



*Know-how in food processing!*



Photo: NOCK Freeze Drum Skimmer TFE 350 A

# Fish skinning machines

Cut down costs by first-class technology

## Quick cleaning and optimum hygiene

- The NOCK fish skinning machines have not only a modern, but also **hygienic design**, which naturally complies with the latest hygienic regulations.
- The machine casing, conveyor frame, transport roller, blade holder etc. are made of **high quality stainless steel**. The conveyor belts and pressure rollers are made of food-grade plastics.
- Due to the NOCK POWER PLATES® it is possible to construct the casings of the machines with **large smooth surfaces** which are particularly hygienic and easy to clean.
- On the conveyORIZED fish skinning machines, the **NOCK EASY-FLOW® safety cover** prevents the build-up of product surpluses on the mountings of the blade holder and pressure unit during processing.
- All NOCK fish skinners are equipped with lockable castors. This eases transportation to the cleaning area.

## Excellent yield

The NOCK fish skinning machines convince customers all over the world not only by their reliable functioning and low maintenance costs but also by **very low loss of expensive fish**. The maximum values of this important criterion is reached from the NOCK fish skinners by

- an advanced construction of all machine components for the skinning (blade holder, blade, transport roller, pressure unit, infeed conveyor)
- the high precision construction and mounting of these components at NOCK
- the NOCK POWER PLATES® which guarantee long lasting precision of the machines
- innovative technologies such as the NOCK ACTIVE SKIN GRIPPER®

The best possible yield is only guaranteed when processing with original NOCK TOP blades!

## The NOCK EASY-FLOW® safety cover

The covers of the NOCK fish skinning conveyor belt machines are **constructed tunnel-like**:



*Quick and easy to clean: NOCK fish skinning machine after removing conveyors, pressure roller and blade holder*

Conveyors, pressure roller, blade holder and output table can be removed and replaced for cleaning purposes within seconds without any tools. Therefore soiled parts are easily accessible. The transport roller can be turned by hand. The conveyor frames can be folded back so that the inside of the belts can be cleaned. The conveyor belts can also be easily removed from their frames for thorough cleaning. The Freeze Drum Skinners have a special cleaning mode.

**Bearings made of stainless steel** are more resistant to improper cleaning of the machines.



All machine parts which could obstruct the flow of the product, e.g. the mountings and handles of the blade holder, the mountings of the pressure device and of the conveyor belts, are located outside the tunnel-like safety cover.

### The advantages:

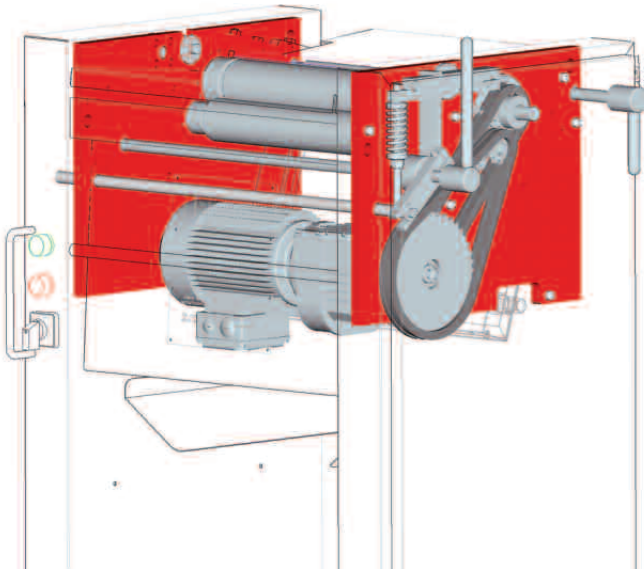
- Reliable product flow („easy flow“)  
= higher processing safety
- Hardly any accumulation of residues on the mountings during processing = better processing hygiene and faster cleaning of the machine

A safety switch stops the machine once the cover is opened. A safety bolt hinders reliably that the opened safety cover accidentally falls closed.

The NOCK EASY-FLOW® safety cover complies with the European safety standard EN 12355 and contributes to the high occupational safety of the NOCK fish skinning machines.

## NOCK POWER PLATES® for particular robustness and service friendliness

The mechanically highly strained machine components such as drive, transport roller and blade holder are mounted in **solid, 15 mm thick base plates**, the **NOCK POWER PLATES®**, which are located in the machine casing.



This construction of the NOCK machines has been proven since 1990 and guarantees among others:

- **Long lasting precision**  
The NOCK POWER PLATES® guarantee an excellent **bearing alignment and precise positioning of the machine parts**. This cannot be reached with the usual positioning of such machine parts on the casing.
- **No material fatigue**  
With a 15 mm thickness, the NOCK POWER PLATES® are resistant to material fatigue. They make the NOCK fish skinners especially sturdy and durable and are also extremely suitable for the several shift constant industrial operation with intensive machine use.
- **Extraordinary service friendliness**  
All components are very easily accessible once the side covers are opened.

Every service technician will understand at once the clear and low-maintenance construction of the NOCK machines. A specialist is not required for servicing. **Also therefore the NOCK machines are highly appreciated and successfully sold all over the world.**



## Top quality - Made in Germany

NOCK is an owner-run German family business, which since 1990 constructs and successfully sells modern machines for the food processing industry worldwide. In close contact to processing plants and distributors, the machines are constantly further developed. Of course the latest hygiene and safety standards are respected.



*F. Nock*  
Ferdinand Nock, company founder

NOCK stands for uncompromising quality "Made in Germany". This begins with the quality-orientated concept and construction of the NOCK fish skinning machines, comprising of the manufacturing of all central components at the company-own ultra-modern machine park, exclusively using premium base materials and acquired parts, the collaboration with established suppliers, diligent assembling and final inspection of the NOCK machines. An experienced team of highly qualified and motivated employees also contributes significantly to this high quality standard. This results in modern, particularly reliable and durable machines of continuous quality.



NOCK can offer German high class workmanship to interesting prices due to modular construction, modern production methods and strict cost management. An important aspect considering the often tightly calculated investment budgets of fish processing plants.



## Freeze Drum Skinner TFE



TFE 350 A

### Features and application range

The NOCK Freeze Drum Skinners TFE are **fish skinning machines with freeze drum technology**, in which NOCK puts his long term fish skinning technology competence and his know-how in refrigeration technology from the construction of the NOCK scale ice machines. This results in fish skinning machines with reliable German machine engineering, high quality, high energy efficiency, easy cleaning and compact dimension. Above this, the service friendly construction results in low follow-up costs.

- particularly suitable to skin soft (e.g. defrosted) fish fillets and for all types of fish with weak skin
- 2 - 5 % higher yield than other fish skinning machines
- to cut fish and other products
- **skinning depth:** up to 10 mm stepless
- **cutting width:** 370 / 570 mm
- **cutting speed:** 8 - 20 m/min (integrated frequency converter)
- **form of application:** skin side up



TFE 350 A  
(cover open)

### Standard equipment

- **energy-efficient freeze drum;** electrochemically treated surface
- **high quality refrigeration aggregate** (environment-friendly refrigerant R404A)
- refrigeration aggregate with air-cooled condenser or with water-cooled condenser
- water jets so that the product will freeze reliably on to the freeze drum; low water consumption
- **rotating band blade with high precision guide** for constant and also very thin skinning
- stepless adjusting of skinning thickness, even during operation
- water jets and scraper keep the band blade clean during operation
- band blade can be easily and quickly replaced
- conveyor equipped with 4 mm round straps and extra drive (motor); straps can be easily replaced
- stainless steel housing with large smooth surfaces and **special operation mode for easy cleaning after production:** conveyor belt and drum operate, refrigeration aggregate and band blade remain stopped
- mobile machine with lockable castors



TFE 350 A (view from back side)

### Options

- NOCK Fish Skinning Defatting System FS DS
- turnover device

## Cortex CBF 496 • Skinex SB 496



optional foot switch

### Features and application range

The NOCK Cortex CBF 496 and the Skinex SB 496 are **automatic fish skinning machines with conveyors**. The sister models differ in the applied skinning technology and therefore in the favoured suitability:

#### Cortex CBF 496:

**CF technology. Universal suitability for many fish species, particularly suitable for larger fillets with thick skin, e.g. salmon trout, flatfish, sea bream, etc.**

Also suited to skin fish with thinner skin, however with a lower yield as with the Skinex SB 496.

#### Skinex SB 496:

**S technology. Particularly suitable for low-loss skinning of fish species with thin skin, e.g. tilapia, pangasius, trout, cod, catfish, cuttlefish, etc.**

- **Cutting width:** 430 mm
- **Cutting speed:** 24 m/min
- **3 skinning methods:**
  - **deep skinning** with sharp blade
  - **thin skinning (shallow skinning)** with sharp blade
  - **pulling off** the skin a blunt blade (**silver skinning**)

### Standard equipment

- **Cortex CBF 496:** tooth roller with peripheral grooves and scraper comb (CF technology)
- **Skinex SB 496:** transport roller without peripheral grooves, with counter rotating (dynamic) cleaning roller (S technology)
- water cleaning unit for reliable constant operation
- blade gap infinitely adjustable
- blade holder spring-suspended for perfect skinning results
- special, hard fish pressure unit with adjustable counter weights
- infeed conveyor and output conveyor; can be removed within seconds without any tools; ribbed surface
- NOCK POWER PLATES® for particularly hygiene-friendly machine construction, high robustness and service friendliness
- NOCK EASY-FLOW® safety cover
- lockable steering castors
- stainless steel



*Dolphinfish (dorado)*

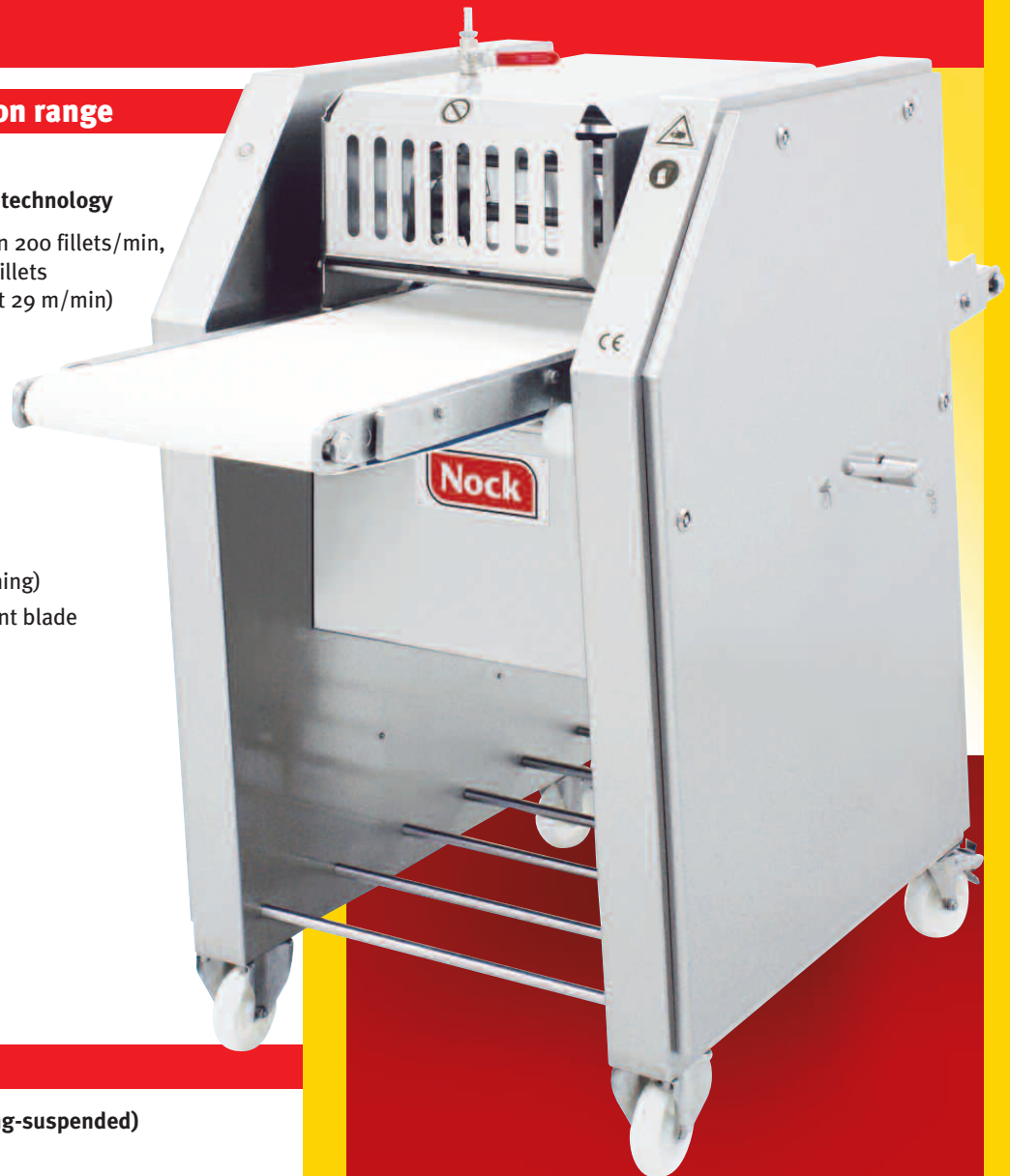
### Options

- ultra soft pressure wheels
- inflated pressure balloon
- discharge conveyor for removed skin
- transport roller with coarser or finer toothing
- foot switch for "manual" operation on open top machine
- turnover device to automatically skin both sides of flat fish with 2 machines

# Skinex QS 888

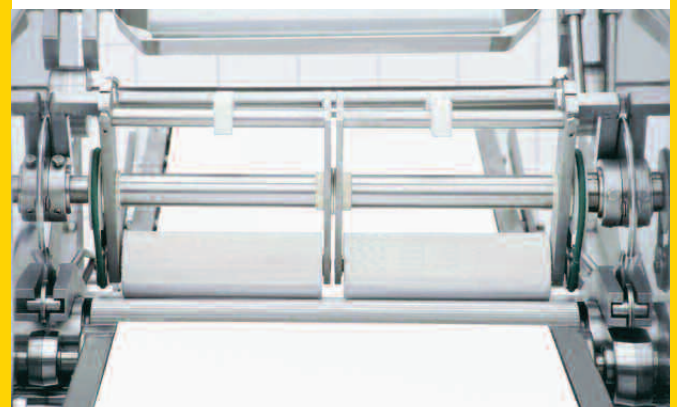
## Features and application range

- conveyORIZED double lane fish skinning machine with S technology
- enormous capacity: more than 200 fillets/min, depending on the size of the fillets (speed of infeed conveyor belt 29 m/min)
- perfect for skinning tilapia, pangasius (basa), catfish, redfish, cod and other fish species
- silver skinning salmon (single lane)
- methods of skinning:
  - thin skinning (shallow skinning)
  - pulling-off the skin with blunt blade (silver skinning)



## Standard equipment

- divided pressure roller (spring-suspended) for double lane feeding
- cutting width 2 x 200 mm
- transport roller without grooves with counter-rotating cleaning roller made of stainless steel (S-technology)
- water spraying unit for steady continuous operation
- blade gap infinitely variable
- spring-suspended blade holder for perfect skinning results
- special pressure rollers made of polyamide for gentle processing, easy handling and long durability
- infeed and output conveyor; can be taken out of the machine within seconds without any tools; ribbed surface
- NOCK POWER PLATES® for a machine construction which is easy to clean, for outstanding robustness and service friendliness
- NOCK EASY-FLOW® safety cover
- lockable castors
- stainless steel



*Divided pressure roller*

## Options

- output conveyor
- longer infeed conveyor
- transport roller with coarse or fine tothing
- transport roller with larger diameter (Skinex QS 98)



## Cortex CF 460 • Skinex S 460

### Features and application range

The NOCK Cortex CF 460 and the Skinex S 460 are **open top fish skinning machines for manual infeed**.

The sister models differ in the applied skinning technology and therefore in the favoured suitability:

#### Cortex CF 460:

**CF technology. Universal suitability for many fish species. Especially for fish with thick skin, e.g. salmon, salmon trout, plaice, sole, sea bream, shark etc.**

Also suitable to skin fish species with thin skin, however a lower yield than with the Skinex S 460.

#### Skinex S 460:

**S technology. Particularly suitable for low-loss skinning of fish species with thin skin, e.g. tilapia, pangasius, trout, cod, catfish, squid, etc.**

- **Cutting width:** 430 mm
- **Cutting speed:** Cortex CF 460: 19 m/min  
Skinex S 460: 29 m/min
- **Skinnering methods:**
  - **thin skinning** with sharp blade
  - **pulling off** the skin with blunt blade (silver skinning)

### Standard equipment

- **Cortex CF 460:** tooth roller with grooves and scraper comb (CF-technology)
- **Skinex S 460:** transport roller without grooves, with counter rotating (dynamic) cleaning roller (S technology)
- water spraying unit for reliable constant operation
- blade gap infinitely adjustable
- blade holder spring suspended for perfect skinning results
- ergonomically favourable foot switch
- NOCK POWER PLATES® for a machine construction which is easy to clean, for outstanding robustness and service friendliness
- lockable steering castors
- stainless steel



### Options

- NOCK IMMEDIATE CUT-OUT® (ICO) safety system
- transport roller with coarse or fine tothing
- feeding unit for safe skinning of small fillets

**TIP:** It depends on the geometry of the blade, the blade holder and the transport roller in particular when thin skinning fish. This geometry is only guaranteed with the original **NOCK TOP** blades.

The use of other blades can (even with identical measurements) cause higher losses, poor results and short blade service life.

This recommendation applies for all NOCK fish skinning machines.

## Cortex CF 420 • Skinex S 420



### Features and application range

The NOCK Cortex CF 420 and the Skinex S 420 are **open top table machines to skin fish**. They are a well-priced solution for the fish trade and an ideal **additional machine in the industrial fish processing industry**. The sister models differ in the applied skinning technology and therefore in the favoured suitability:

#### Cortex CF 420:

**CF technology. Universal suitability for many fish species.** In particular suitable to skin fish with thick skin, e.g. salmon, salmon trout, plaice, sole, etc.

#### Skinex S 420:

**S technology. Particularly suitable to skin fish species with thin skin.**

- **Cutting width:** 430 mm
- **Cutting speed:** Cortex CF 420: 19 m/min  
Skinex S 420: 24 m/min
- **Skinner methods:**
  - **thin skinning** with sharp blade
  - **pulling off** the skin with blunt blade (silver skinning)

### Standard equipment:

- **Cortex CF 420:** tooth roller with grooves and scraper comb (CF technology)
- **Skinex S 420:** transport roller and counter-rotating (dynamic) cleaning roller (S technology)
- water spraying unit for reliable constant operation
- blade gap infinitely adjustable
- carry handles
- foot switch
- stainless steel

#### Options

- NOCK IMMEDIATE CUT-OUT® (ICO) safety system
- underframe with steering castors

## Cortex CF 300 COUNTERBOY



### Features and application range

The NOCK Cortex CF 300 COUNTERBOY is a **small open top table machine** with CF technology to skin many fish species. Ideal for the shop counter in a fish shop, for supermarkets and the catering industry, however is not suited for industrial use.

- **cutting width:** 280 mm
- **cutting speed:** 19 m/min
- **Skinner methods:**
  - **thin skinning** with sharp blade
  - **pulling off** the skin with blunt blade

### Standard equipment

- toothroller with grooves and scraper comb (CF technology)
- water cleaning unit for reliable constant operation
- blade holder infinitely adjustable
- carry handles
- foot switch
- stainless steel

#### Option

- underframe with 2 castors



CORTEX CF 300 COUNTERBOY with optional underframe



## NOCK IMMEDIATE CUT-OUT® (ICO) safety system

### Function

- The machine **stops** when the **blade** or the tooth roller is **touched** with electro-conductive gloves
- The machine does not stop when the working table is touched
- Available as an option for all open top NOCK fish skinners



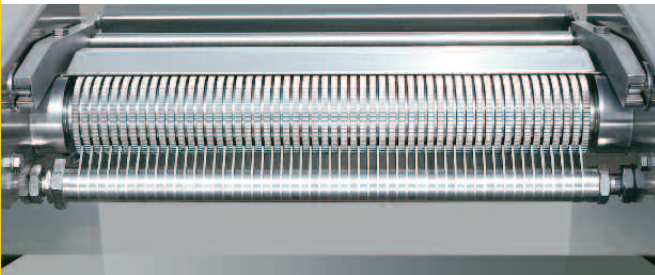
### Advantages

- minimal risk of injuries
- minimal risk of follow-up costs
- flexible
- operation friendly
- perfected



# Skinning technologies and skinning methods

## The CF technology



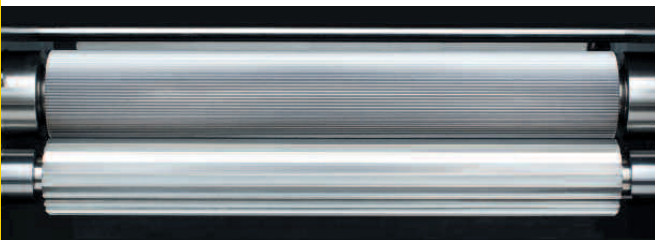
The automatic and the open top NOCK Cortex fish skinning machines are equipped with a **transport roller with grooves** (tooth roller). A **scraper comb** cuts in the grooves of the tooth roller and keeps it clean during operation.

The **CF technology** is most suitable **especially to skin fish with thick skin** and offers advantages because of its **universal application for many fish species**.

It is also suitable for fish with thin skin, but with less yield when skinning with sharp blade or pulling-off the skin with blunt blade (silver skinning).

The CF transport rollers are optionally available with coarser or finer toothing.

## The S technology



The automatic and the open top NOCK Skinex fish skinning machines are equipped with a **transport roller with fine toothing, but without grooves** and with a **counter-rotating cleaning roller made of stainless steel**.

The **S technology** is **particularly suitable for fish species with thin skin** and achieves the **best yield** when thin skinning with sharp blade and pulling-off the skin with blunt blade (silver skinning). There are limitations when deep skinning with open top machines as they lack of a transportation support of a pressure roller. Depending on the kind of fish and the consistency of the fillets it is not always possible to take advantage of the maximum blade gap for deep skinning.

The S transport rollers are also available with coarser or finer toothing.

An economical **water cleaning unit** supports the cleaning function of the CF and S technologies and therefore guarantees an interference-free continuous operation. The water spraying unit can be deactivated when processing smoked fish.

## The freeze drum technology

When processing with the **freeze drum technology**, the skin of the fillet is sprayed with water and then freezes onto the freeze drum. A rotating band blade separates the skin from the fillet. A scraper removes the skin from the freeze drum.

This technology is particularly suitable for skinning soft (e.g. thawed) fillets and for all fillets with soft (weak) skin.

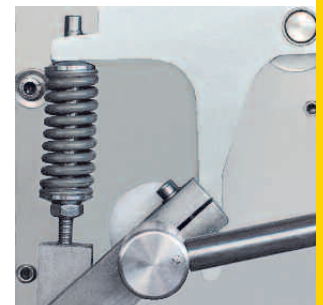
## Skinning methods

### 1. Thin skinning with sharp blade

When **thin skinning (shallow skinning)** with sharp blade, the blade gap is closed so much that nearly no flesh remains on the skin. The blade gap can be adjusted infinitely and sensitively with the lever outside the machine, also during operation.

The skinning results can be improved for some kind of fish when blunting the blade slightly.

The spring suspension of the blade holder results in perfect adjustment to various thick skins. This suspension is located in the machine casing.



### 2. Deep skinning with sharp blade

When deep skinning with sharp blade, the blade holder is opened so far so that a higher or less higher extent of the bordering fat or flesh layer of the fish is removed with the skin. The blade gap can be adjusted infinitely and sensitively with the thickness adjusting lever, also during operation.

In doing this it is possible with some fish species to improve the quality and the attainable fillet price so that the accepted higher weight loss is then evened.

### 3. Pulling off the skin with blunt blade

When pulling-off, the skin is divided from the fillet with the blunt edge of the blade, so that the silver layer stays on the fillet ("**silver skinning**"). Here the blade is placed in the blade holder with the blunt edge facing forwards and the blade holder is completely closed ("**tightened**").

So compared to the thin skinning with a sharp blade, the yield can be further increased and the desired appearance of the fillets with silver layer is achieved for some fish species.

## Machine equipment / Fish skinning machines

machine model	automatic machine with infeed and output conveyor	open top stand machine	open top table machine	underframe	skinning technology	skinning modes			blade holder spring suspended	NOCK ICO® safety system	NOCK POWER PLATES®	NOCK EASY-FLOW® safety cover	lockable castors	stainless steel
						silver skinning	thin (shallow) skinning	deep skinning						
Freeze Drum Skinner TFE	●				GF		●	●	rotating band blade		●	●	●	●
Cortex CBF 496	●				CF	●	●	●	●	●	●	●	●	●
Skinex SB 496	●				S	●	●	●	●	●	●	●	●	●
Skinex QS 888	●				S	●	●	● <sup>1</sup>	●		●	●	●	●
Cortex CF 460		●			CF	●	●	● <sup>1</sup>	●	○	●	●	●	●
Skinex S 460		●			S	●	●	● <sup>1</sup>	●	○	●	●	●	●
Cortex CF 420			●	○	CF	●	●	● <sup>1</sup>		○				●
Skinex S 420			●	○	S	●	●	● <sup>1</sup>		○				●
Cortex CF 300 COUNTERBOY			●	○	CF	●	●	● <sup>1</sup>						●

### Other options (depending on machine model):

- inflated pressure balloon
- ultra soft pressure wheels
- discharge conveyor for removed skin
- transport roller with coarse or fine toothing
- foot switch for „manual“ operation on open top machine
- turnover device to skin both sides of flat fish

● **standard**

○ **optional**

① **restricted**

CF = tooth roller with scraper comb

GF = freeze drum

S = transport roller without grooves, with counter-rotating cleaning roller



## Technical data / Fish skinning machines

machine model	cutting width	cutting performance	blade gap (stepless)	maximum throughput height	apply length on infeed belt	overall measurements W x H x D	weight	motor performance	electrical connection	water connection	approx. water connection
Freeze Drum Skinner TFE 350A	370	8 - 20	0 - 10	40	450	1550 x 1500 x 2600	680	5.0			l/h
Freeze Drum Skinner TFE 350 W	370	8 - 20	0 - 10	40	450	1550 x 1500 x 2600	660	5.0		G 3/4" external thread	150 +600 <sup>④</sup>
Freeze Drum Skinner TFE 550 W	570	8 - 20	0 - 10	40	450	1750 x 1500 x 2600	820	7.5			150 +1000 <sup>④</sup>
Cortex CBF 496	430	24	0 - 5	70	400	800 x 1190 x 1860	240	0.75		G 1/4" female thread	200
Skinex SB 496	430	24	0 - 5	70	400	800 x 1190 x 1860	240	0.75			200
Skinex QS 888	2 x 200	29 <sup>②</sup>	0 - 0.5	40	540	800 x 1190 x 1820	240	1.1		G 1/2" female thread	200
Cortex CF 460	430	19	0 - 0.5	-	-	750 x 960 x 750	150	0.75			100
Skinex S 460	430	29	0 - 0.5	-	-	750 x 960 x 750	160 <sup>③</sup>	0.75			100
Cortex CF 420	430	19	0 - 0.5	-	-	700 x 420 x 500 (700 x 950 x 600) <sup>③</sup>	80 (95) <sup>③</sup>	0.75			80
Skinex S 420	430	24	0 - 0.5	-	-	700 x 420 x 500 (700 x 950 x 600) <sup>③</sup>	80 (95) <sup>③</sup>	0.75			80
Cortex CF 300 COUNTERBOY	280	19	0 - 0.5	-	-	560 x 320 x 400 (560 x 950 x 500) <sup>③</sup>	50 (65)	0.25			50

- ① other voltages available upon request
- ② speed of infeed conveyor belt
- ③ with underframe
- ④ cooling water (tap water)

