

HORSCH

Farming with passion

Avatar SD

VERSATILE, ROBUST, PRECISE



Avatar SD

VERSATILE, ROBUST, PRECISE



Versatile

- Can be used universally from direct drilling to cultivated soils
- Metering of up to three individual components

Robust

- High coulter pressure of up to 350 kg per individual row
- Stable and maintenance-free bearings for maximum service life

Precise

- Depth control at the individual coulter
- Closing wheels can be adjusted in an optimum way for the most different site conditions

Avatar

A NEW CHAPTER IN NO-TILL FARMING

HORSCH have never lost sight of the products that for 30 years have been forming its reputation: the first Seed-Extractors left a permanent impression. If you go back to the beginning of the company, Michael Horsch at that time built a machine that was suitable for no-till farming.

The arguments at that time: disturb the soil as little as possible, encourage biodiversity and, of course, in the context of decreasing prices, save costs. Due to the opening of the eastern markets in the Nineties there suddenly was a large market for no-till farming equipment. However the pto-shaft driven technology could not be used for the large fields in the East.

With the experiences from the no-till sector Michael Horsch developed tine-based no-till technology for the eastern markets that is successfully sold there today. In the recent past, HORSCH thought about developing no-till technology based on disc coulters. It is not just suitable for the Latin American markets to disturb the soil as little as possible.

But also in other regions, too, the SingleDisc coulters technology is of great interest – especially in Europe with increasing requirements in the sector of catch crops sowing to the sowing of main crops in catch crops or in regions that are faced with resistant weeds. In parts of Great Britain, Germany and France the farmers depend on new sowing technologies with reduced soil movement – a clear task for the **Avatar**.

The disc coulters technology plays an important role in large parts of Russia, Kazakhstan and China.

Good reasons for HORSCH to design our own **Avatar** line.



SD (SINGLEDISC) COULTER

VERSATILE, ROBUST, PRECISE

Versatile

- Suitable for all sowing conditions
 - Direct seed
 - Mulch seed
 - Conventional tillage
 - In standing catch crops
 - Stony soils
 - Very heavy, clayey soils
- Closing wheels for safe closing of the seed furrow for all sowing conditions
 - Rubber or steel version for the adaption to the soil conditions
 - Standard angle adjustment of the closing wheel
 - Aggressive for no-till farming or on very heavy soils
 - Passive on cultivated or very light soils
- Press wheel in the row guarantees optimum firming of the seed at the bottom of the furrow
- Two different tools for an optimum embedding of the seed at the bottom of the furrow:
 - 1. Uniformer (standard):
 - Safe fixing of the seed in the furrow
 - Flexible use
 - Ideal when sowing into green catch crops
 - 2. Press wheel in the row (option):
 - Safe emergence even in dry conditions
 - High reliability even in very wet conditions due to integrated parking position for the press wheel; the press wheel then is moved away from the working range

Robust

- Coulter pressure (up to 350 kg per coulter) is created via the well-proven rubber torsion system
 - No wear
 - No pivot points
 - Acts as a shock absorber (shocks from the coulter are not transferred to the machine)
- Coulter pressure adjustment can be carried out manually at the machine or, as an option, from the terminal
- Long-life, maintenance-free bearings on all turning components for highest longevity and reliability
- Seed boot with carbide wear edges for increased service life and for safe scraping of earth from the seed disc even in most difficult conditions (cohesive soils, wet soils)

Precise

- Stable depth control wheel for exact depth control of the coulter in changing or difficult soil conditions
- Wide depth control wheels in combination with a coulter pressure of max. 350 kg guarantee an exact placement of the seed in all sowing conditions
- The interaction of SingleDisc coulter and seed shoe guarantees a safe opening of the furrow while at the same time harvest residues are removed from the furrow = optimum contact of seed and soil for quick and safe emergence



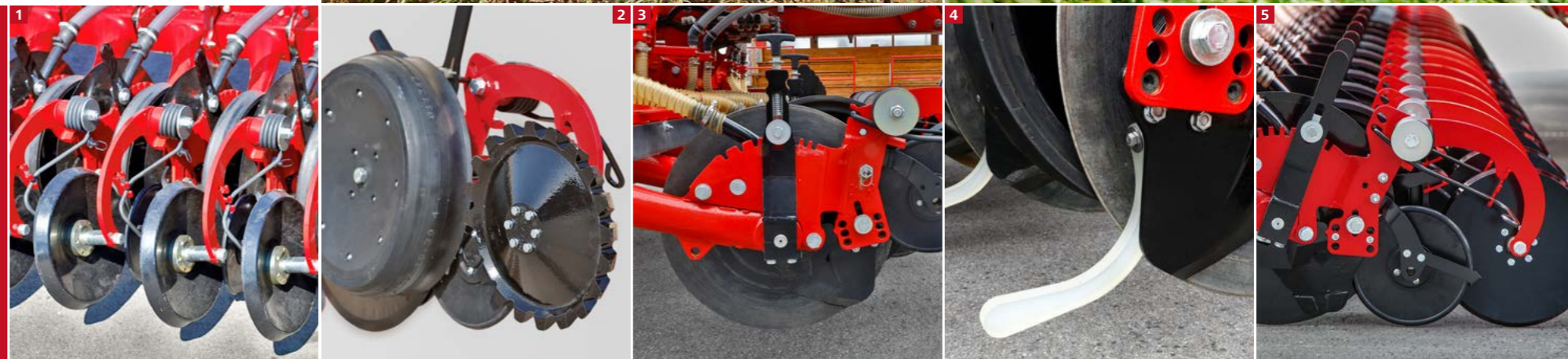
1 Steel closing wheel – Optional: steel or rubber closing wheel

2 Star roller steel – excellent crumbling effect even in case of a high amount of organic substance

3 Finely graduated seed depth adjustment without tools

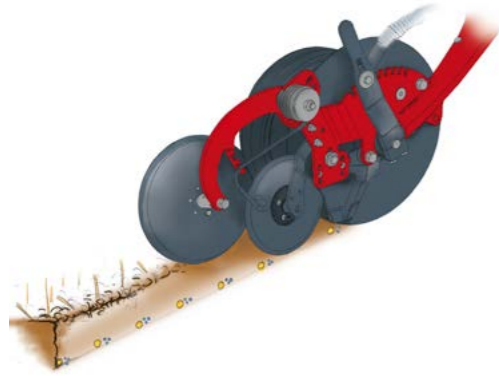
4 Uniformer Avatar

5 Press wheel in the seed furrow for optimum seed-soil contact of the grain



Avatar 3/4/4 rigid/6/8 SD

COMPACT AND VERSATILE



First row
Seed 1: e. g. coarse seed placed deeply



Second row
Seed 2: small grains, placed shallowly, e. g. incl. slug pellets

Machine concept

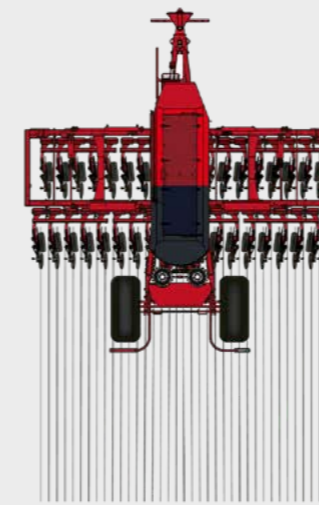
- Compact machine with working widths from 3 to 8 m
- 2-bar design with a row spacing of 16.7 cm and a clearance of 33.4 cm per row = reliability even with a lot of harvest residues resp. intensive catch crop population
- Large transport wheels to help reduce soil compaction even if the hopper is full
- Light basic machine for sowing after conventional tillage or mulch seed
- Possibility to mount additional weights to guarantee a safe forming of the furrow and firming of the seed with the SingleDisc coulter even in most difficult conditions
- Standard with mechanic half-width shut-off
- Optional: electric half-width shut-off to be controlled via the ISOBUS Terminal or automatic with SectionControl activation

Versatile hopper system

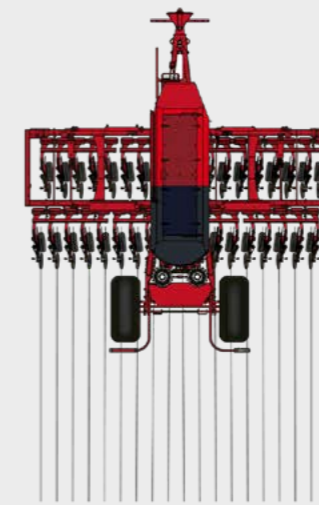
- Versatile with regard to the selection of the hopper system:
 - Single hopper and double hopper G & F (seed and fertiliser)
 - Avatar 3/4/4 rigid SD: Single, double and triple hopper. Triple hopper with a partition of 60:10:30 for maximum flexibility, micro-granular unit in combination with single hopper
 - Avatar 6/8 SD: Single hopper: can be equipped additionally with a micro-granular unit
Double hopper: can be equipped with an additional third hopper with standard metering device for seed or the metering of a micro-granular compound
- Seed distribution:
 - Even distribution to the two seed rows
 - Optional for SD (depending on the equipment): distribution of different seeds from the double hopper to the two seed rows (e. g. product 1 to seed row 1; product 2 + micro-granular to both seed rows)
- Optimum placement of seeds with different grain sizes by adaption of the placement depth to the requirements of the respective seed (large grains – deep, small grains shallow)



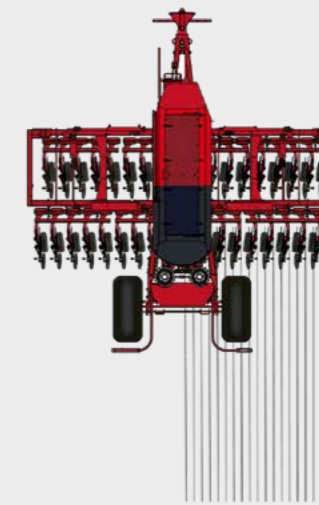
Sowing with the Avatar (functions depend on the equipment Avatar 3/4/4 rigid/6/8 SD)



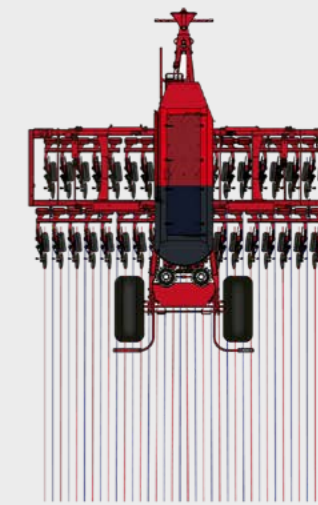
Sowing of all rows



Sowing with double row spacing



Half-width shut-off from the cabin



Sowing of two different products (e. g. red = shallow, blue = deep)

Johannes von Keiser

“We have been using the Avatar 6 SD on our 750 hectare since 5 years and our experiences are only positive. The heavy soils with a short rotation wheat/barley/rape encourage the development of weeds and black grass. To fight the black grass problem, we carry out a shallow cultivation after the harvest to make the weeds emerge. Before sowing the fields they are treated with glyphosate. Then we use the Avatar with the large SingleDisc seed coulter. It moves only little soil while sowing and minimises further emergence of weed. We noticed that with reduced tillage we can drive earlier into the fields after rain and that biodiversity increases. Moreover, we attach great importance to efficiency to be able to sow at the correct time. With all these advantages the 6-metre Avatar pays off quickly.”



Optional: tyres 710/50–26.5 for maximum contact area



Double hopper 5 000 litre; partition 40:60



Triple hopper 3 800 litre, partition 60:10:30



2-point linkage

Avatar 12/18 SD

COMPACT AND EFFICIENT



Versatile hopper system for Avatar 12 SD
3 components are metered independently and place in a seed band

Concept of the machine

- Compact, manoeuvrable machine
- HORSCH seed waggon concept for maximum efficiency
- Seed waggon Avatar 12 SD with a capacity of 5 800 litre; Avatar 18 SD: 8 500 litre, 50 : 50 partition seed/seed or seed/fertiliser
- Well-proven folding concept with compact transport dimensions; telescopic axle guarantees stability in the field, even in extremely hilly terrain and a maximum transport width of 3.00 m on the road
- Large tyres (Avatar 12 SD: 520/85 R 38, Avatar 18 SD: 520/85 R 42) at the seed waggon for maximum soil conservation and load-bearing capacity even in wet conditions
- Single-row design with SingleDisc coulter with row spacing of 25 cm
- Thus, it is also ideal for mechanical population control
- Light-weight machine with integrated weight transfer and distribution to the coulter wings for homogeneous coulter pressure at all seed row to the very outside
- Low horsepower requirement due to little movement of soil
- Standard: mechanical half-width shut-off
- Optional: electric half-width shut-off to be controlled via the ISOBUS Terminal or automatic with SectionControl activation (incl. micro-granular unit)

Versatile hopper system

- Double hopper with optional micro-granular unit (only for Avatar 12 SD)
- Independent metering of up to 3 components (no de-mixing of seeds, exact metering seeds with different grain sizes)



Low Disturbance



Micro-granular unit Avatar 12 SD: 300 litre



Standard telescopic axle
Compact transport width; reduction of the track pressure behind the tractor track



Compact in transport;
large working width in the field



Hydraulic weight transfer from the seed waggon to the coulter frame:
Regularly high coulter pressure over the whole working width.



Large tyres on the seed waggon
Avatar 18 SD: 520/85 R 42



Jean Paul Kihm about the history of the project:

“During a meeting with Michael Horsch we talked about the problems on our farm. For quite some years already we are been having problems with the efficiency of plant protection agents with regard to black grass and ryegrass. Because of our problematic conditions we are forced to work with very short rotations wheat/barley/rape and a lot of winter crops, thus encouraging the development of weeds.

At the same time we were facing a second problem: A drinking water sample taken near some of our fields showed traces of plant protection agent residues. As a consequence the authorities told us to change our

cultivation method. Based on these two problems – the increase of resistances and the demand to reduce our treatment frequency, we had to find a method to limit the emergence of weeds – and all that without any additional plant protection measures. According to Michael Horsch a lot of farmers in Great Britain were facing the same problems. This is why we started to think about a seed drill that moves little soil and that leaves enough space to maybe carry out a mechanical measure later. It was to penetrate the soil in an optimum way and adapt perfectly to the terrain. The basic idea of the Avatar was born. “The Avatar 12 SD was designed according to the ideas for French farmers, but it meets other requirements, too”, Jean Paul Kihm explains. “We wanted to continue to work efficiently and at the same time to reduce speed to guarantee a regular depth when placing the grains. The Avatar with twelve metre working width met these requirements to our entire satisfaction.”

ELECTRONICS INNOVATIVE AND DIGITAL SOLUTIONS

HORSCH Intelligence

The machines of the future co-operate actively and HORSCH Intelligence allows for it. With intelligent software and electronic solutions HORSCH machines work even more efficiently and help you to save money and nerves.

HORSCH technology is always equipped with ISOBUS standard. This does not only mean that every HORSCH machine can be controlled with any ISOBUS terminal. In addition, every HORSCH machine with a job computer can, as a standard, carry out functions like SectionControl, VariableRate or the order processing with the TaskController as soon as the necessary licences have been activated.

SectionControl

The ISOBUS SectionControl function allows for an automatic section control. The current position of the machine is determined via GPS. At the field boundaries, on the headlands or near obstacles, sections or the whole working width are switched off automatically and thus overlapping is avoided.

Advantages of SectionControl

- Saving of seed and fertiliser as overlapping is reduced to a minimum.
- Constant working quality on the whole field
- Productivity increase under various conditions (day and night, fog)
- Reduced stress for the driver
- Protection of the environment

TaskController

The ISOBUS TaskController allows for easily transferring data from the PC to the terminal. It also is possible to transfer and document seed rates, sown hectares and other data that were recorded while sowing from the terminal to the PC. This facilitates the administration of the acreage index. Orders can be created and worked off via the integrated order handling management.

Advantages of the TaskController

- Uncomplicated data exchange
- Automatic documentation
- Structured working due to data management
- Simple administration of the acreage index
- Simple accounting and proof for contract services

VariableRate

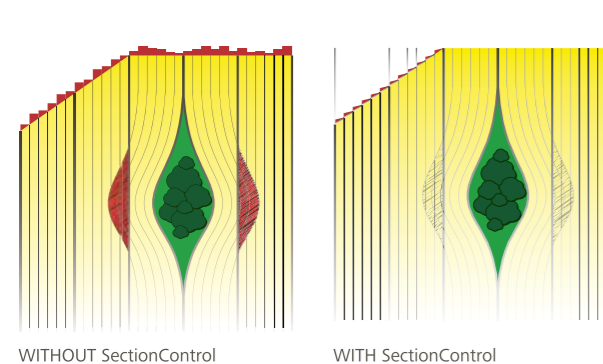
ISOBUS VariableRate allows for a site-specific application of seed and fertiliser. Thus, with an appropriate application card for every section within a field the optimum quantity of fertiliser and seed can be applied.

Advantages of VariableRate

- Saving of seed and fertiliser as only the necessary quantity is applied
- Homogeneous emergence with an optimum number of grains/m²
- Simple and quick documentation
 - The different application rates are documented automatically.
 - Uncomplicated transmission to the acreage index
- Reduced stress for the driver
 - Fields are drilled or fertilised automatically with the optimum application rate
- Protection of the environment
 - Only the necessary amount of fertiliser is applied.

MultiControl

When using a HORSCH Touch 800/1200 terminal you can also use the MultiControl function. If SectionControl is activated, MultiControl allows for switching on and off seed and fertiliser independently. If sowing is carried out in a site-specific way with VariableRate, MultiControl varies the quantity of fertiliser and seed independently. Without MultiControl, SectionControl allows for either switching on and off either seed or fertiliser at the right time respectively VariableRate allows for varying either seed or fertiliser.

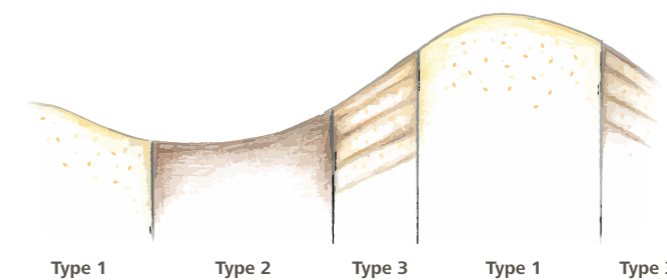


Soil quality	Seed	Fertiliser
high	300 grains/m ²	2.8 dt/ha PK
medium high	270 grains/m ²	2.5 dt/ha PK
medium low	250 grains/m ²	2.3 dt/ha PK
low	220 grains/m ²	2.0 dt/ha PK

VariableRate
Seed OR fertiliser

VariableRate with MultiControl
Seed AND fertiliser

Variable Rate allows for applying site-specific quantities of fertiliser and seed by means of application maps.



VariableRate also takes different types of soil into consideration.



Terminals



TECHNICAL SPECIFICATIONS



HORSCH Avatar	3.16 SD	4.16 SD rigid	4.16 SD	6.16 SD	8.16 SD
Working width (m)	3.00	4.00	4.00	6.00	8.00
Transport width (m)	2.99	4.32	2.99	2.89	2.98
Transport height (m)	3.50	3.50	3.50	3.06	3.98
Length lower linkage (m)	6.96	6.96	6.96	7.82***	7.82***
Length adjustable drawbar linkage (m)	7.80	7.80	7.80	---	---
Weight (kg)	3 620*	4 500*	4 800*	5 300***	7 000**
Seed hopper capacity single hopper (l)	2 800	2 800	2 800	3 500	3 500
Feed opening single hopper (m)	1.00x2.40	1.00x2.40	1.00x2.40	1.00x2.40	1.00x2.40
Filling height single hopper (m)	2.85	2.85	2.85	2.52	2.92
Seed hopper capacity double hopper (l)	3 800	3 800	3 800	5 000	5 000
Feed opening double hopper (m)	per 0.66x0.90	per 0.66x0.90	per 0.66x0.90	per 0.66x0.90	per 0.66x0.90
Filling height double hopper (m)	3.24	3.24	3.24	2.35	3.26
Feed opening triple hopper (m)	0.66x0.43/0.66x0.25/0.66x1.45		---	---	---
Seed hopper capacity triple hopper (l)	3 800 (30:10:60)		---	---	---
Filling height triple hopper (m)	2.95	2.95	2.95	---	---
Hopper capacity micro-granular unit (l)	200	200	200	200	280
Number of seed coulters	18	24	24	36	48
Coulter pressure seed coulters (kg)	350	350	350	350	350
Seed coulter Ø (cm)	48	48	48	48	48
Closing wheels Ø (cm)	33	33	33	33	33
Depth control wheels Ø (cm)	40	40	40	40	40
Row spacing (cm/inch)	16.70	16.70	16.70	16.70	16.70
Tyre size seed unit/waggon	550/55-22.5	550/55-22.5	550/55-22.5	600/55-26.5	600/55-26.5
Working speed (km/h)	6-15	6-15	6-15	6-15	6-15
Power demand (kW/hp) from	90/125	105/140	105/140	155/210	200/270
DA control devices	1 (+ 1 incl. hydr. fan direct drive)		3	3	3
Depressurized return flow (max. 5 bar)	1	1	1	1	1
Oil quantity hydr. fan (l/min)	35-45	35-45	35-45	35-45	35-45
Lower link linkage	Cat. III and III/IV	Cat. III and III/IV	Cat. III and III/IV	Cat. III and III/IV	Cat. III and III/IV
Adj. drawbar linkage	Hitch Ø 46-58 mm	Hitch Ø 46-58 mm	Hitch Ø 46-58 mm	Hitch Ø 46-58 mm	Hitch Ø 46-58 mm
Ball-type linkage	K 80	K 80	K 80	K 80	K 80

* Weight of the machine with minimum equipment without additional weights at the front and at the rear (1 000 kg)
 ** Weights of the machines with minimum equipment without additional weights at the front and at the rear (1 400 kg)
 *** Length of the machine with lower link linkage without filling auger

HORSCH Avatar	12 SD	18 SD
Working width (m/ft)	12.00/40	18.00/60
Transport width (m)	2.98	3.00
Transport height (m)	3.80	4.00
Length (m)*	8.31	9.68
Weight (kg)	10 000	48 seed coulters: 13 700/ 72 seed coulters: 15 000**
Seed hopper capacity double hopper (l)	5 800 (50:50, per 2 900 l)	8 500 (50:50, per 4 250 l)
Feed opening double hopper (m)	per 0.66x0.94	per 0.66x1.70
Filling height double hopper (m)	2.80	3.10
Hopper capacity micro-granular unit (l)	300	---
Number of seed coulters	48 – row spacing 25 cm 40 – row spacing 12” 32 – row spacing 15”	72 – row spacing 25 cm 60 – row spacing 12” 48 – row spacing 15”
Coulter pressure seed coulters (kg)	350	350
Seed coulter Ø (cm)	48	48
Closing wheels Ø (cm)	33	33
Depth control wheels Ø (cm)	40	40
Row spacing (cm/inch)	25/15”/12”	25/12”/15”
Tyre size seed unit/waggon	520/85 R 38	520/85 R 42
Tyre size support wheels	15.0/55-17	550/60-22.5
Working speed (km/h)	6-15	6-15
Power demand (kW/hp) from	220/300	220/300
DA control devices	3	3
Depressurized return flow (max. 5 bar)	1	1
Oil quantity hydr. fan (l/min)	35-45	35-45
Adj. drawbar linkage	Ring hitch Ø 55-79 mm	Ring hitch Ø 55-79 mm
Ball-type linkage	K 80	K 80

* Length of the machine with lower link linkage without filling auger
 ** Weights of the machines with minimum equipment





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