

# LABORATORY DYEING MACHINE



also suitable as Fastness Testing Apparatus for textiles





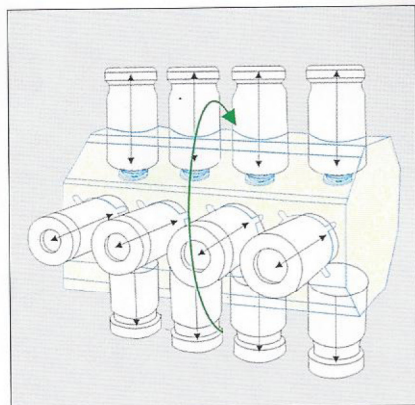
## RAPID COLOR

### The most versatile and economic LAB DYEING MACHINE

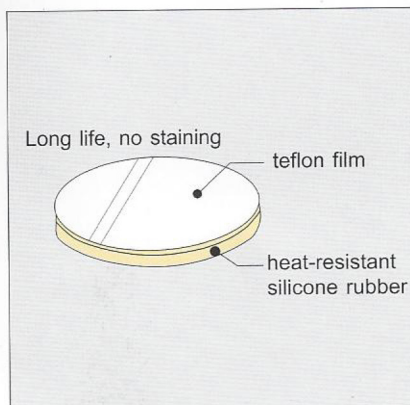
- It incorporates the experience we have gained for many year sinvolving in the production of Laboratory Dyeing Machines.
- The machine possesses great ridigity and torsional strength. The bath, bath-lid, cladding and head-up support pillars are all produced of high-grade stainless steel of suitable gauge. High quality thermal-resistant material is used for bath insulation.
- The control panel is also designed according to average human height to facilitate operation Therefore, no platform whatsoever is required for the machine.
- It is also able to conduct fastness tests with satisfied results.

#### ■ Special Features

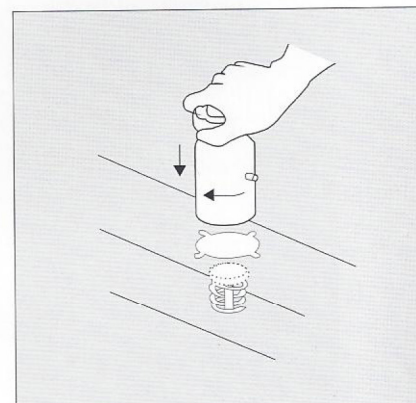
- Dyepots can easily be set and released by pressing and turning them 15° Each pot can be used individually and set in and out of the dyebath anytime without disturbing other dyeing tests (as showing in Fig) resulting in the following:
  - 1) Because dyepots are set individually in and out of the dyebath, it shortens a great deal waiting time and Rapid dyeing can be acheived such that speed of dyeing tests is double than that of the conventional type.
  - 2) Various dyeing and/or chemical tests can be carried out e.g. Dispersing, Levelling tests, etc.
  - 3) Unlike conventional types, the machine can carry out step dyeing tests as well which contributes greatly to help selection of dyes of similar exhaustion rate in order to avoid possible bad ending effects.
- Different sizes of dyepots are available for various types of samples, for examples:
  - 1) 450 cc Dyepots for large pieces of above 40 gr., Also for Dry-Cleaning, wash-fastness tests and two-part dyeing tests.
  - 2) 150 cc Dyepots for lower liquor ratio dyeing tests & etc.
  - 3) 1000~9000 cc Dyepots also for dyeing test of Zipper, Panty hose, Ropes and cords.
- Besides dyeing tests, the machine can perform wash-fastness tests and dry-cleaning tests, etc.
- Dye liquor capacity from 50 cc to 400 cc or more, liquor ratio from 1:5 to 1:100 variable.
- Weight of samples from 3 gr. To 40 gr. Or we also design Jumbo size dyepots for larger samples.
- To secure dyepots, it can be easily achieved without using lock handle. Specially designed packing of the pot can last for a long time, no staining is guaranteed. (As showing in Fig)
- Dyepots are produced by pressing, no welding spots or cracks exits such that perfect eyeing of test samples are guaranteed.



Principle of operation



Specially designed packing



Dyepots can easily be set and released in and out of dyebath anytime. To release dyepots, press and turn 15° clockwise.

## ■ Specifications

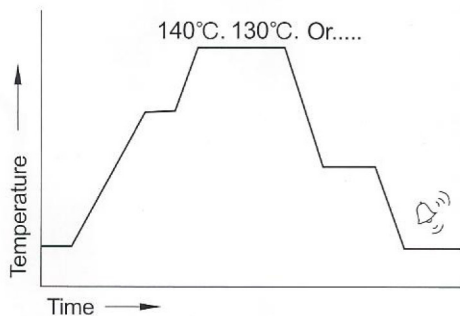
1. Sizes of Dyepots:
  - (A)450 cc: 140 mm (body ht) 75 mm (dia.)
  - (B)150 cc: 140 mm (body ht) 40 mm (dia.)
  - (C)300 cc: 120 mm (body ht) 75 mm (dia.)
  - (D)1000 cc: 165 mm (body ht) 100 mm (dia.)
  - (E)3000 cc: 267 mm (body ht) 130 mm (dia.)
  - (F)6000 cc: 300 mm (body ht) 165 mm (dia.)
  - (G)9000 cc: 450 mm (body ht) 165 mm (dia.)
2. Liquor ratio: 1:5 and higher
3. Maximum dyeing temperature: 145°C
4. Heating source: Electric heaters,  
(steam heating on request only)
5. Rate of temperature rise: 3.5°C/min.(maximum)
6. Cooling rate of dyebath:  
from 140°C to 80°C in only 10 min.

## ■ Applications

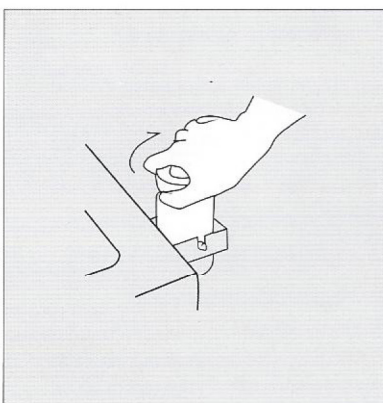
RAPID COLOR is most suitable for the following tests:

- 1)Sample recipe dyeing tests
- 2)Dispersing, levelling and impregnation tests
- 3)Step dyeing tests
- 4)Wash fastness tests
- 5)High or low liquor ratio exhaustion tests
- 6)Fabric streak and barrier analysis
- 7)Concentration tests

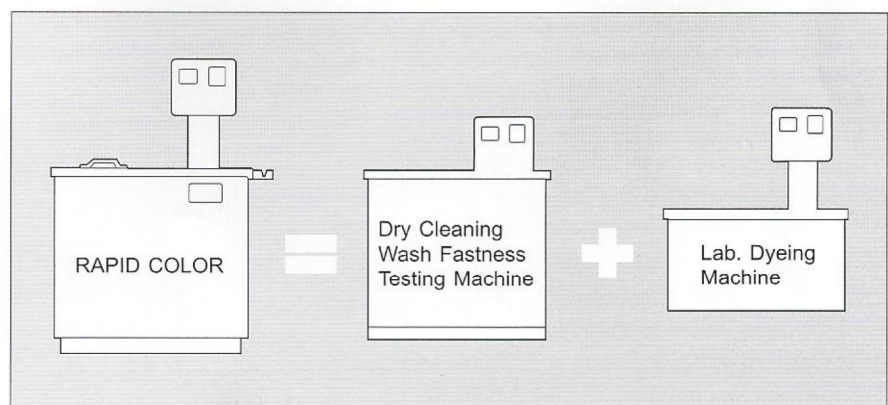
## ■ MICROPROCESSOR PROGRAM TYPE



- With LABORTEX brand Microprocessor LA-2002 for 36 programs, each with 20 steps
- 7 digits LED display
- Password protection
- Programmable rate of temperature rise
- Time duration-proportional temperature control
- Other brand of Microprocessor on request only.



Secure locking of Dyepots can be achieved without using lock handle



Versatile Machine for both Dyeing and/or Wash, Dry Cleaning Fastness Testing



## ■ Ordinary H Type Optional Features and/or Accessories

Standard size dyepot model:

We classify all the dyepots you adopt, in the volume lower than 450 cc. Into this model.

Model No.

H-12 CF A 0

● **POT POSITION**

12 OTHERS: (36) (18)  
24 (16) (8)

● **MACHINE TYPE**

CF TYPE-without overflow sink  
SF TYPE-with overflow sink

● **DYEPOT SIZE**

A-450 cc  
B-150 cc  
C-300 cc

● **SAMPLE HOLDERS**

O-WITHOUT  
A-TYPE(FOR YARNS)  
B-TYPE(FOR FABRIC)

( ) ON REQUEST ONLY

When ordering, please confirm Voltage,  
Hz No. of Phase.

● **VOLAGE**

220V  
380V  
440V

● **PHASE**

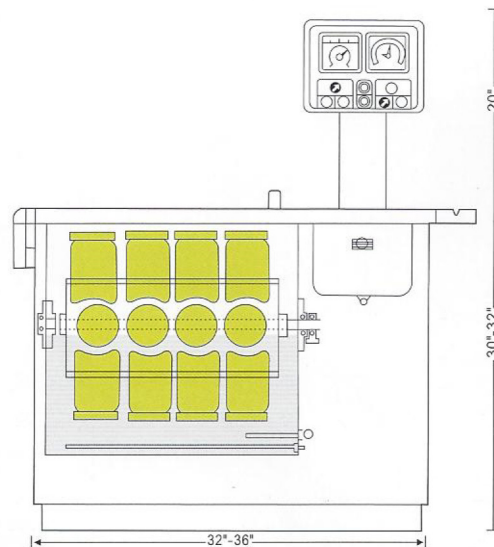
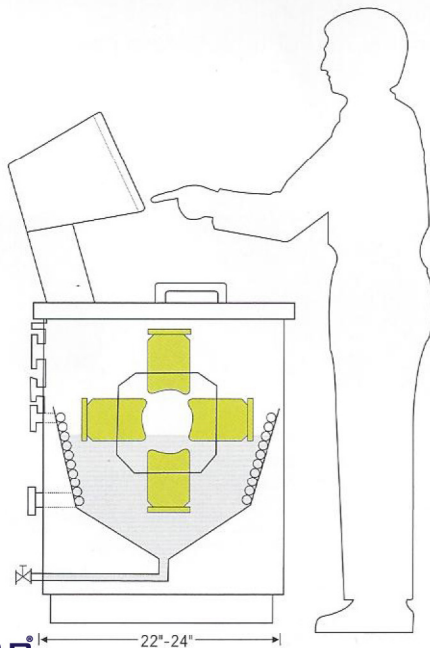
SINGLE  
THREE

● **HERTZ**

60 Hz  
50 Hz

## ■ Technical Details

Model No.	H-12 12Pots	H-24 24Pots
Power Consumption	6KW	10KW
Electric Connection	220/380/440V 50/60Hz Single or Three Phase	
Rotating Speed	42±2 RPM	
Depth (inch)	22"	24"
Height to bath lid (inch)	30"	
Overall Height (inch)	50"	
Width (inch)	32"	36"
Approx. nett weight	155 kg	180 kg
Volume of heating oil	50 litre	65 litre



## Jumbo HB Type Optional Features and/or Accessories

Jumbo size dyepot model:

We classify the dyepots you adopt, from 1000 c.c up to 9,000 cc. volume into this model.

Model No.

HB -(4+16) CF-A 0

- **POT POSITION**  
0: Only 4 Jumbo size pot positions  
16: 16 pot position for standard dye pot.
- **MACHINE TYPE**  
CF type-Without overflow sink  
SF type-With overflow sink
- **DYEPOT SIZE**  
A-450 cc  
B-150 cc  
C-300 cc
- **SAMPLE HOLDERS**  
O-WITHOUT  
A-TYPE (FOR YARNS)  
B-TYPE (FOR FABRICS)  
C-TYPE (FABRIC HOLDER FOR JUMBO POT)  
D-TYPE (PARTITION PLATE FOR JUMBO POT)

## Application

JUMBO Size dyepots of 6,000 cc are used together with standard size dyepots. Special range of applications for dyeing tests of zippers, panty hose, ropes and cords, small lot samples, etc. A Jumbo size dyepot can hold test samples from 200-500 gr. And the machine can accept four dyepots to allow maximum capacity of 2 kg. With Jumbo size dyepots, big pieces of samples can be dyed.

Special features:

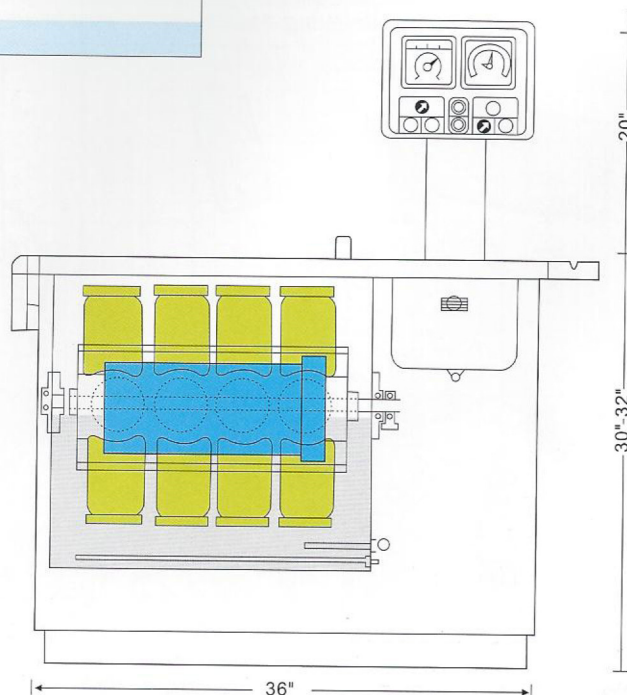
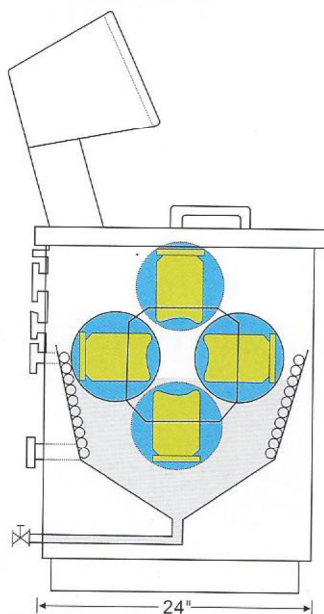
- 1) one machine to hold four Jumbo size dyepots of 6,000 cc capacity each.
- 2) Machine dimensions and other technical details similar to the usual 24-Position machine
- 3) can be used for 16-Pot-Positions with usual standard dyepots.
- 4) Rotary wheel has reversing capability

## Technical Details

Model No.	HB-4 or HB-(4+16)
Power Consumption	10KW
Electric Connection	220/380/440V 50/60Hz Single or Three Phase
Rotating Speed	42±2 RPM
Depth (inch)	24"
Height to bath lid (inch)	30"
Overall Height (inch)	50"
Width (inch)	36"
Approx. nett weight	180 kg
Volume of heating oil	65 litre

When ordering, please confirm Voltage, Hz, No. of Phase.

● VOLTAGE	● PHASE	● HERTE
220V	SINGLE	60 Hz
380V	THREE	50 Hz
440V		

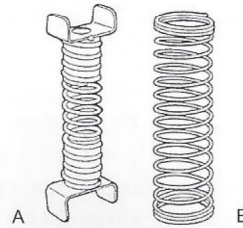


## How to Choose and Use Sample Holder

During difficult dyeing tests, special sample holders are available to solve all problems.

(A) Yarn Holder

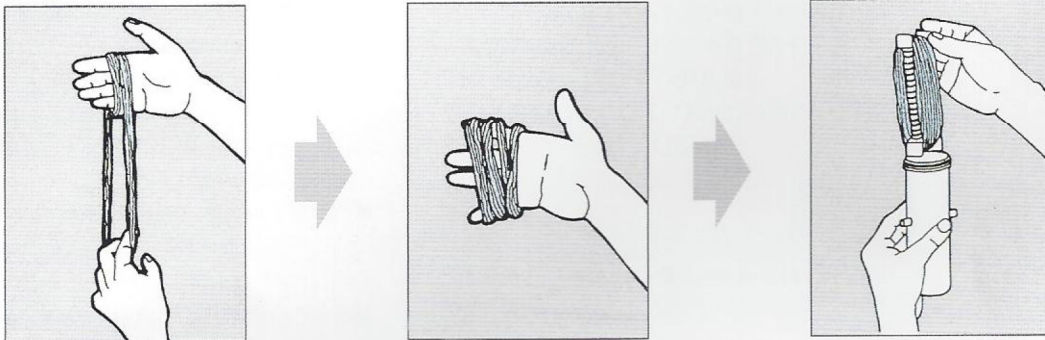
(B) Fabric Holder



### Yarn Holder (On request-only)

The special sample holders for yarns are used:

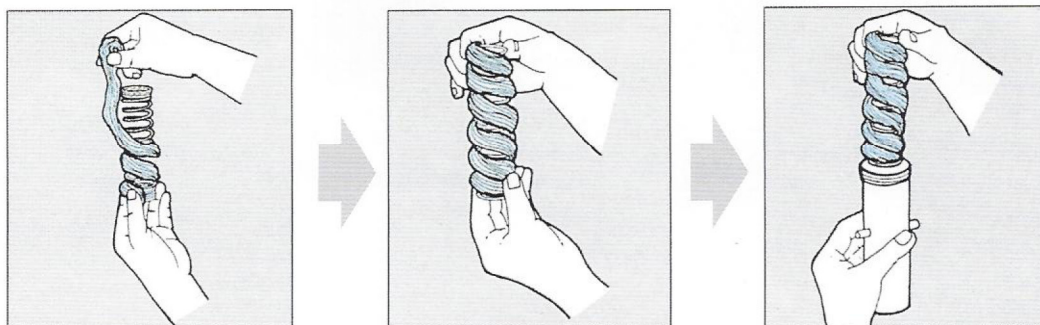
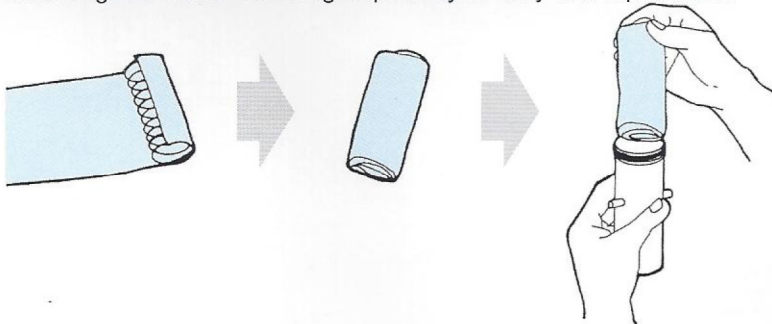
- 1) for woolen yarns which have easily pilling problem resulting in difficult colour matching.
- 2) for yarns in hank form of about 5-10 gr. After dyeing tests, the hank can be recovered to its original shape.
- 3) to avoid shrinkage of the test samples after dyeing which also results in difficult colour matching.



### Fabric Holder (On request-only)

The special Spring holder for fabric, & loose materil or yarn.

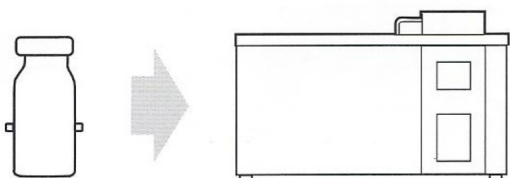
- For dyeing test samples of delicate pieces, special sample holders are also used to assure good colour levelling, no crease mark.
- For dyeing yarn test samples, the spring type sample holders can also be used to assure good colour levelling especially in very low liquor ratio.



## How to Choose Dyepot Size

### 450c.c. Capacity

- Two-part dyeing test 450 cc capacity makes it possible to conduct first part dyeing of one to six samples of 5 grams each during dyeing tests of two-part blended materials Comparing with the conventional dyepots of the type which is only able to accept two pieces of samples at the most, consequently time can greatly be saved and the second-part dyeing can conveniently be performed.
- Color fastness test Suitable as Washing, Dry-Cleaning Color-fastness test.
- Conventional trial
- Giant Dyepot Capacity 5 to 6 times tests or trials



- Conventional Pot 1 to 2 times tests or trials



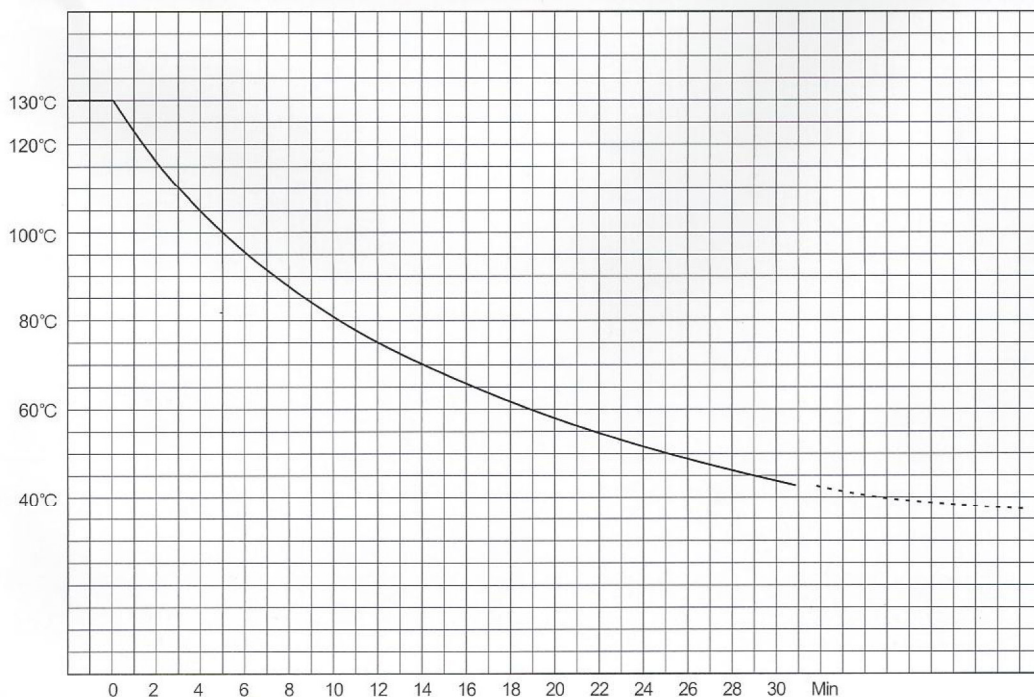
### 1000/3000/6000/9000c.c.

- For sample dyeing of over 40g.
- Small Lot dyeing ex. Zipper, Panty hose, Rope and Cords.
- For Tubular Hoses Knitted form an Indispensable QC apparatus in texturizing mills.

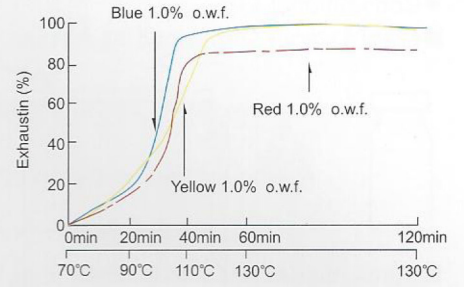
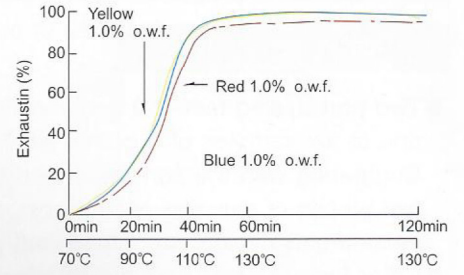
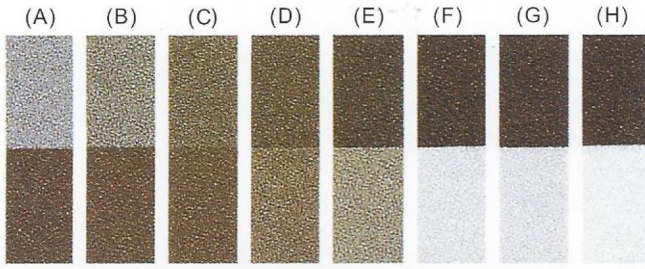
### 150, 300c.c. Dyepots

- According to operators practice
- According to Specimen weight and Liquor Ratio.

## RAPID COLOR Cooling Speed Curve



## STEP DYEING TESTS



## WASHING FASTNESS TESTING



A.	450c.c.	75mm diameter
B.	150c.c.	40mm diameter
C.	300c.c.	75mm diameter
D.	1000c.c.	100mm diameter
E.	3000c.c.	130mm diameter
F.	6000c.c.	165mm diameter
G.	9000c.c.	165mm diameter



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