

VINKING

AUTOMATIC HORIZONTAL STRAPPING MACHINE

A Fully - Automatic Packaging Machine For Horizontally Strapping Stacked Concrete Blocks.

INTELLIGENT STRAPPING & STACK - SECURING SOLUTION FOR CONCRETE BLOCKS

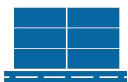
FUJIAN VINKING MACHINERY CO., LTD.

WWW.VKMACHINE.COM



AUTOMATIC HORIZONTAL STRAPPING MACHINE

MAINLY USED TO PREVENT BLOCKS FROM SCATTERING, TIPPING AND EDGE - CORNER DAMAGE DURING TRANSPORTATION.



MULTIPLE HORIZONTAL STRAPPING CYCLES



COMPATIBLE WITH EXISTING PRODUCTION LINES

■ Complete Back - end Packaging Machine Dedicated to Concrete Block Production Lines.

In concrete - block production lines,
this machine applies horizontal strap feeding to strapping stacked concrete blocks.
It effectively prevents stack collapse during transportation and reduces defective products & material loss.



OVERALL OPERATION MODE



FRAME LIFTING



POSITIONED STRAPPING



MULTI - CYCLE STRAPPING



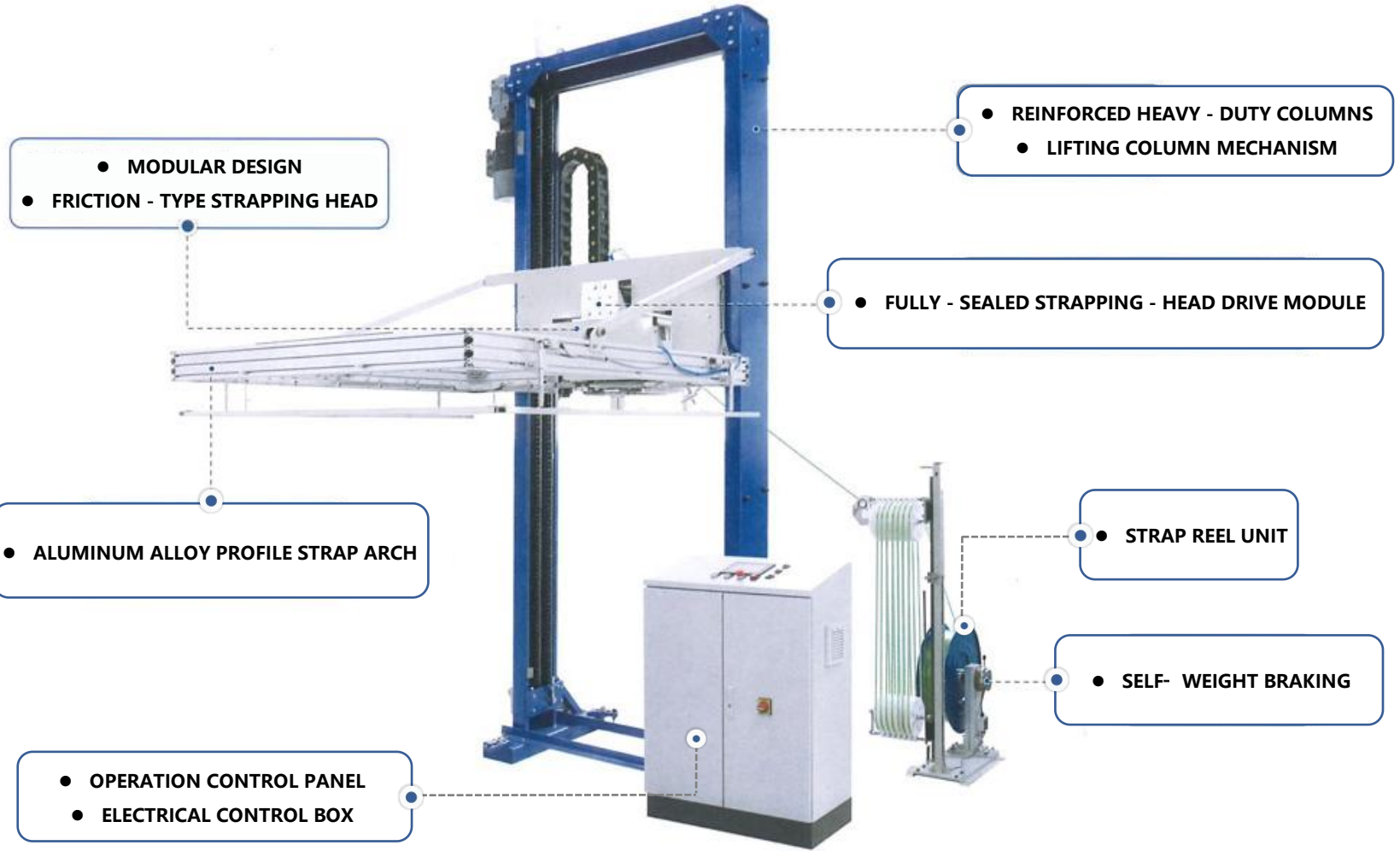
LIFTING AND RESETING

CENTERED ON [HORIZONTAL STRAPPING] ,
THE ENTIRE PROCESS IS FULLY COMPLETED UNDER PLC CONTROL WITHOUT MANUAL INTERVENTION.

AUTOMATIC HORIZONTAL STRAPPING MACHINE

MAIN CONFIGURATIONS

MECHANICAL COMPONENTS

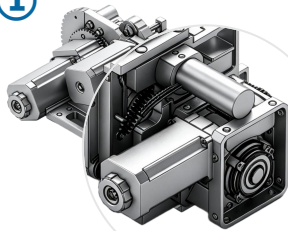


FULLY-SEALED STRAPPING-HEAD DRIVE MODULE



THE STRAPPING HEAD IS A HIGHLY INTEGRATED MODULE,
MAINLY COMPOSED OF THE FOLLOWING 【5】 KEY ASSEMBLIES:

①



CAM MAIN SHAFT &
FRICTION MOTOR

②



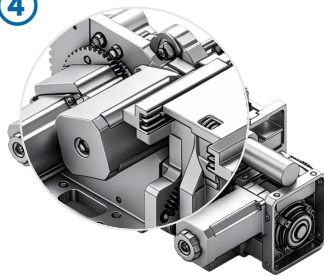
SLIDE-SWING LEVER
ASSEMBLY

③



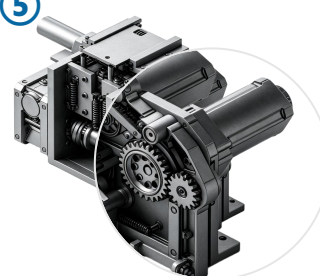
HOUSING ASSEMBLY

④

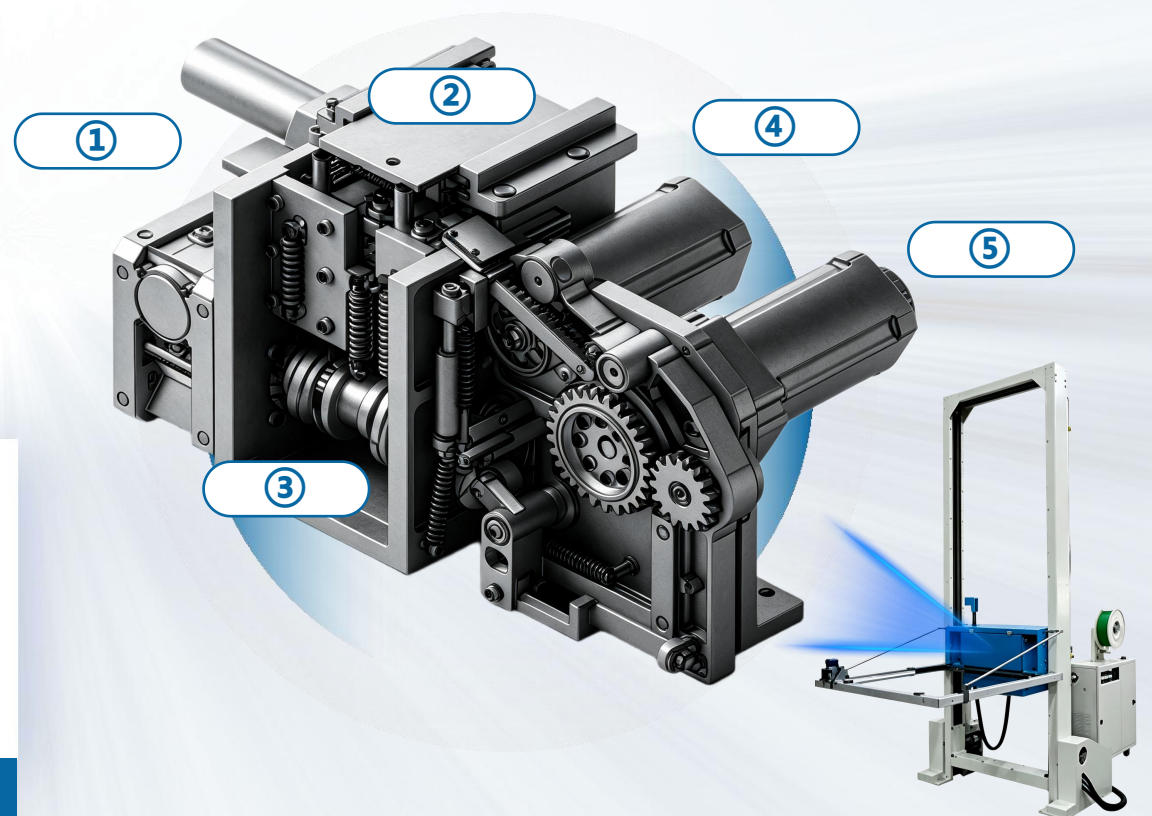


STRAP-FEEDING ASSEMBLY

⑤



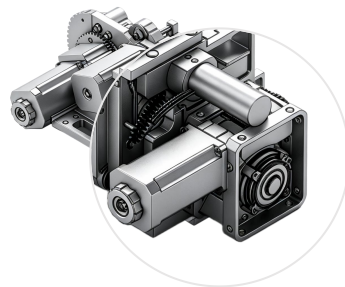
TENSIONING ASSEMBLY



ASSEMBLY FEATURES

FULLY-SEALED STRAPPING-HEAD DRIVE MODULE

CAM MAIN SHAFT ASSEMBLY



POWER DISTRIBUTION CENTER OF THE STRAPPING HEAD.

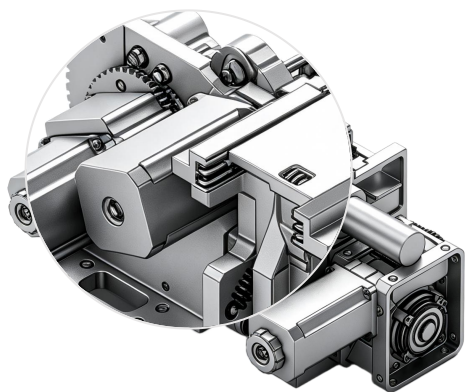
- It is driven by the motor via reducer to rotate the cam shaft.
- Multiple cams of different shapes are mounted on the shaft.
- As the cams rotate, they **precisely actuate each subsequent executing component according to the pre- set time sequence.**

SLIDE-SWING LEVER ASSEMBLY



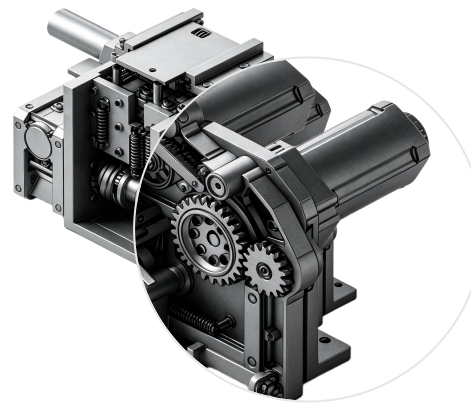
CONVERTS THE ROTARY MOTION OF THE CAMS INTO LINEAR RECIPROCATING MOTION OF THE SLIDE.

- The movement of the slide **drives other components to complete strap positioning, guiding, as well as basic strap- feeding procedures.**
- This assembly also includes a proximity switch to detect whether the slide returns to its home position, ensuring accurate operation.

ASSEMBLY FEATURES**FULLY-SEALED STRAPPING-HEAD DRIVE MODULE**

STRAP-FEEDING ASSEMBLY

- It accurately feeds the strap from the reel into the strapping head.
- And prepares for the next working cycle after each strapping operation is completed.

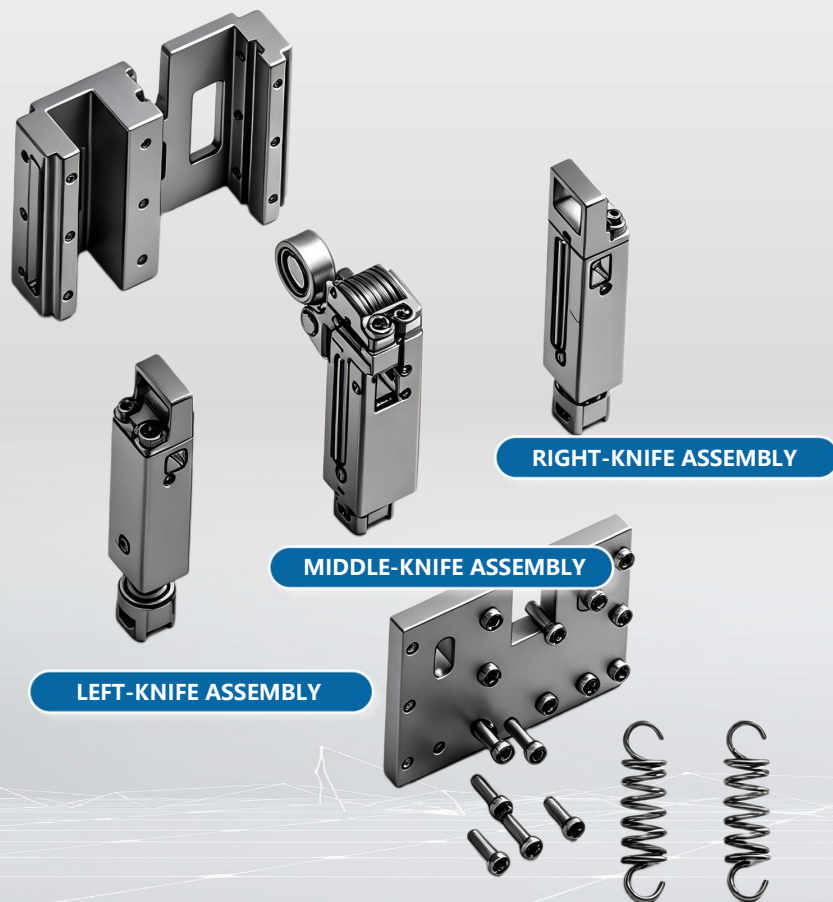


TENSIONING ASSEMBLY

- It performs the tightening action after the strap encircles the goods, to fasten the strap firmly onto the goods.
- Its core component is the tension motor, which drives the tension rollers to rotate through the reducer, thereby tightening the strap.

ASSEMBLY FEATURES

FULLY-SEALED STRAPPING-HEAD DRIVE MODULE



HOUSING ASSEMBLY

This is the “working zone” inside the strapping head that directly processes the strap, where most actions take place.



● LEFT-KNIFE ASSEMBLY

Responsible for pressing down the lower-layer strap at a specific moment.

● MIDDLE-KNIFE ASSEMBLY

Responsible for cutting off the strap and compressing the strap during friction welding.

● RIGHT-KNIFE ASSEMBLY

Responsible for pressing the front end of the strap at the start of strapping.

STRAPPING TECHNICAL PROCESS FLOW

THE COMPLETE PROCESS FOR ONE-CYCLE STRAPPING CONSISTS OF FIVE STEPS:



STRAP FEEDING



Cycle starts, the right top knife inside the strapping head rises first, to press and secure the front end of the strap.



TENSIONING



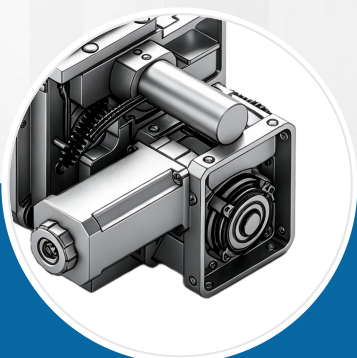
The tensioning assembly activates. The tension motor drives the tension rollers to rotate, tightening the strap against the blocks for firm contact.



STRAP CUTTING



After the strap is tensioned, the left top knife rises to press the lower-layer strap at the proper position; the middle top knife cuts off the strap.



FRICTION-MOTOR WELDING



The friction- motor activates. Under high-speed friction, heat is generated on the contact surfaces of the two strap layers, melting and pressing them together.



HOME-POSITION RESET



After welding is completed, the middle top knife maintains pressure for a period of time to ensure reliable bonding. Then all knife assemblies and sliding plates reset, waiting for the next cycle.

PARAMETERS >>>

OVERALL DIMENSIONS

L1930×W2125×H2800mm

STRAPPING MODE

Horizontal: 1 to multiple straps

Control Mode:

Jog, Automatic strapping etc



**VINKING MACHINERY
AUTOMATIC HORIZONTAL STRAPPING MACHINE**

POWER SUPPLY

380V/50Hz

POWER RATING

3100W/8A

AIR SUPPLY PRESSURE

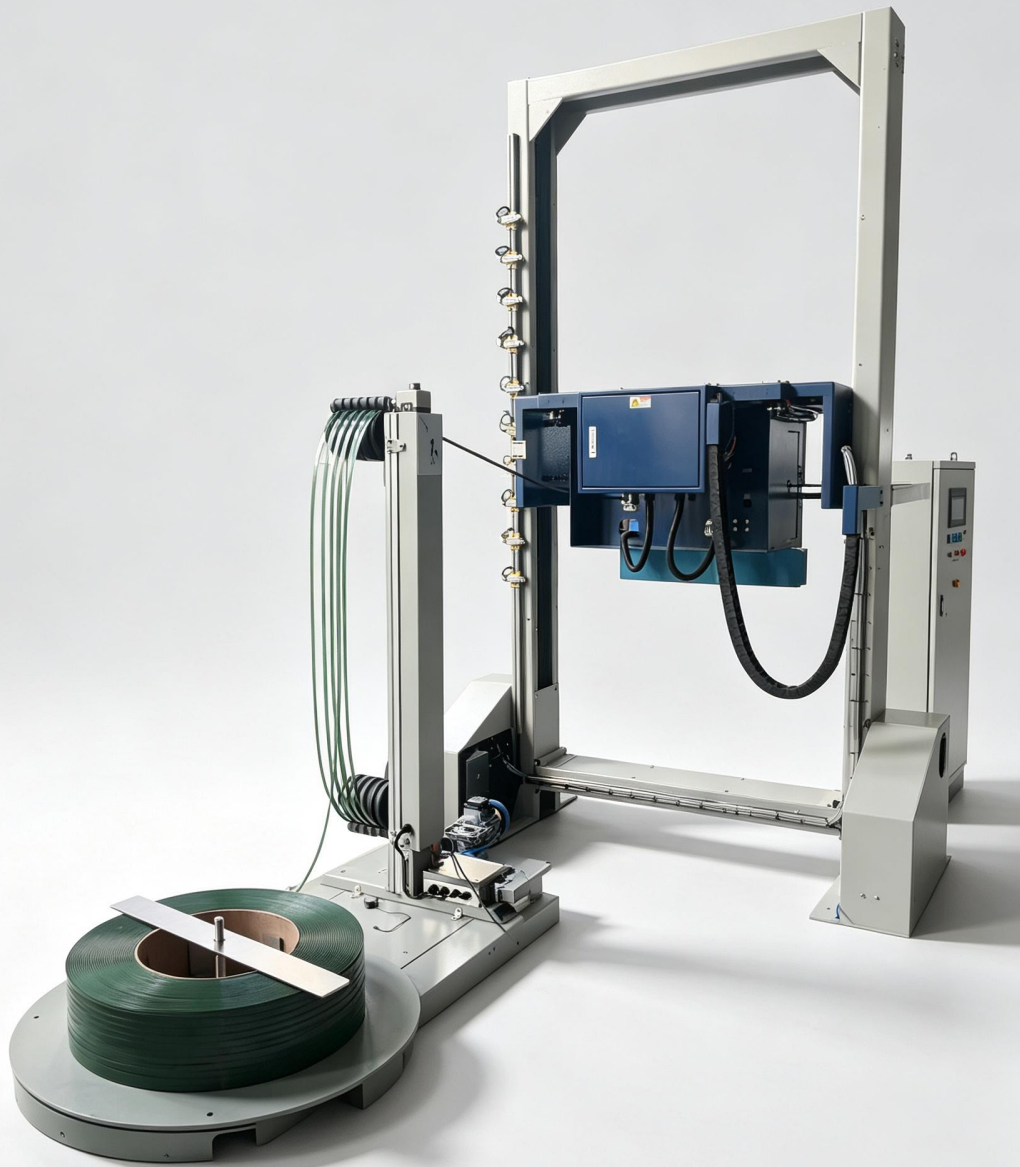
0.4 ~ 0.6MPa

STRAPPING SPEED

≤15 s/cycle

STRAPPING TENSION

20-400 k (Adjustable)



STRAP REEL UNIT

THE REEL UNIT SERVES AS THE "FEEDING SYSTEM" OF THE COMPLETE MACHINE, SUPPLYING STRAP CONTINUOUSLY AND STABLY FOR STRAPPING OPERATIONS.

■ ADOPTS MECHANICAL BRAKING MODE BY SELF- WEIGHT.

Simple structure with sensitive response, it effectively prevents the strap from loosening or scattering caused by inertia during high-speed unwinding.

■ MATERIAL

PP / PET

■ STRAP REEL

WIDTH: 160 ~ 190MM

■ DIMENSIONS

WIDTH (9MM ~ 19MM), THICKNESS (0.7MM ~ 1.0MM) ± 0.1 MM

■ POLYPROPYLENE

REEL INNER DIAMETER: 200MM ~ 210MM;
OUTER DIAMETER: 400MM ~ 500MM

■ PET

REEL INNER DIAMETER: 406MM;
OUTER DIAMETER: 600MM

ELECTRICAL CONTROL SYSTEM

INDEPENDENTLY-DEVELOPED

INTELLIGENT CONTROL

EASY OPERATION

REAL-TIME PRODUCTION PROCESS MONITORING

FREQUENCY CONVERTER



BRAND: INOVANCE

CIRCUIT BREAKER



BRAND: SIEMENS

SERVO MOTOR



BRAND: INOVANCE

TOUCH SCREEN



BRAND: SIEMENS

PLC



BRAND: SIEMENS

CORE ADVANTAGES



■ HIGH-PERFORMANCE FRICTION STRAPPING HEAD

Adjustable strapping tension
3-fold **productivity improvement**,
60% **cost reduction**.



■ AUTOMATIC OPERATION

Compatible with existing production lines
Fully-automatic operation for higher strapping efficiency.



■ PRECISE POSITIONING

Equipped with servo motor, safety devices and reflector, to ensure efficient whole-process operation.

TERMINAL APPLICATIONS



VINKING MACHINERY-AUTOMATIC HORIZONTAL STRAPPING MACHINE

SAFEGUARD CONCRETE BLOCK TRANSPORTATION

THANKS!

LOOKING FORWARD TO OUR COOPERATION.

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