



**TECHNICAL BICYCLE COMPONENTS**

**2012**



***OTHERS MAY TALK A LOT ABOUT BRAKES  
WE AT FORMULA LIVE THE BRAKE***

In the world of modern bicycle brakes, Formula is the benchmark. Combining supreme technology, compact construction and the elegance of Italian design, our products are revered globally for their quality and performance. Our journey as a company has been a long and successful one, but we've never forgotten our roots.

Formula was founded in 1987 by Andrea Becocci and his wife, Daniela, in Prato, Tuscany. These two pioneers, who still manage the company with unabated energy, had one objective: to design, create and promote the world's best quality wheels and brakes for motorcycles. In this they succeeded.

The advent of disc brakes for MTB, however, brought exciting opportunities, allowing Formula to change its business and apply its expertise in a brand-new arena. Since 1993 we have produced high-end brakes for the bicycle industry, and we stand today as the leader in this market, still driven the same principles of excellence.

Indeed, Formula remains a family-owned company, guided by Italian style. But we think big and act globally. Based in our country of origin, we work closely together with our subsidiaries in the US, Germany, France, Canada and Taiwan, in order to provide unique and highly crafted disc brakes to bicycle manufacturers around the world.

Our employees work in a technology-driven environment, allowing them to enhance production in terms of quality and quantity. Constant monitoring of every process both inside and outside the company assures high quality products for our clients.

Further to this, Formula has always stayed close to professional sports, in which we sponsor many top athletes. They are like us: driven by the indomitable will to be the best.

*With the purchase of a Formula brake, you receive the exact product that has been approved by our sponsored riders: you ride the brake of champions!*

## TECHNOLOGY

We only use high quality DOT 4 as our brake fluid. It minimizes the friction, has a much higher dry and wet boiling point than mineral oil and degrades slower than DOT 5.1 fluid.

Our patented pad spring ensures a perfect parallel pad position for rotor engagement, minimizing potential noise from pad chatter and ensuring even pad wear.

Our patented reverse pump piston technology increases the fluid transfer between the reservoir and main line by up to 400% which leads to a constant lever feel and high fade resistance even on long descents. Besides the superior performance and constant lever feel we also increased durability due to a minimized seal wear.

The radial design of our master cylinders aligns the reservoir perfectly with the axis of the piston and leads to a compact, strong master cylinder with less flex compared to conventional brake designs and simplifies the bleeding process.

All brakes feature a one-piece caliper for extra strengths, compact design and low weight.

Our FCS (Feeling Control System) is the perfect tool to adjust the lever stroke and compensate pad wear. It comes standard on THE ONE and RO brake but is also available as an upgrade for all other brake models.

The new designed forged lever features a tool-free reach adjust (TFRA) that allows adjusting the lever reach "on-the-fly". It is standard on R1, THE ONE and RO and available as an upgrade on the RX brakes.



**F FORMULA**  
Power, Technology, Design.

**R1 Racing**  
the lightest



**FCS**  
Feeling Control System



XC   
AM   
EN   
DH/FR 

PURPOSE



FCS



SpeedLock



MixMaster

## features

Formula's race version of the **R1** features a carbon lever blade and titanium hardware. At just **270 grams**, it's the lightest serial disc brake on the market. **New for 2012:** upgrade your brakes with our **new FCS** (Feeling Control System), **SpeedLock** and **MixMaster**.



### master cylinder

- Forged radial master cylinder (MC)
- Patent-pending high capacity, integrated reservoir
- Removable handlebar clamp
- Flip-flop master cylinder assembly
- Carbon fiber lever
- Hard anodized MC piston
- Higher capacity (25% larger) fluid reservoir and New Diaphragm
- Laser etched logo

### caliper

- Forged one-piece post mount style caliper body with 22 mm pistons
- Top and bottom vented caliper body for maximum cooling and performance
- Top loading pads for easy changes
- Laser etched logos

## specification

MC body	Polished / anodized
Caliper body	Polished / anodized with red cap
Lever blade	Carbon fiber
Hose	Kevlar braided: 100 cm / 165 cm
Rotor 1-piece	160 mm / 180 mm / 203 mm
Brake pad	Organic, w/ergal back plate
Mounting	Standard PM 6"
Rotor and mounting bolts	All in titanium
Weight	270 grams (PM - including 850 mm hose, 160 mm rotor, complete hardware)

## option

Rotor 2-piece standard	140 mm / 160 mm / 180 mm / 203 mm
Rotor 2-piece Centerlock	160 mm / 180 mm
Mounting	Adapters available for IS / PM; 140 mm / 160 mm / 180 mm / 203 mm
FCS	Red, black or gold available
MixMaster	Available





- XC 
- AM 
- EN 
- DH/FR 



FCS

SpeedLock

Tool Free Reach Adjustment

MixMaster

## features

### RO - WORLDWIDE THE ONLY BRAKE WITH OVAL CALIPER PISTONS!

The **RO** is the newest brake from Formula, combining top brake performance with the elegant looks of an Italian design. The new and unique **oval piston technology** allows a compact caliper design increasing the piston size by 18% in comparison to The One.

With just **361 grams** the **RO** sets the benchmark for brake power and performance at a XC brakes weight.

**New for 2012:** upgrade your brakes with our new **SpeedLock** and **MixMaster**.



### master cylinder

- Optimized forged "semi"- radial MC design improves ergonomics and lever ratio
- High capacity, integrated reservoir
- Removable handlebar clamp
- Flip-flop master cylinder assembly
- Forged lever blade with integrated tool-free reach adjust
- Hard anodized MC piston
- Laser etched logo

### caliper

- Forged one-piece post mount style caliper
- Worldwide unique oval piston technology
- Top and bottom vented caliper body for maximum cooling and performance
- Additional bleeding port simplifies the bleeding process
- Top-loading pads simplify pad changes
- Laser etched logos

### specification

MC body	Polished / anodized
Caliper body	Polished / anodized with black cap
Lever blade	Forged aluminium, anodized glossy black
FCS	Black included
TFRA	Silver knob included
Hose	Black: 100 cm / 165 cm
Rotor 1-piece	160 mm / 180 mm / 203 mm
Brake pad	Sintered
Mounting	Standard PM 6"
Weight	361 grams (PM - including 850 mm hose, 160 mm rotor, complete hardware)

### option

Rotor 2-piece standard	140 mm / 160 mm / 180 mm / 203 mm
Rotor and mounting bolts	Titanium rotor bolts save 10 g
Rotor 2-piece centerlock	160 mm / 180 mm
Mounting	Adapters available for IS / PM; 140 mm / 160 mm / 180 mm / 203 mm
MixMaster	Available



**F FORMULA**  
Power, Technology, Design.

**R1**  
top performance



**FCS**  
Feeling Control System



- XC 
- AM 
- EN 
- DH/FR 



FCS

SpeedLock

Tool Free Reach Adjustment

MixMaster

## features

As the lightest serial disc brake ever made the **R1** is the **premier XC race brake** on the market today. Custom tuning drops the stock weight of **298 grams** by further 16 grams. Despite its low weight, the **R1** generates more than enough power and performance for an All Mountain or Enduro use.

The forged master cylinder body and caliper provide increased modulation, braking power and durability, while the **R1's** patented caliper piston system increases fluid capacity in the caliper providing stability and fade resistance even on long descents. **New for 2012:** upgrade your brakes with our **new FCS** (Feeling Control System), **SpeedLock** and **MixMaster**.



### master cylinder

- Forged radial master cylinder (MC)
- Patent-pending high capacity integrated reservoir
- Removable handlebar clamp
- Flip-Flop master cylinder assembly
- Aluminium forged lever blade (*carbon option*)
- Hard anodized MC piston
- Laser etched logo
- Higher capacity (25% larger) fluid reservoir and New Diaphragm
- **NEW** lever integrated TFRA (tool free reach adjust)

### caliper

- Forged one-piece postmount style caliper body with 22 mm pistons
- Aluminium backed brake pads for additional weight saving
- Top and bottom vented caliper body for maximum cooling and performance
- Patent-pending caliper cap / piston system for compact design and increased fluid capacity
- Laser etched logos

### specification

MC body	Anodized glossy black
Caliper body	Anodized glossy black with red cap
Lever blade	Forged aluminium, anodized glossy black
TFRA	Red knob included
Hose	Black: 100 cm / 165 cm
Rotor 1-piece	160 mm / 180 mm / 203 mm
Brake pad	Organic, w/ergal back plate
Mounting	Standard PM 6"
Weight	298 grams (PM - including 850 mm hose, 160 mm rotor, complete hardware)

### option

Lever blade	Carbon, saves 6 g
Rotor 2-piece standard	140 mm / 160 mm / 180 mm / 203 mm
Rotor and mounting bolts	Titanium rotor bolts save 10 g
Rotor 2-piece centerlock	160 mm / 180 mm
Mounting	Adapters available for IS / PM; 140 mm / 160 mm / 180 mm / 203 mm
FCS	Red, black or gold available
MixMaster	Available





**The One**  
most versatile



- XC 
- AM 
- EN 
- DH/FR 



FCS

SpeedLock

Tool Free Reach Adjustment

MixMaster

## features

### THE LIGHTEST FR / DH BRAKE.

Weighing in at **336 grams**, the incredible braking power and precise modulation of The One has earned an excellent reputation worldwide, and has resulted in numerous test wins.

*The One sets the benchmark in the AM/EN sector!*

**New for 2012:** upgrade your brakes with our **SpeedLock** and **MixMaster**.



#### master cylinder

- Forged radial master cylinder (MC)
- Patent-pending high capacity, integrated reservoir
- Removable handlebar clamp
- Flip-flop master cylinder assembly
- Aluminum forged lever blade
- Hard anodized MC piston
- Laser etched logo
- Higher capacity (25% larger) fluid reservoir and New Diaphragm
- NEW lever integrated TFRA (tool free reach adjust)

#### caliper

- Patent-pending forged one-piece post mount style caliper
- Huge 24 mm caliper pistons provide amazing stopping power
- Top vented caliper allows for wheel on pad changes and eliminates overheating effects
- Bottom vented caliper pistons provide additional cooling
- Top-loading pads simplify pad changes
- Laser etched logos

#### specification

MC body	Anodized glossy black
Caliper body	Anodized glossy black with gold cap
Lever blade	Forged aluminium, anodized glossy black
FCS	Gold included
TFRA	Gold knob included
Hose	Black: 100 cm / 165 cm
Rotor 1-piece	160 mm / 180 mm / 203 mm
Brake pad	Sintered
Mounting	Standard PM 6"
Weight	336 grams ( PM - including 850 mm hose, 160 mm rotor, complete hardware)

#### option

Lever blade	Carbon, saves 6 g
Rotor 2-piece standard	140 mm / 160 mm / 180 mm / 203 mm
Rotor and mounting bolts	Titanium rotor bolts save 10 g
Rotor 2-piece centerlock	160 mm / 180 mm
Mounting	Adapters available for IS / PM; 140 mm / 160 mm / 180 mm / 203 mm
MixMaster	Available



**bike  
TIPP**



**F FORMULA**  
Power, Technology, Design.

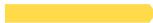
**RX**  
best value



**KAUFTIPP**  
02/10  
**Mountain BIKE**  
Winner with 203mm disc.

**FCS**  
Feeling Control System



XC   
AM   
EN   
DH/FR 

PURPOSE



FCS

SpeedLock

Tool Free Reach Adjustment

MixMaster

also available

## features

As the perfect brake for any XC or All Mountain / Enduro application, the RX features a radial master cylinder that combines with a one-piece caliper equipped with 22 mm diameter pistons.

This translates into lots of power and modulation while leading its category at a low 341 grams.

**New for 2012:** upgrade your brakes with our new **FCS** (Feeling Control System), **TFRA** (Tool Free Reach Adjustment), **SpeedLock** and **MixMaster**.

## master cylinder

- New redesigned radial master cylinder (MC)
- Patent-pending high capacity, integrated reservoir
- Removable handlebar clamp
- Flip-Flop master cylinder assembly
- Hard anodized MC piston
- Laser etched logos

## caliper

- One-piece caliper body with 22 mm pistons
- Post mount style w/adaptors
- Top and bottom vented caliper body
- Laser etched logos

## specification

MC body	Painted glossy black / glossy white
Caliper body	Painted glossy black / glossy white with red cap
Lever blade	Aluminium, painted matte black
Hose	Black: 100 cm / 165 cm
Rotor 1-piece	160 mm / 180 mm / 203 mm
Brake pad	Organic
Mounting	Standard PM 6"
Weight	341 grams (PM - including 850 mm hose, 160 mm rotor, complete hardware)

also available

## option

Rotor 2-piece standard	140 mm / 160 mm / 180 mm / 203 mm
Rotor and mounting bolts	Titanium rotor bolts save 10 g
Rotor 2-piece centerlock	160 mm / 180 mm
Mounting	Adaptors available for IS / PM; 140 mm / 160 mm / 180 mm / 203 mm
FCS	Red, black or gold available
TFRA	Aluminium forged lever with red, gold or silver knob
MixMaster	Available



**disk brake diameter**

**2-PIECE ROTOR (all Brakes)**

**Aluminium Carrier 6 holes**

Diameter (mm)	140	160	180	203
Weight (grams)	78	95	115	139

**Aluminium Carrier Center Lock**

Diameter (mm)	160	180	
Weight (grams)	105	123	



**disk brake diameter**

**1-PIECE ROTOR (all Brakes)**

**Stainless Steel**

Diameter (mm)	160	180	203
Weight (grams)	87	123	157

**Stainless Steel w/Center Lock**

Diameter (mm)	160	180	203
Weight (grams)	106	141	176

**NEW FCS (Feeling Control System)**

The new **FCS** valve is available for all **2012 Formula brakes** (standard for RO and The One). This allows for a tool-free adjustment of the levers contact-point (free-throw) to suite the rider's personal preference and ergonomic needs. The new **FCS** is available in anodized **red, gold** or **black**.

**NEW LEVER INTEGRATED TFRA (Tool Free Reach Adjustment)**

Standard on R1, THE ONE and RO and optional for the RX brake, this feature allows a tool-free adjustment of the lever reach (resting position) to suite the rider's personal preference. The **TFRA** adjustment or adjusting knob will be available in anodized **red, gold** or **silver**.

**BRAKE ROTORS WITH ALUMINIUM SPIDERS**

Optional for all **2012** Formula brakes are the new two-piece rotors with aluminum spiders. These new brake discs will be available for both centerlock (only for 160 / 180 mm) and 6 bolt pattern hubs in 140 mm, 160 mm, 180 mm and 203 mm. The new Formula Centerlock adapter is also available to install our one-piece rotors on a Centerlock hub.

**MIXMASTER**

Optional for all 2012 Formula brakes, the **MixMaster** clamp allows direct assembly of various shifters to the brake for better ergonomics and a "clean" look on the handlebar.

**NEW SPEED LOCK**

*a sensational feature!*

Open and close the hose easily, without spilling a drop of fluid.

A perfect feature for internal routing.

Three versions available:

**A ) in-line;**

**B ) connect to caliper;**

**C ) connect to master cylinder.**



**A**



**B**



**C**

**master cylinder****ALL MASTERCYLINDER PISTONS ARE HARD ANODIZED.**

**Advantage:** Increased durability

**ergonomics**

- Lever integrated **TFRA (TOOL FREE REACH ADJUSTMENT) NEW !**
- Easy to use
- Encapsulated in the lever blade for increased durability
- With or without the **TFRA** or **FCS**, the ergonomics of the lever blade remain the same.

**caliper****ALL MOUNTING INTERFACES AND HOLES ARE CNC MACHINED.**

**Advantage:** the caliper is aligned properly out of the box and ensures easy assembly.

**TYPES OF HOSES AVAILABLE:**

- Standard nylon hose
- Kevlar hose
- Steel hose (aeronautic)

**ORGANIC AND SINTERED PADS:**

- Custom compounds developed by **Formula's R&D** department.

Certified Environmental  
System UNI EN ISO 14001:2004



Certified Quality System  
UNI EN ISO 9001:2000

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