressure rinser for milk pitchers, pedal-driven, cold water supply only, stainless steel mini sink

**Drawers:** 2 small and 4 large aluminium drawers, key-operated central locking provide storage for beans, tools, cups, and up to 24L of milk in insulated liners kept cool by freezer blocks

**Coolbox inserts:** retro-fit into the large size aluminium drawers, removable, washable, high-grade insulation, tough nylon fabric, to utilise up to all 4 large drawers for milk storage, 2 coolbox inserts for the large drawers are supplied

**Freezer blocks:** 10 freezer blocks supplied for use with the coolbox inserts

**Straps:** webbing straps with QR buckles and velcro fastenings secure utilities in place

**Aluminium floor & shelves:** 3mm thick aluminium floor protects transmission from upspray from road, and supports waste tank etc., shelves support gas cylinder, fresh water tank, knock-box and filter

## OPTIONAL EXTRAS

The specification above is for the standard, complete Velopresso and is included in the price quoted.

You can choose optional extras from the list below at additional cost.

**Custom colour option:** the tricycle's steel modular frame and the Zintec steel espresso machine chassis are finished in a tough black (RAL 9005) automotive / architectural quality powder-coat as standard. For an additional cost you can have either or both finished in a colour of your choice from the 14 RAL colours shown here:

Note: this colour chart is an approximate visual guide only, and the RAL numbers should be used as a definitive reference. If you require a 'bespoke' colour, not in this chart, then please select the 'bespoke' option on the order form and supply the colour reference



**Umbrella:** 2.4m / 8' canopy, fibreglass frame and aluminium pole, plain colour canopy, from the 17 colour options shown below:

Note: this colour chart for the plain umbrellas fabric is an approximate visual guide only, email us at [hello@velopresso.cc](mailto:hello@velopresso.cc) for further information



**Umbrella – heat-press logo:** logos or other branding can be added to the plain colour canopy

**Umbrella – custom:** complete custom canopy, with your artwork printed digitally in full colour – ideal if you want the umbrella to match the branding panels on the tricycle

**Rotostacka waste bin:** Lightweight, robust and portable free-standing waste bin, in recyclable polyethylene, stainless steel lid, stacks with Rotostacka stools & fits inside Velopresso for transport

**Rotostacka stools:** Lightweight, robust and portable seating for customers, in recyclable polyethylene (up to 5 stools, or 4 stools plus 1 waste bin can be stacked inside Velopresso for transport)

**Pedals:** Shimano SPD pedals (silver) model PD-A530, PD-M324 or PD-M520

**Portafilter – double:** twin spout and double basket

**Portafilter – single:** single spout and single basket

**Portafilter – bottomless:** portafilter only, no basket

**Tamper:** Velopresso tamper\*

**Lock-in portafilter mount:** CNC-machined stainless steel PF mount, with integrated funnel\*

\*availability and prices to be confirmed, September 2014

**Coolbox inserts:** additional coolbox inserts can be purchased

**Portable hand-wash unit:** Handeman® HMP compact portable hand wash unit, for use with pre-heated hot water, keeps water warm for 5 hours and provides a minimum of 10 × 12-second hand washes per filling, compact unit, straps inside front of Velopresso, out of sight

Velopresso Ltd reserve the right to change the above specification without notice

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