

 DITOGEAR™  
VIBRAFREEK



USER'S MANUAL

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# 1. Getting started

Thank you very much for purchasing DitoGear™ equipment. We hope that our devices will meet your expectations bringing a great value to your productions.

This manual includes hardware instructions for using DitoGear™ VibraFreek.

Please ensure to carefully read and follow safety instructions and precautions contained in this manual prior to the first use of the device.

Should you need any assistance or support do not hesitate to contact us at [support@ditogear.com](mailto:support@ditogear.com).

Precautions for safe use and optimal performance of DitoGear™ VibraFreek

**Caution!**  
Incautious use of the device may cause serious injuries to your body and 3rd party equipment!

**Caution!**  
DitoGear is not responsible for any damage to VibraFreek, camera or other equipment caused by improper use of the device.

**Caution!**  
Make sure not to put excessive load on the DitoGear™ VibraFreek Arm. The payload that is considered as safe for optimal performance is 38kg (83lb).

**Caution!**  
Never use VibraFreek under higher payloads - the device may get damaged and you may void the warranty.

**Caution!**  
Always double check that all mounting points of the rig are properly fixed and fastened!

**Caution!**  
It is your responsibility to assure proper civil liability and equipment insurance for production using DitoGear™ equipment.

# 2. Getting to know VibraFreek

DitoGear™ VibraFreek is a passive vibration dampening system for vehicle-mounted camera rigs. VibraFreek arm dampens low and high frequency vibrations along Z axis while optional X/Y module adds two extra axes for optimal performance under extreme conditions.

VibraFreek must always be used with a 3rd party gimbal stabilizer mounted between the arm and the camera. The system is rated for payloads ranging from 5 to 38 kg (11 to 83lb).

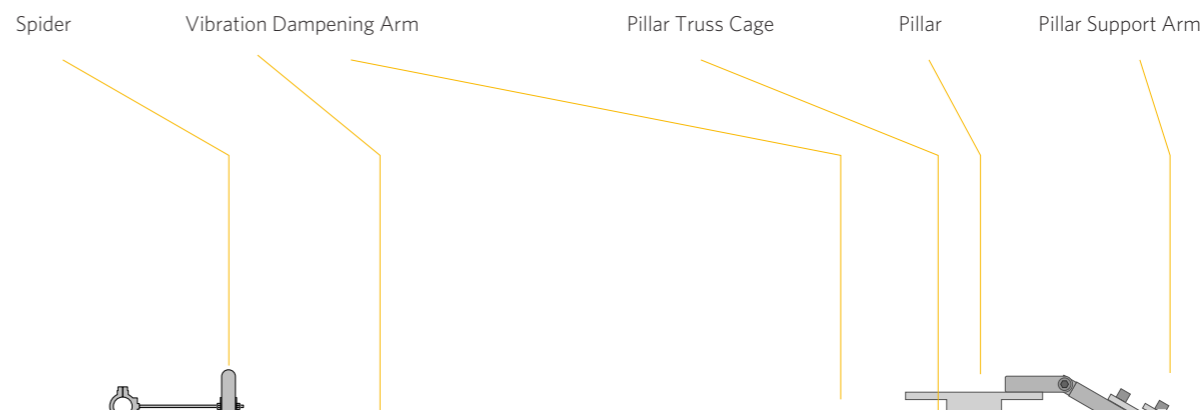
VibraFreek is designed to facilitate shooting while driving on flat surfaces such as most types of roads and pavements. Depending on your experience it may deliver satisfying results on rough terrains and off-road conditions. For such applications it is recommended to use a car with a specialized suspension to additionally dampen vibrations.

# 3. VibraFreek Construction

The main part of the device is a vibration dampening arm (referred to as “arm” later in this manual). The arm is mounted to a vehicle using VibraFreek Spider Mount or a VibraFreek Pillar Mount.

Spider Mount can be attached to vehicle’s bull bars or, in case of customized vehicles, to any grip points available and can be mounted on a standard (non-customized) vehicles.

VibraFreek Pillar Mount requires certain modifications of the vehicle since it needs a firm support at the base and at the top (roof rack or custom grip points). VibraFreek Arm position on the pillar can be adjusted using Pillar Truss Cage with 4 mechanical locks. Additionally, Pillar Truss Cage allows to reorient the arm in 90° increments. Arm to Truss Cage star-shaped mounting allows for adjusting orientation of the arm with greater precision. Pillar Mount is held firmly in position at its bottom (mounting to the railing) and at the top thanks to Pillar Support Arm attached to the roof rack.



## Specifications

Arm movement range	35cm
Max speed of the car	100km/h (62 m/s)
Max payload	Depends on used springs (see table on page 15)

## Packaging dimensions

VibraFreek w/ Pillar Mount	Package 1: 200x40x20cm Package 2: 50x40x40cm	30kg 8kg	Total weight: 38kg
VibraFreek w/ Spider Mount	Package: 50x40x40cm		Total weight: 12kg

## 4. Pillar Mount Setup

### 4.1 Preparing the vehicle

The following guide focuses on mounting VibraFreek to a standard vehicle. In case of car customized for filming purposes feel free to use the grip points available.

The vehicle should be equipped with a rigid roof rack capable of holding static payloads of 100kg (220lb). Additionally, the vehicle must provide a firm railing, preferably round-shaped, 40mm diameter, at the front or rear, as close to the ground as possible.

The railing must always be firmly attached to the most rigid parts of the vehicle - either car frame or the body shell and must support static payloads of at least 200kg (440lb).

DitoGear™ recommends contracting a professional to prepare the vehicle and use steel and welding for the supports.

### 4.2 Mounting VibraFreek using Pillar Mount

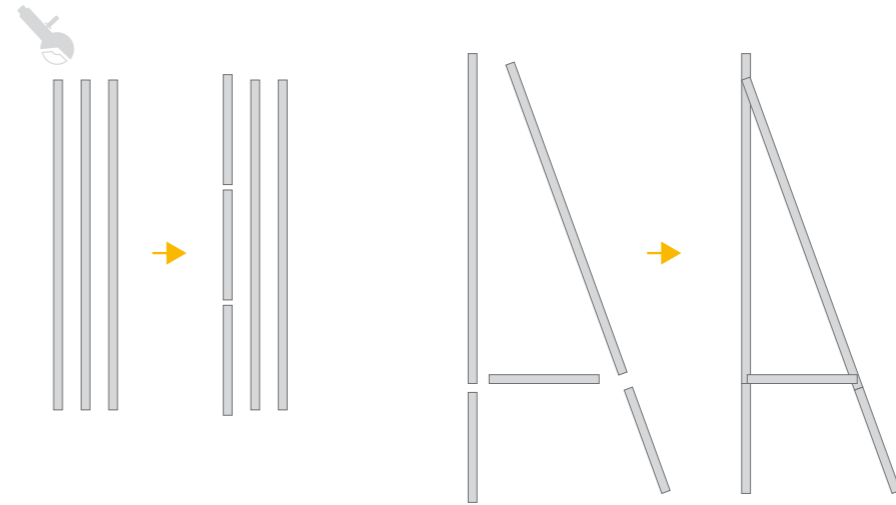
#### Before you start

- Prepare a dry outdoor or garage space to work comfortably.
- Prepare soft clothing, bubble wrap or soft cardboard sheets.
- You'll need basic tools such as rubber-headed hammer, screwdrivers, a set of keys.
- Working in a team of 2-3 persons helps make the procedure go smoothly.

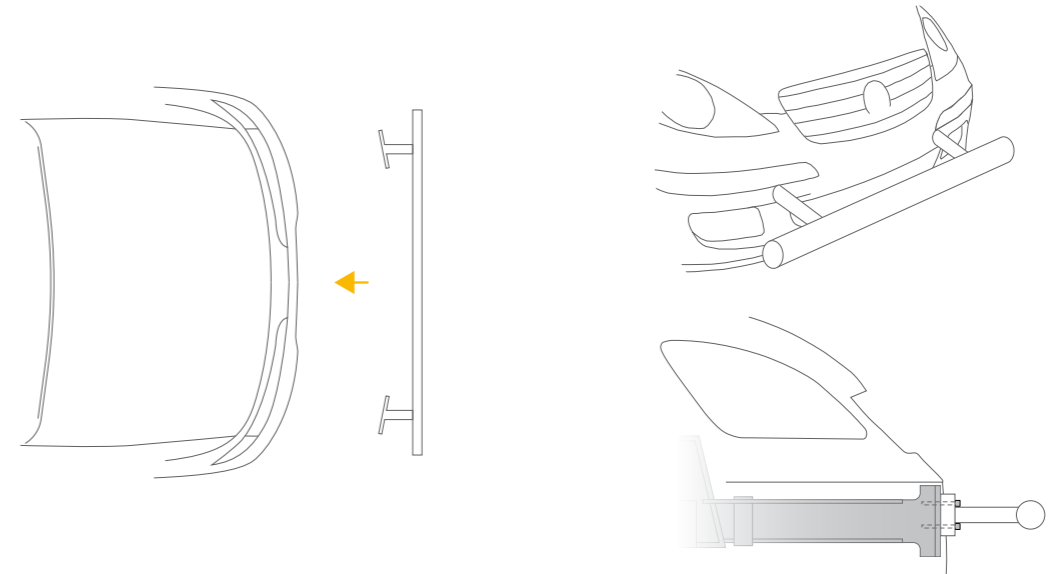
The guide below starts with general idea and detailed picture follows. Start reading through to get an idea where you're heading, then proceed mounting.

Make sure not to firmly fasten the bolts and screws during the first stage while connecting parts together. When all parts are in the right place tighten all bolts.

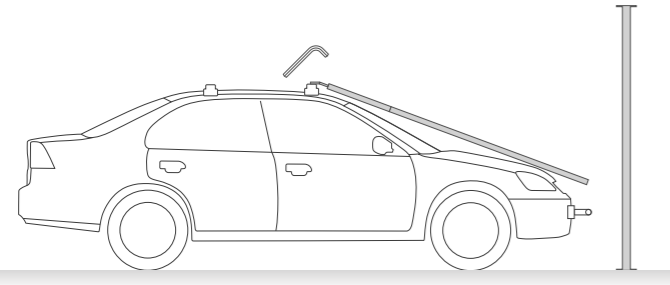
1 Prepare and connect together all parts of the Pillar Support Arm.



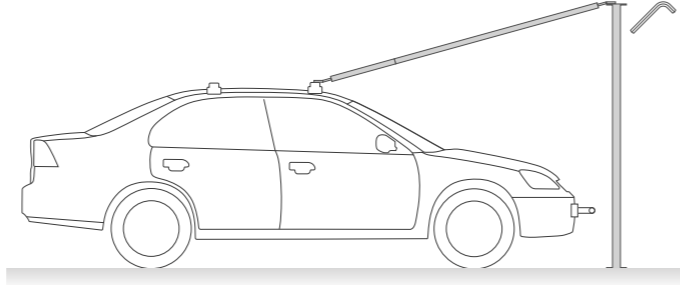
2 Prepare the railing at the front or rear of the car.



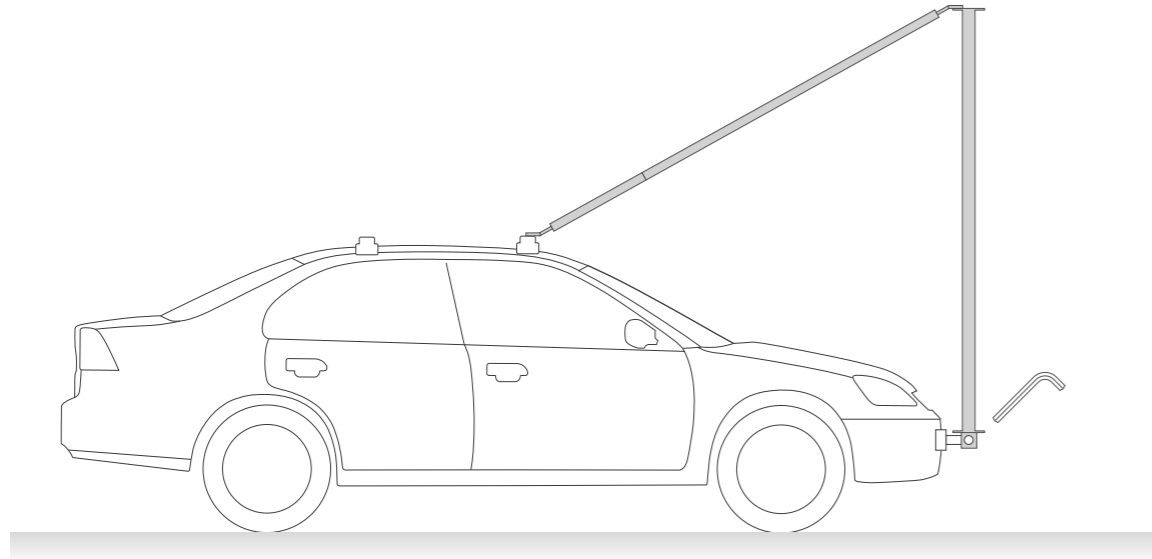
3 Attach the Pillar Support Arm to the roof rack of the car. The other end may rest at the chassis. Make sure to put soft clothing or cardboard underneath to protect the paint.



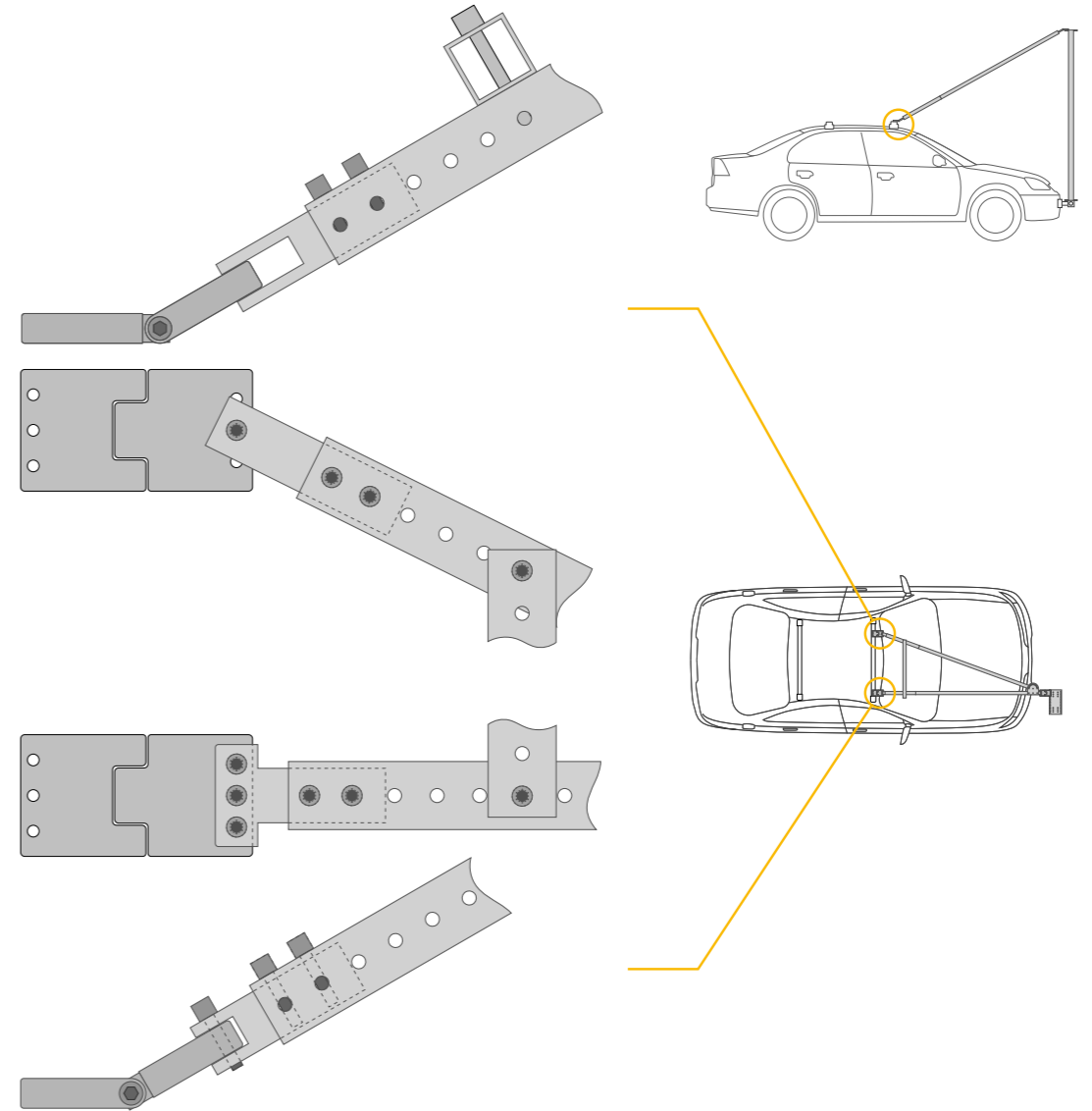
4 Place the Pillar next to the car in upright position. Fix it to the Pillar Support Arm.



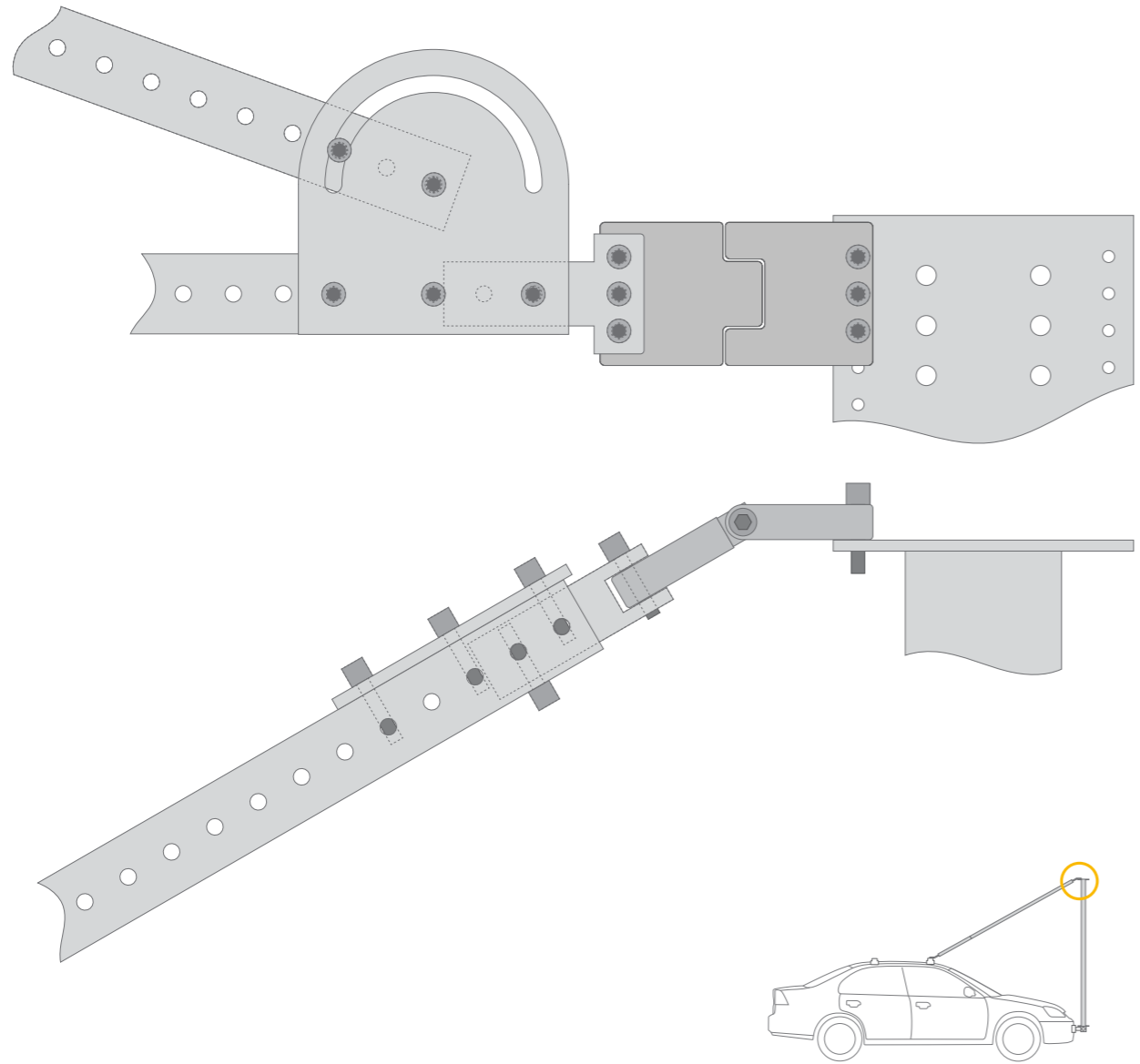
5 Lift the Pillar and mount it to the railing.



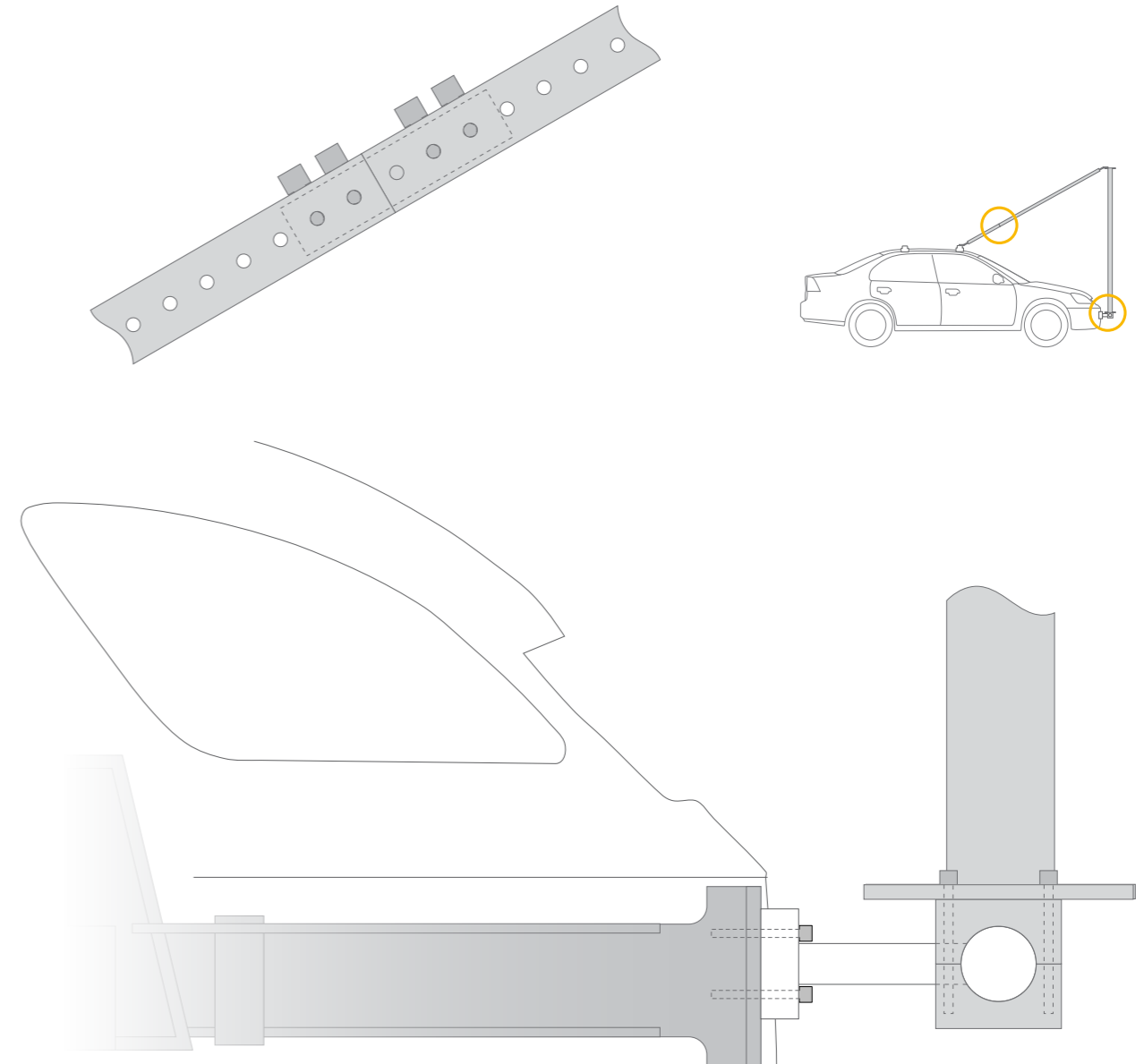
6 Detail Figure - Mounting Pillar Support Arm to the Roof Rack.



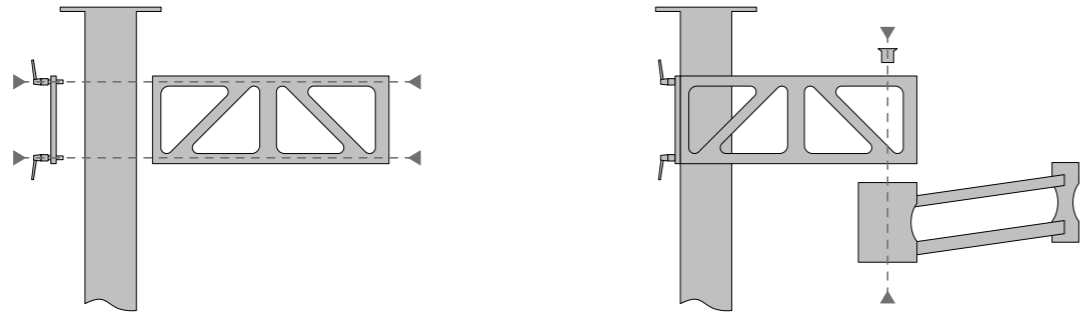
7 Detail Figure -Mounting Pillar Support Arm to VibraFreek Arm.



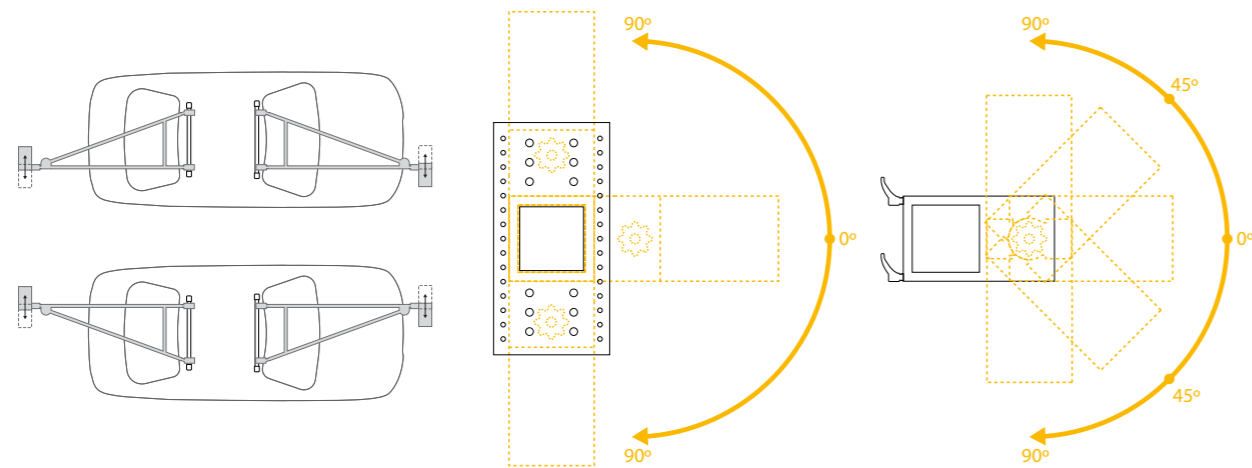
8 Detail Figure - Connecting Pillar Support Mount Extension Parts.



- 9 Attach Pillar Truss Cage to the Pillar and lock it down in a desired position. Attach the VibraFreek Arm to the Truss Cage in a desired position with the Daisy Mount.



- 10 The following picture shows possible configurations and orientations of the Pillar, VibraFreek Arm and Truss Cage.



Pillar Orientations

Truss Cage Orientations

VibraFreek Arm Orientations

## 5. Mounting VibraFreek using Spider Mount

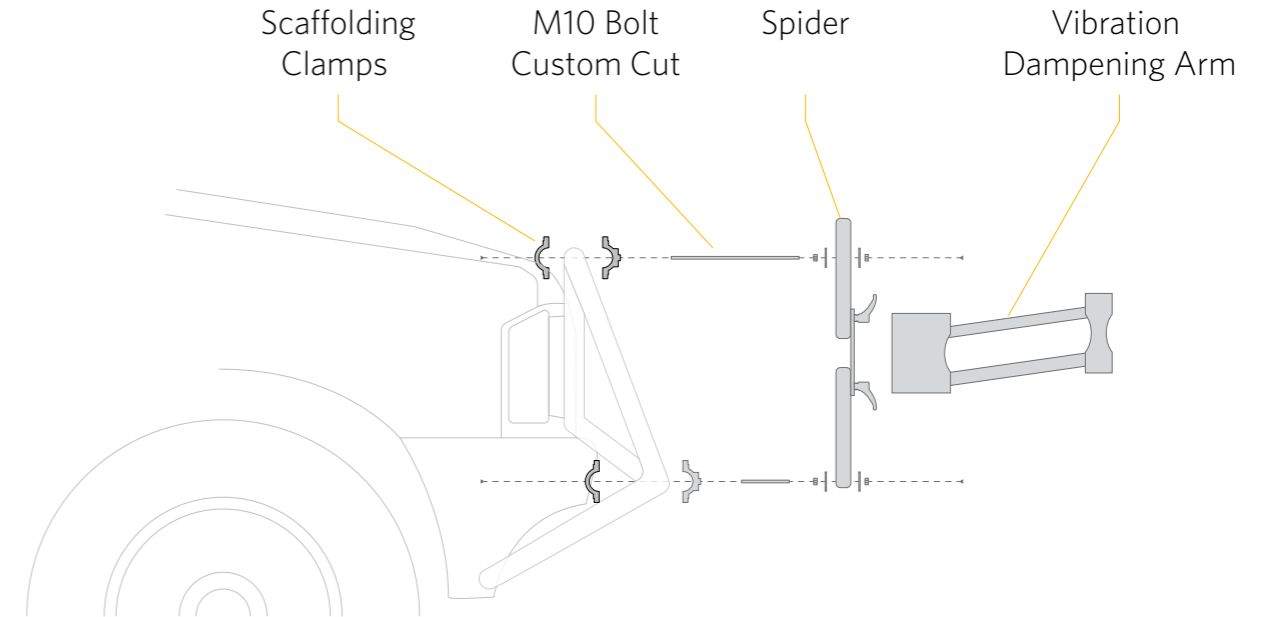
### 5.1 Preparing the vehicle and accessories

Mounting VibraFreek with the Spider Mount is flexible and many configurations are possible. Feel free to proceed in a DIY manner, or take advantage of the recommended way described below.

You'll need:

- 1 A car with a strong bull bars (or)
- 2 A customized vehicle with available grip points
- 3 A set of scaffolding clamps matching the diameter of the tubes of the bull bar and allowing to mount M10 threaded rods.
- 4 A set of M10 threaded steel rods.

The following picture shows mounting the VibraFreek with a Spider Mount to the front bull bars of a car.

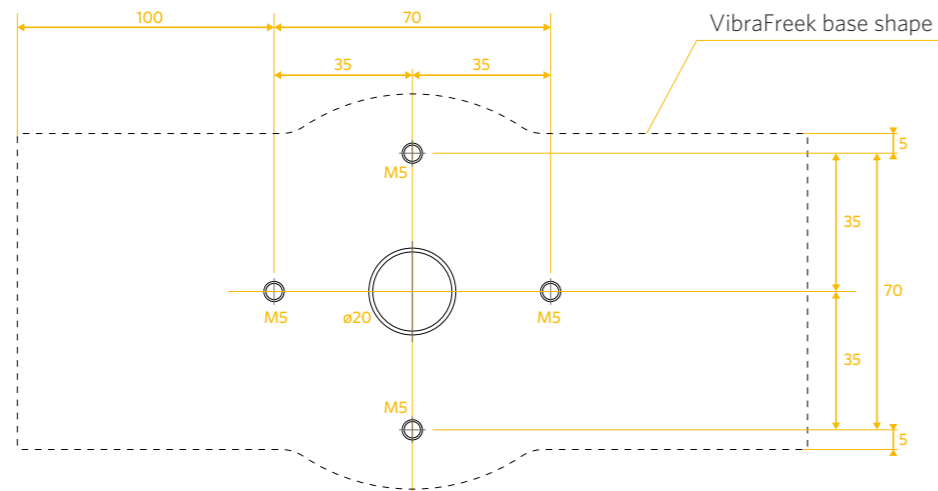


## 5.2 Step by step

- 1 Attach scaffolding clamps to bull bars.
- 2 M10 Rods should be cut to a length that allows to mount the Spider Mount plate in an upright position.
- 3 Fix 4 M10 rods to the scaffolding clamps.
- 4 Place the Spider Mount Plate onto the rods and secure it with bolts and make sure to have washers on both sides.
- 5 Mount the VibraFreek arm to the Spider Mount Plate.

## 6. Customized Mounting Approach

VibraFreek can be also mounted to custom hardware or grip points. The following pictures are a reference of the mounting holes on the top and on the side of VibraFreek that need to be matched with your custom parts. The arm can be fixed either using back or top mounting holes, or using a combination of both sides.



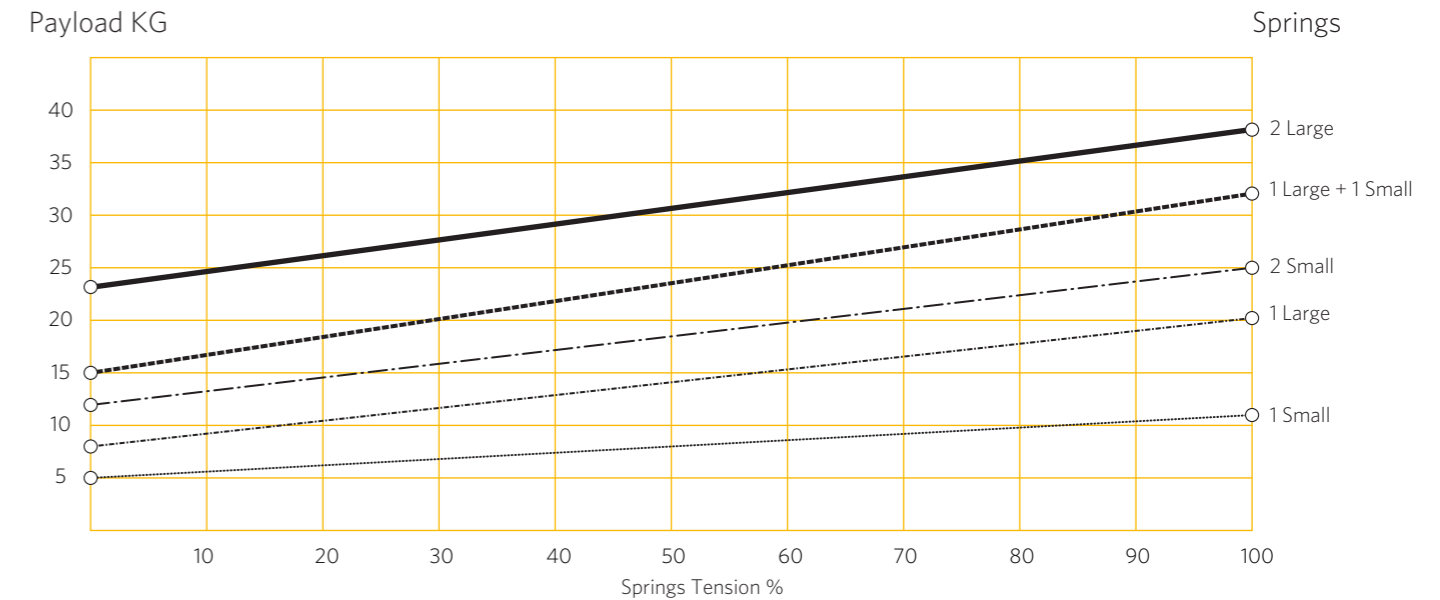
## 7. Balancing VibraFreek

VibraFreek comes with adjustable set of springs, an optional set of heavy-duty (HD) springs and an adjustable shock absorber.

Depending on the weight of your rig you need to choose a proper springs configuration.

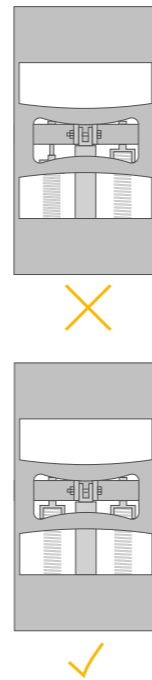
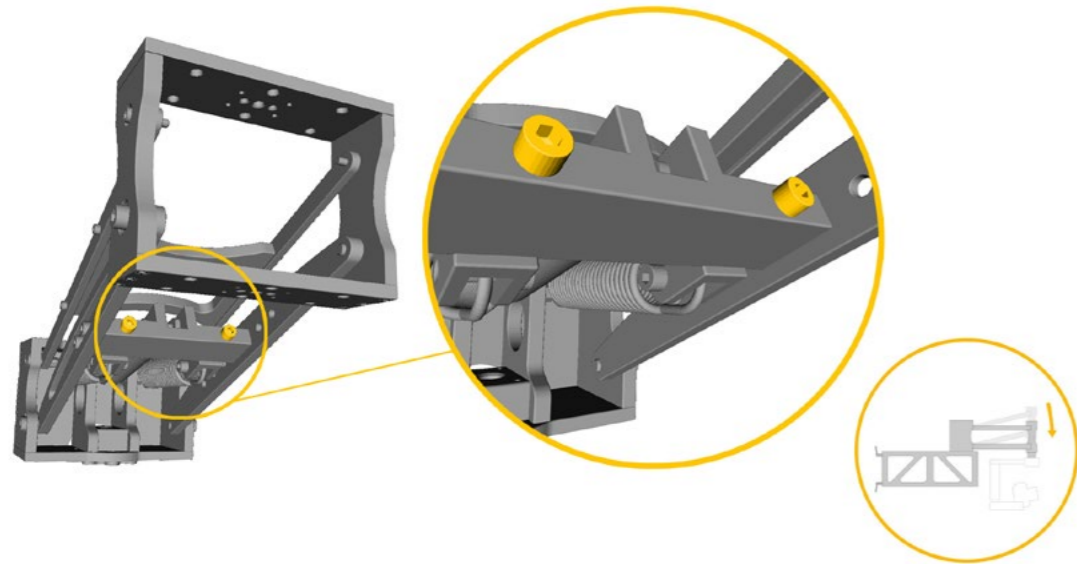
### 7.1 Choosing springs and adjusting balance

- 1 Get to know the total weight of the gimbal stabilizer, camera and accessories.
- 2 Choose a configuration of springs based on the graph below to match the payload.





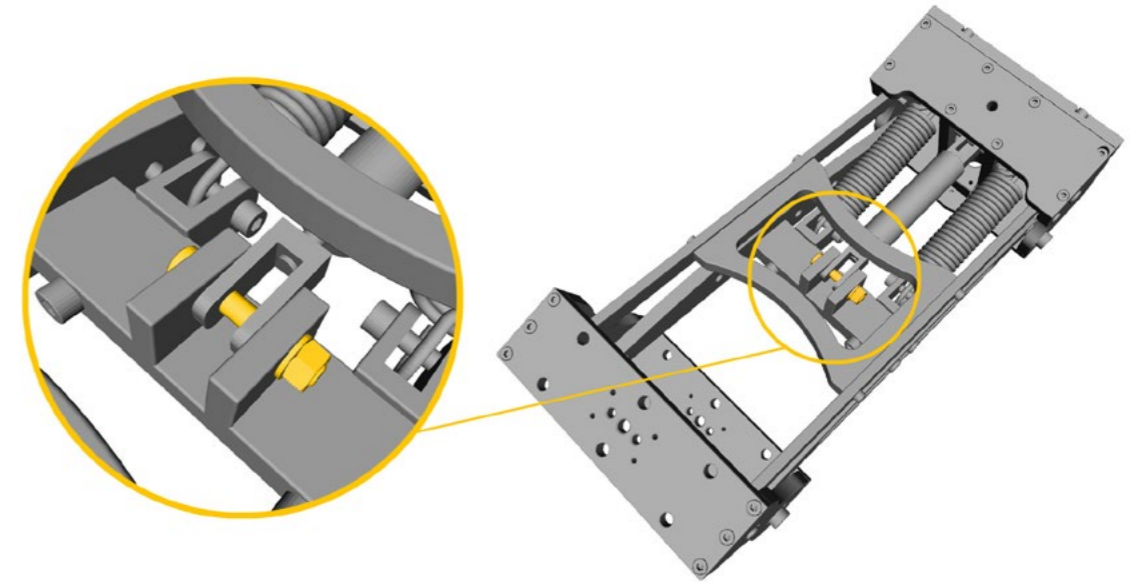
- 3 Mount VibraFreek on the vehicle, place a full camera rig on the VibraFreek arm.
- 4 Using the bolts shown on the figure below adjust springs tension so that the arm is leveled.
- 5 The tension depends on the payload and configuration of the springs.
- 6 If using both springs of the same type make sure to adjust them in parallel to ensure even tension across both springs.



## 7.2 Adjusting the shock absorber

Proper adjustment of the shock absorber depends on a range of factors such as the total payload, cruising speed or terrain roughness. Therefore there are no recommended settings and you have to experiment with the equipment to achieve the best results under given conditions.

To adjust the stiffness of the absorber remove its end from the arm and turn clockwise (stiffer) or counterclockwise (softer). Do it manually - using hard devices may damage threading.



## 8. XY Module

DitoGear™ VibraFreek XY Module is used to eliminate the pendulum motion of a camera due to the centrifugal force during the change of direction or acceleration of the vehicle.

The VibraFreek XY Module has two rotary axes with rotary dampers and gas springs.

### 8.1 XY Module adjustment

- 1 Prepare a torque wrench with 17mm cap for 2 to 10 Nm or 4 to 20 Nm.
- 2 Tighten the two indicated nuts, with the large washers underneath, in a following way:
  - Torque of 5Nm for a 5kg load
  - Torque of 8Nm for a 8kg load
  - Torque of 10Nm for a 10kg load etc.

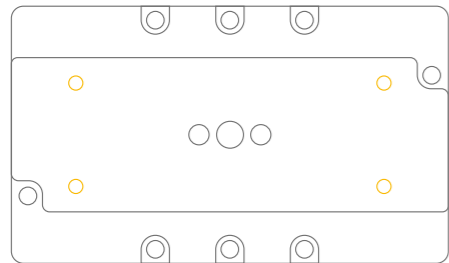
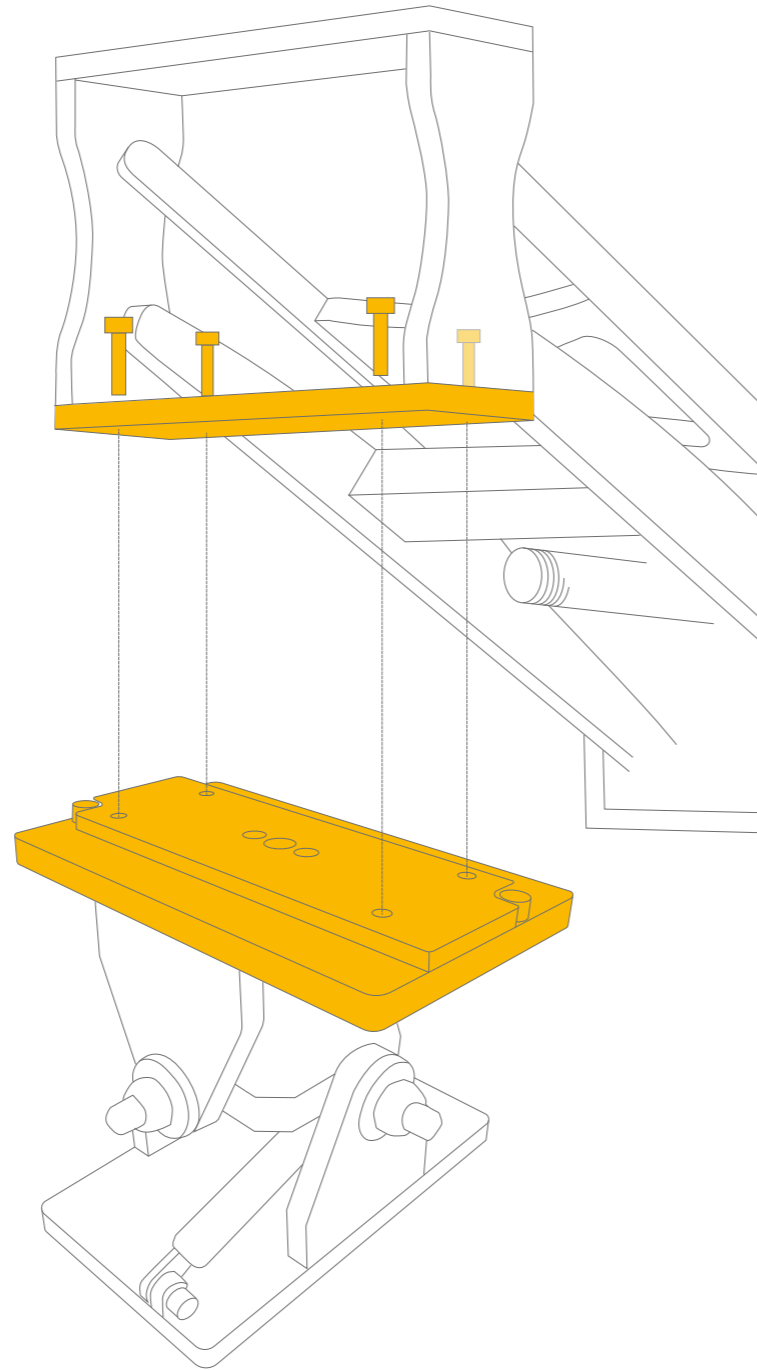
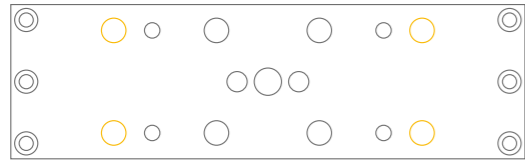
### Specifications:

- Weight 2.3 kg (5.1 lbs)
- Dimensions: 17x16x17 [cm]
- Payload 18 kg (39.7 lbs)



## 8.2 Connecting XY Module to VibraFreek

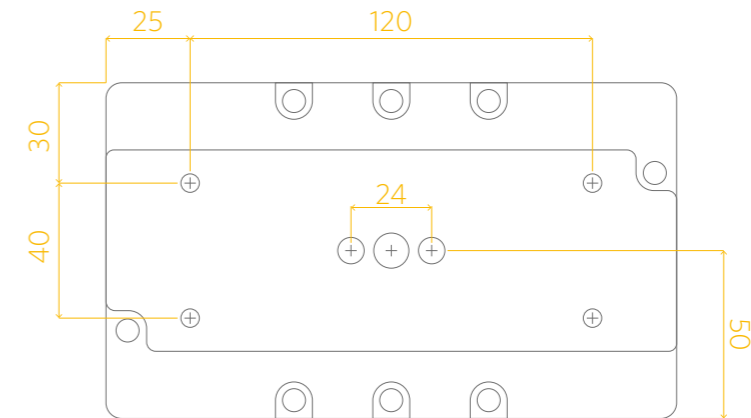
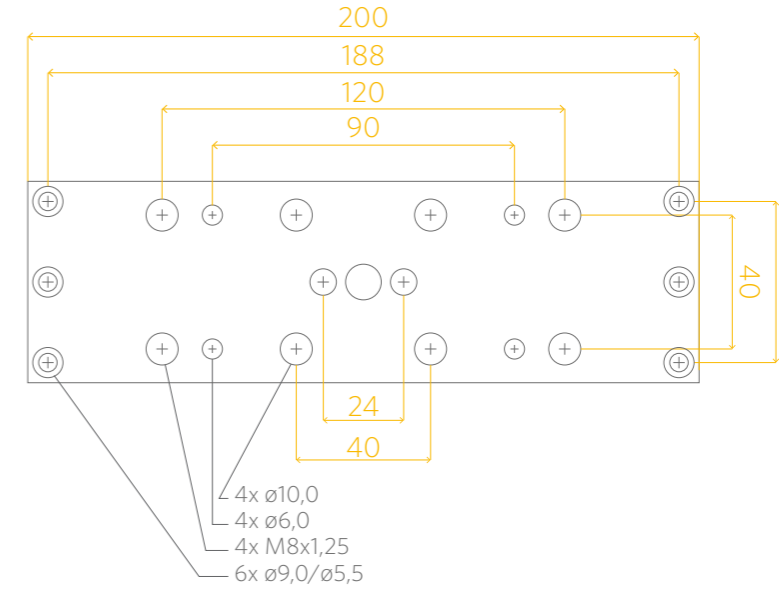
Use four delivered M6x20 bolts to mount the XY Module to DitoGear™ VibraFreek.



## 8.3 Preparing Gimbal Adapter for VibraFreek arm and XY Module

The technical drawings below will be useful if you want to make a DIY adapter for your gimbal.

To create the adapter for the VibraFreek Arm, use the first sketch. The second drawing shows the top and bottom mounting plates of the XY Module.



## 9. Obtaining Support

In case of any technical issues that can't be solved by carefully reading the manuals do not hesitate to contact us at [support@ditogear.com](mailto:support@ditogear.com)

## 10. Limited Warranty

DitoGear One (1) Year Limited Warranty  
For DitoGear Products Only

### Consumer rights and restrictions.

For consumers, who are covered by consumer protection laws or regulations in their country of purchase or, if different, their country of residence, the benefits conferred by this warranty are in addition to all rights and remedies conveyed by such consumer protection laws and regulations. This warranty does not exclude, limit or suspend any rights of consumers arising out of non-conformity with a sales contract. However, as described below, DitoGear disclaims statutory and implied warranties to the extent permitted by law, and in so far as such warranties cannot be disclaimed, all such warranties shall to the extent permitted by law be limited in duration to the duration of the express warranty described below and to the repair or replacement service as determined by DitoGear in its sole discretion. Some states (countries and provinces) do not allow limitations on how long an implied warranty or condition may last, so the limitations described above may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state (or by country or province). This limited warranty is governed by and construed under the laws of the country in which the product purchase took place. DitoGear, the warrantor, under this limited warranty stands for DitoGear™ Robert Paluch, ul.Krańcowa 30, 62-002 Suchy Las, Poland.

### Warranty.

DitoGear's warranty obligations for this hardware product are limited to the terms set forth herein. DitoGear warrants this DitoGear-branded hardware product against defects in materials and workmanship under normal use for a period of one (1) year from the date of retail purchase by the original end-user purchaser ("Warranty Period"). If a hardware defect arises and a valid claim is received within the Warranty Period, at its option and to the extent permitted by law, DitoGear will either (1) repair the hardware defect at no charge, using new or refurbished parts that are equivalent to new in performance and reliability, (2) exchange the product with a product that is new or refurbished that is equivalent to new in performance

and reliability and is at least functionally equivalent to the original product, or (3) refund the purchase price of the product. DitoGear may request that you replace defective parts with user-installable new or refurbished parts that DitoGear provides in fulfillment of its warranty obligation.

A replacement product or part, including a user-installable part that has been installed in accordance with instructions provided by DitoGear, assumes the remaining warranty of the original product or ninety (90) days from the date of replacement or repair, whichever provides longer coverage for you.

When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes DitoGear's property. Parts provided by DitoGear in fulfillment of its warranty obligation must be used in products for which warranty service is claimed. When a refund is given, the product for which the refund is provided must be returned to DitoGear and becomes DitoGear's property.

### Exclusions and limitations.

To the extent permitted by law, this warranty and the remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral, written, statutory, express or implied. As permitted by applicable law, DitoGear specifically disclaims any and all statutory or implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose and warranties against hidden or latent defects. If DitoGear cannot lawfully disclaim statutory or implied warranties then to the extent permitted by law, all such warranties shall be limited in duration to the duration of the express warranty and to the repair or replacement service as determined by DitoGear in its sole discretion. Some states (countries and provinces) do not allow limitations on how long an implied warranty or condition may last, so the limitations described above may not apply to you. No DitoGear reseller, agent, or employee is authorized to make any modification, extension, or addition to this warranty. If any term is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.

This Limited Warranty applies only to hardware products manufactured by or for DitoGear. The Limited Warranty does not apply to any non-DitoGear hardware products even if packaged or sold with DitoGear hardware. Manufacturers or suppliers, other than DitoGear, may provide their own warranties to the end user purchaser, but DitoGear, in so far as permitted by law, provides their products "as is".

DitoGear does not warrant that the operation of the product will be uninterrupted or error-free. DitoGear is not responsible for damage arising from failure to follow instructions relating to the product's use.

This warranty does not apply: (a) to consumable parts, such as batteries, unless damage has occurred due to a defect in materials or workmanship; (b) to cosmetic damage, including but not limited to scratches, dents and broken elements on ports; (c) to damage caused by use with non-DitoGear products; (d) to damage caused by accident, abuse, misuse, liquid contact, fire, earthquake or other external causes; (e) to damage caused by operating the product outside the permitted or intended uses described by DitoGear; (f) to damage caused by service (including upgrades and expansions) performed by anyone who is not a representative of DitoGear; (g) to a product or part that has been modified to alter functionality or capability without the written permission of DitoGear; (h) to defects caused by normal wear and tear or otherwise due to the normal aging of the product.

Except as provided in this warranty and to the extent permitted by law, DitoGear is not responsible for direct, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory, including but not limited to loss of use; loss of revenue; loss of actual or anticipated profits (including loss of profits on contracts); loss of the use of money; loss of anticipated savings; loss of business; loss of Opportunity; loss of goodwill; loss of reputation; loss of, damage to or any indirect or consequential loss or damage howsoever caused including the replacement of equipment and property. The foregoing limitation shall not apply to death or personal injury claims, or any statutory liability for intentional and gross negligent acts and/or omissions. Some states (countries and provinces) do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

### Obtaining warranty service.

DitoGear will provide warranty service either (i) at an DitoGear Retail or DitoGear Authorized Service Provider (“ASP”) location, where service is performed at the location, or the DitoGear Retail or ASP may send the product to an DitoGear repair service location for service, (ii) by sending you prepaid way bills (and if you no longer have the original packaging, DitoGear may send you packaging material) to enable you to ship the product to DitoGear’s repair service location for service, or (iii) by sending you customer installable new or refurbished replacement product or parts to enable you to service or exchange your own product (“DIY Service”). Upon receipt of the replacement product or part, the original product or part becomes the property of DitoGear and you agree to follow instructions, including, if required, arranging the return of original product or part to DitoGear in a timely manner. When providing DIY Service requiring the return of the original product or part, DitoGear may require a credit card authorization as security for the retail price of the replacement product or part and applicable shipping costs. If you follow instructions, DitoGear will cancel the credit card authorization, so you will not be charged for the product or part and shipping costs.

If you fail to return the replaced product or part as instructed or the replaced product or part is not eligible for warranty service, DitoGear will charge the credit card for the authorized amount.

Please access and review the online help resources at the DitoGear website ([www.ditogear.com](http://www.ditogear.com)) and contained in the product manual before requesting warranty service. If the product is still not functioning properly after making use of these resources, please contact DitoGear at [support@ditogear.com](mailto:support@ditogear.com).

Service options, parts availability and response times may vary according to the country in which service is requested. Service options are subject to change at any time. You may be responsible for shipping and handling charges if the product cannot be serviced in the country in which service is requested. If you seek service in a country that is not the country of purchase, you will comply with all applicable import and export laws and regulations and be responsible for all custom duties, VAT, and other associated taxes and charges. For international service, DitoGear may repair or exchange defective products and parts with comparable products and parts that comply with local standards. In accordance with applicable law, DitoGear may require that you furnish proof of purchase details before receiving warranty service.

## 11. Privacy

DitoGear will maintain and use customer information in accordance with the DitoGear Customer Privacy Policy available at [ditogear.com/legal/privacy-policy/](http://ditogear.com/legal/privacy-policy/).

## 12. Miscellaneous

### Trademarks and copyrights

DitoGear™, DitoGear™ OmniController, DitoGear™ Evolution, DitoGear™ Trito , DitoGear™ OmniSlider, DitoGear™ OmniHead and DitoGear™ LensDrive, DitoGear™ Modulo are trademarks of Dito Gear Robert Paluch ul.Krańcowa 30, 62-002 Suchy Las, Poland. Unauthorised use is strictly prohibited. All other trademarks referenced in this manual are used only for informative purposes and are property of their respective owners.

### Disposal and recycling information

The device and all batteries included with it must be disposed of properly according to local laws and regulations. The product must be disposed of separately from the household waste. When your product reaches its end of life, contact DitoGear or your local authorities to learn about recycling options.





[WWW.DITOGEAR.COM](http://WWW.DITOGEAR.COM)