The following descriptions are only intended to show up different components used to manufacture both winches model

VIME

MECHANICAL BRAKE

- Drum
- Coupling
- Brake
- Shaft

HYDRAULIC BRAKE

- Brake
- Counter balance valve

COMPETITOR

MECHANICAL BRAKE

- Drum
- Coupling
- Brake
- Shaft

DRUM

Drum barrel diameter determine winch pulling capacity.

At the same conditions of gear ratio and motor displacement : a larger drum barrel diameter determine a lower winch pulling capacity, differently to a smaller drum diameter who determine a higher pulling capacity.

Winch Companies who prefer to keep drum diameter excessively smaller to offer a good pulling capacity even they fit a small hydraulic motor displacement, compromise seriously wire rope life. A ratio between drum dia. size and rope size must be respected as recommended by the rope manufacturer.

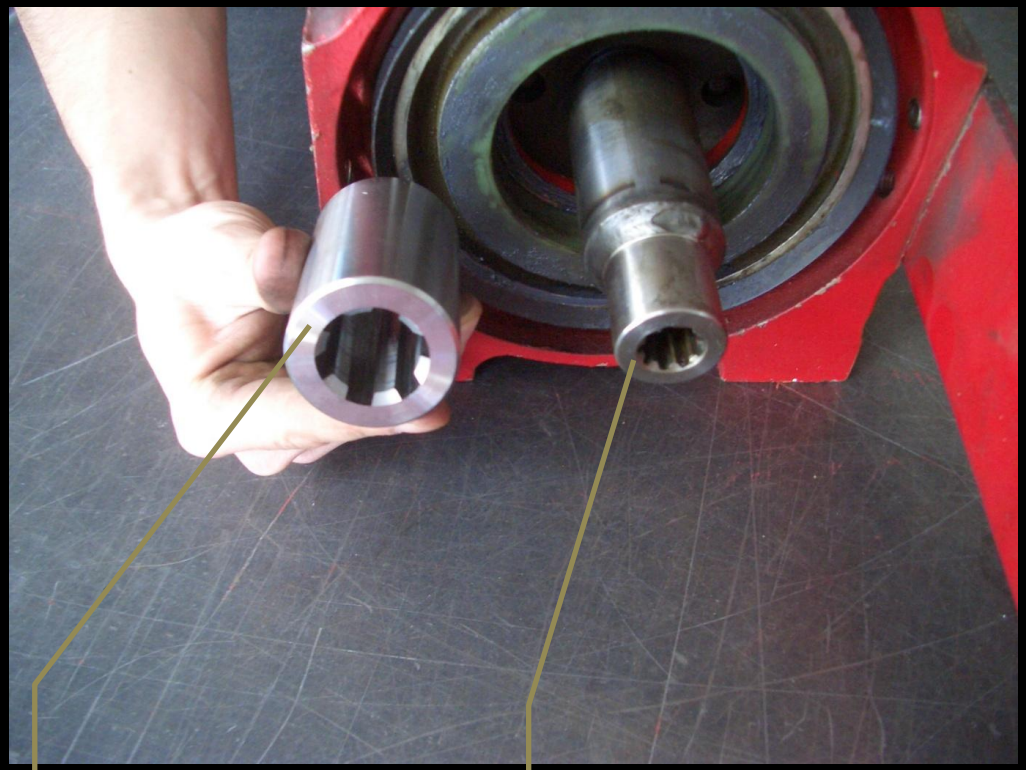
COMPETITOR'S
DRUM BARREL DIA. 89 MM

VIME's
DRUM BARREL DIA.102 MM

COUPLING

Connect the winch main shaft to the hydraulic motor shaft. It has to withstand the motor torque transmitted to the winch main shaft.

VIME manufacture a single piece hardened steel coupling splined in both sides.



VIME's
COUPLING HARDENED
STEEL ONE PIECE

COMPETITOR'S
COUPLING IRON WELDED

BRAKE

Planetary gear trains use multiple gears to convert hydraulic motor power into pulling force.

Planetary gears to hold the load must be assisted by a brake system.

Brake system could be **Mechanical** or **Hydraulic**.

Mechanical brake can be manufactured in many different ways, substantially the idea is based under the concept that a band brake producing a friction against discs in only one direction, who corresponding to the winch unwinding direction.

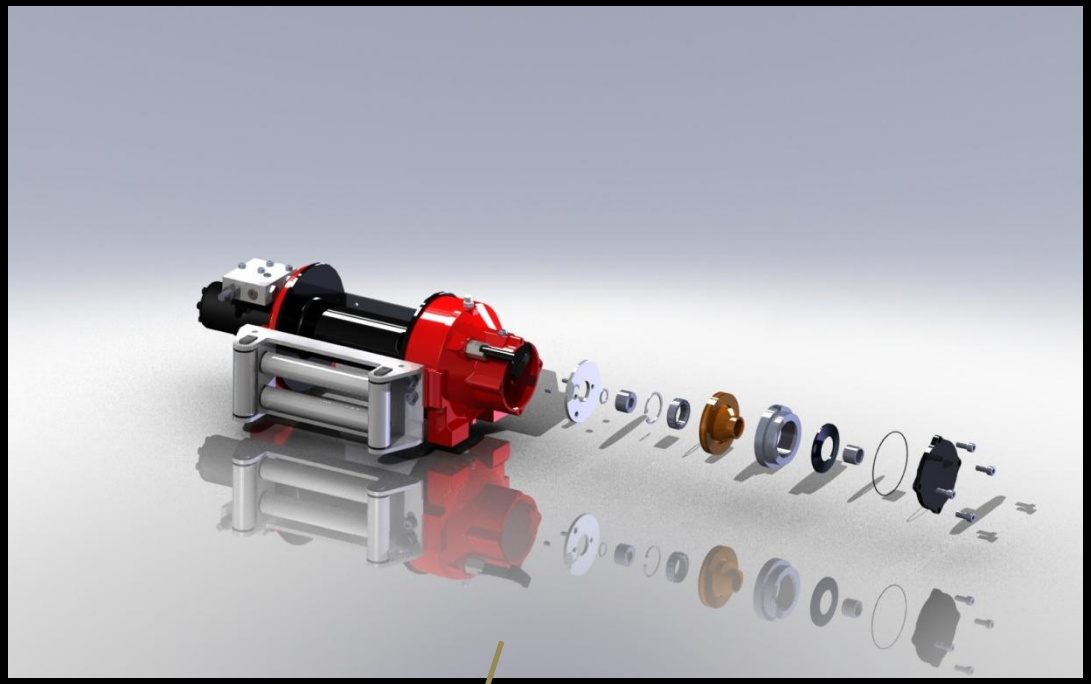
Brake torque friction is given by the **system** of braking and **quality** of components.

SYSTEM - This type of brake is normally called automatic, because it engages automatically while operator runs winch in the unwinding direction.

The most reliable mechanical brake system is based on a free wheel.

Free wheel is such a special bearing who works in only one direction and in the opposite is locked, its capacity is given by torque force in locked direction.

QUALITY - Torque force determine the size for the free wheel and power of the brake. Material used to manufacture the band brake gives right brake capacity and noiseless.

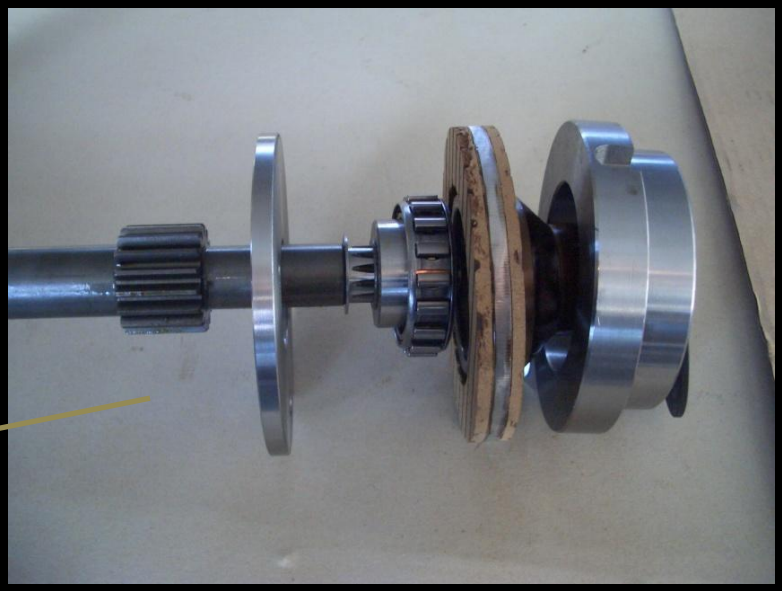


VIME's MECHANICAL BRAKE SYSTEM

VIME's MECHANICAL BRAKE

On its EPH planetary winches equipped with mechanical brake, VIME has developed a very reliable and strong brake system afforded by a special high torque free wheel. Great care has given to the choice of materials used to manufacture all the brake components. An hardened steel splined hub, coupling the winch's main shaft to the free wheel. Steel discs are perfectly grinding.

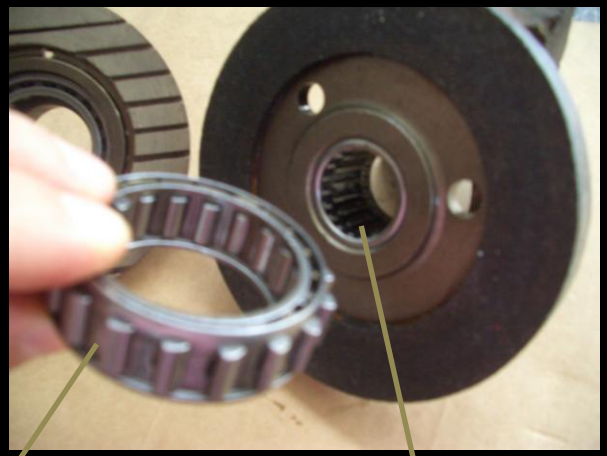
VIME's MECHANICAL BRAKE COMPONENTS



VIME's MECHANICAL BRAKE COMPONENTS IN MOUNTING SEQUENCE WHEN ASSEMBLED ON WINCH

BRAKE HEART

The brake's heart is the sprag type free wheel cage without inner and outer races. VIME has selected one of the most top quality and reliable sprag type free wheel, with high torque capacity. Physically it is possible see difference in size.



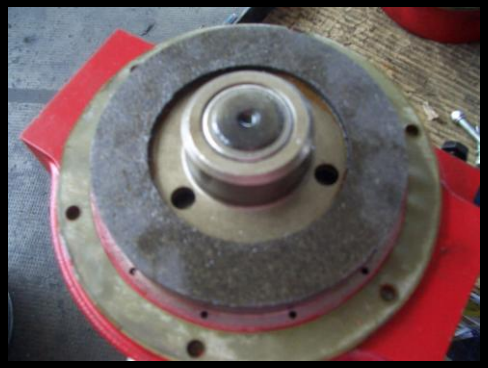
VIME's FREE WHEEL

COMPETITOR'S FREE WHEEL

VIME's FREE WHEEL

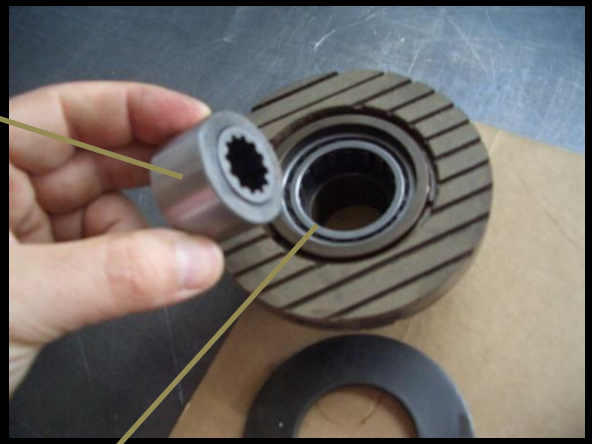
BRAKE

Use a large free wheel helps to get higher torque in winch brake capacity, and makes winch brake very reliable.



COMPETITOR'S
FREE WHEEL WORKS DIRECTLY ONTO THE WINCH 19,5 MM SHAFT DIAMETER

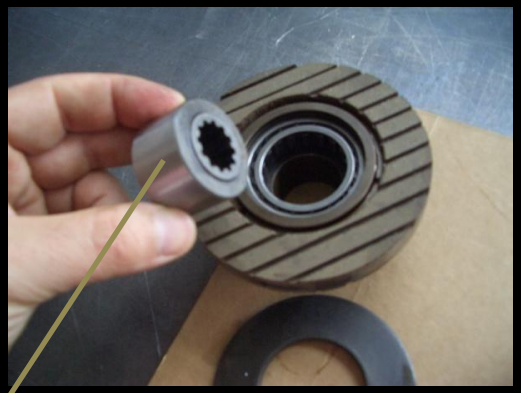
VIME'S HUB



VIME'S FREE WHEEL
LARGE DIAMETER

BRAKE

To let work its large diameter free wheel, VIME has manufactured a special hardened steel hub grounded, who works as inner race, as well as the bearing plate shown in picture works as free wheel outer race.



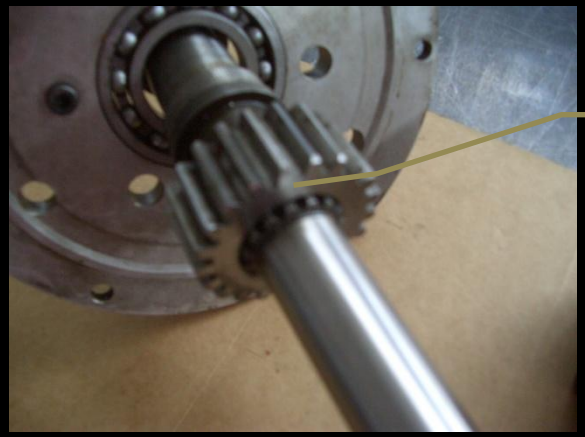
VIME's SPECIAL HUB

VIME's
BEARIING PLATE

SHAFT

The winch main shaft has been manufactured as single piece with the solar gear. A solar gear separated to the main shaft makes the shaft weaker.

VIME's SOLAR GEAR IN ONE PIECE WITH MAIN SHAFT



COMPETITOR'S SOLAR GEAR SEPARATED FROM THE WINCH MAIN SHAFT

BEARING PLATE W/BAND

VIME has designed a bearing plate with fixed band brake in both side with deep stripes to get good brake capacity. In the back side there is the seat : hardened and grounded who works as outer race for the sprag type free wheel cage.

COMPETITOR'S BEARING PLATE WITH BAND BRAKE

VIME'S BEARING PLATE WITH BAND BRAKE (FRONT SIDE)

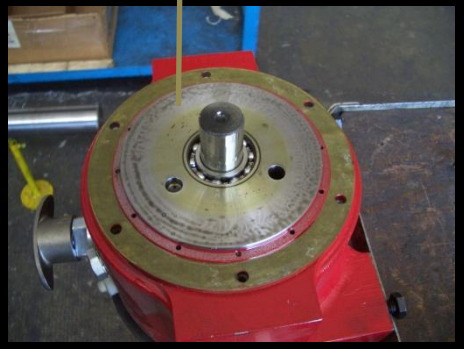
VIME'S BEARING PLATE WITH BAND BRAKE (BACK SIDE) WORKS AS OUTER RACE FOR THE FREE WHEEL

BRAKE PLATE

VIME has designed a generous brake plates thickness perfectly grinding to prevent vibration while brake is braking. As well as VIME has taking care to lubricate the brake with a special oil who fully cool the brake and prevents brake noise.

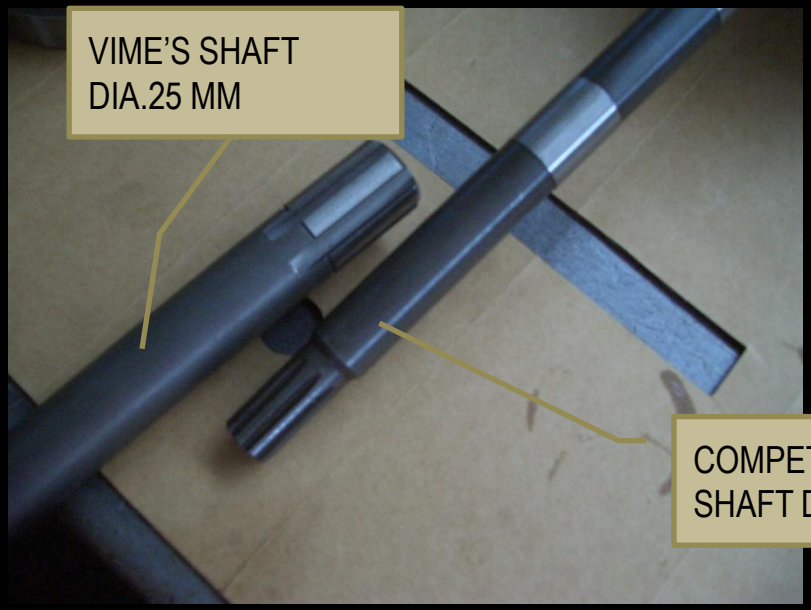
VIME'S BRAKE DOUBLE PLATES

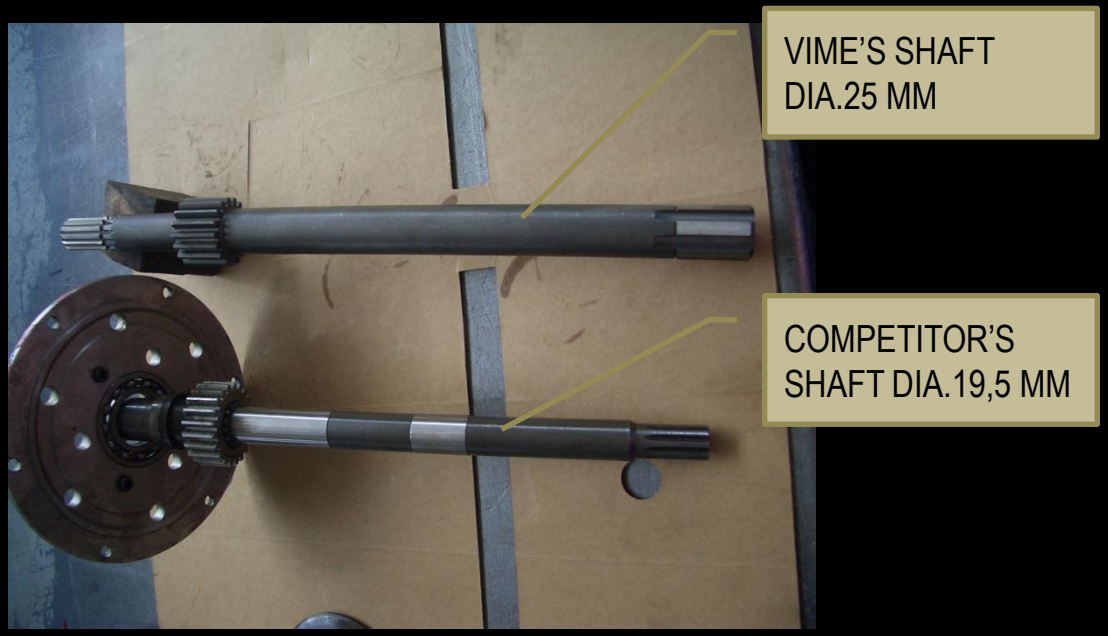
COMPETITOR'S DOUBLE BRAKE PLATE



SHAFT

VIME's winch main shaft has been manufactured as single piece with the solar gear. Design solar gear separated to the shaft make the shaft weaker.





HYDRAULIC BRAKE

Starting from year 2003 VIME has introduced on the European market the EPH planetary winches equipped with **Hydraulic brake model EPH FN.**

Very reliable and rugged brake who offer 100% brake capacity.

A spring applied pressure released automatic multi-disc brake. Dynamic braking is achieved by the modulation of the oil flow with the winch control valve through the counter balance valve.

Counter balance valve : based on special VIME's design, has double hydraulic lateral ports suitable for both drum rotation clockwise or counter-clockwise.

Engineered with best components, noiseless.