



**UP**

Upblast Propeller | Product Guide |



**LOREN COOK COMPANY**

# INTRODUCTION



Upblast propeller fans are designed for industrial and commercial applications discharging large volumes of air with low static pressures up and away from a building.



## DESIGNED FOR

commercial and industrial exhaust air movement applications



## PERFORMANCE RANGE

3,100-94,000 CFM



## SMOKE CONTROL

is available on several upblast propeller fans



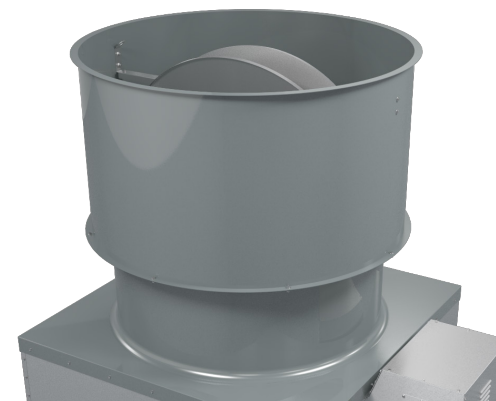
## CHOOSE FROM

four different prop types: A series, E series, Triton series, and X.Stream series



## STATIC PRESSURES

up to 1.25" w.g.



## EXTRA BENEFITS

- ▶ Flexible installation options
- ▶ UL 705 is standard on all Propeller Upblast
- ▶ Available with Vari-Flow® motors and controls.



**For more information, Look at the Vari-Flow® Product Guide or contact Loren Cook Company at 417-869-6474.**

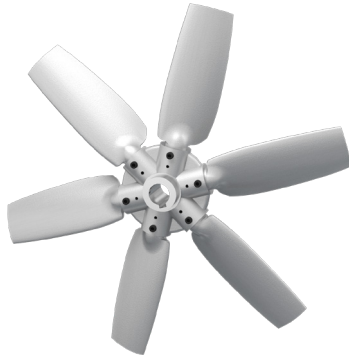


# AVAILABLE PROPELLERS



Four propeller series provide a wide range of performance benefits.

## A SERIES



### CAST ALUMINUM PROPELLER

- ▶ Designed for commercial or industrial applications where large volumes of air are required at low static pressures.
- ▶ Constructed of heavy gauge aluminum with six cast blades and a cast hub.
- ▶ Blade pitch is determined at the factory and the blades are locked into place by a roll pin.
- ▶ Statically and dynamically balanced for vibration free operation.

## E SERIES



### EXTRUDED ALUMINUM AIRFOIL PROPELLER

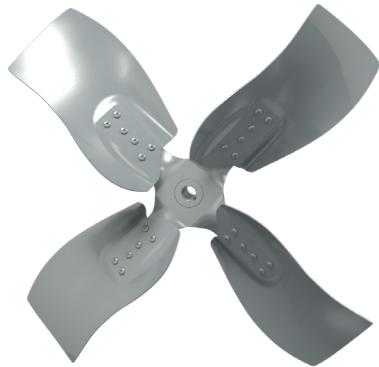
- ▶ Designed for use where higher static pressures are required.
- ▶ Constructed with four or six extruded aluminum airfoil blades and mounted to a cast aluminum hub.
- ▶ Blade pitch is determined at the factory and the blades are locked into place by a roll pin.
- ▶ "E Series" blade has a non-overloading characteristic such as is found in a centrifugal type wheel.
- ▶ Statically and dynamically balanced for vibration free operation.

# AVAILABLE PROPELLERS



Four propeller series provide a wide range of performance benefits.

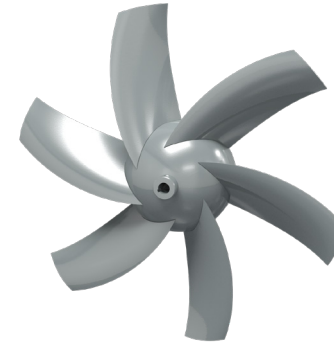
## X.STREAM SERIES



### STEEL PROPELLER

- ▶ Designed using Computational Fluid Dynamics (CFD) and Finite Element Analysis (FEA) to provide optimum air flow, efficiency, quality and durability.
- ▶ Available in both low pressure (LXUL) and medium pressure (LXUM) models providing a wide performance range, and low noise levels.
- ▶ Constructed of fabricated steel blades securely attached to a minimum 7 gauge steel hub.
- ▶ Statically and dynamically balanced for vibration free operation.

## TRITON® SERIES



### WELDED STEEL PROPELLER

- ▶ Designed using Computational Fluid Dynamics (CFD) and Finite Element Analysis (FEA) to provide optimum air flow, efficiency, quality and durability.
- ▶ Constructed of heavy gauge steel components in a fully welded assembly.
- ▶ Designed for large volumes of air at medium pressure levels.
- ▶ Statically and dynamically balanced for vibration free operation.

# AVAILABLE HOUSINGS



Cook offers multiple housing options to meet your application needs.

## STANDARD UPBLAST



- ▶ Upblast Propeller fans are designed for industrial and commercial applications discharging large volumes of air with low static pressures up and away from a building. Exhausted air is naturally diluted in the atmosphere and carried away by air currents.

## LOW SILHOUETTE



- ▶ Low silhouette with motor in air stream units are especially suited for use in metal buildings with standing seam roofs where service of the motor and drive components from inside the building is desired.
- ▶ Offered with motor in air stream (LXU, LEU, LTU) and motor out of air stream (LXUMO, LEUMO, LTUMO).

# STANDARD FEATURES



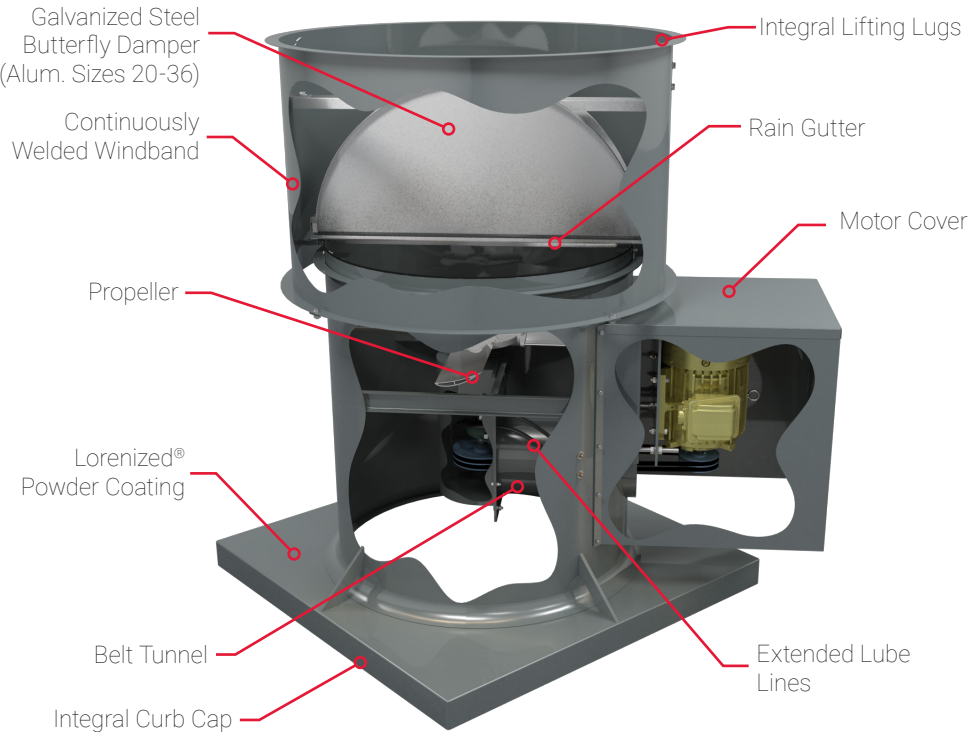
The propeller upblast standard construction features are shown below

## DIRECT DRIVE



**AUD / EUD / TUD**

## BELT DRIVE



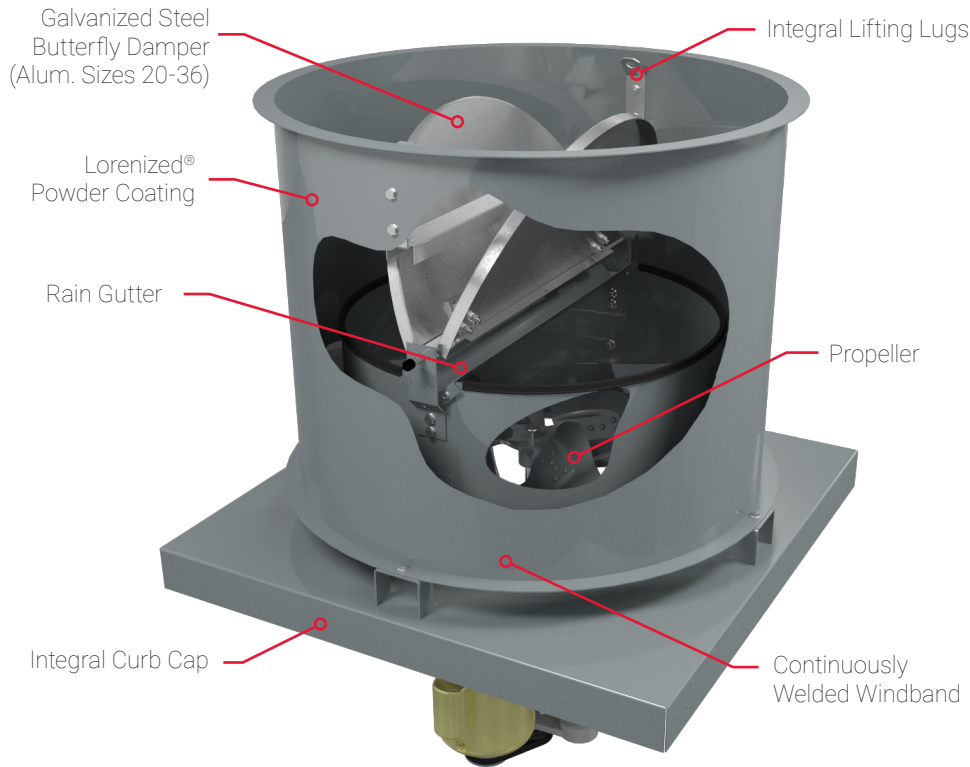
**AUB / EUB/ TUB**

# STANDARD FEATURES



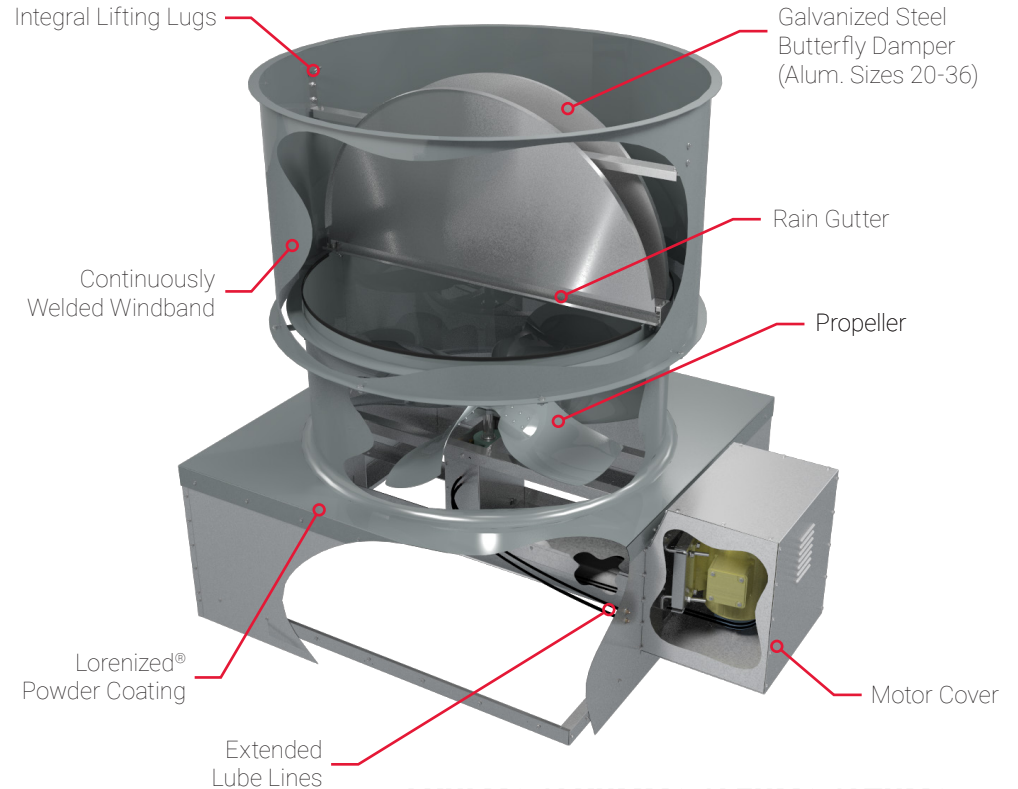
The low silhouette standard construction features are shown below

## MOTOR IN AIRSTREAM



**LXUL / LXUM / LEU / LTU**

## MOTOR OUT OF AIRSTREAM



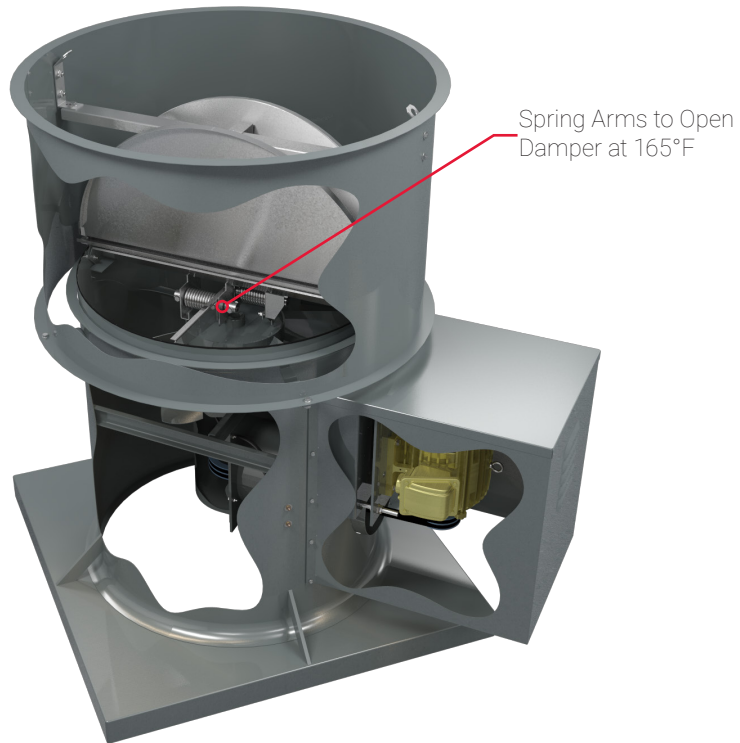
**LXULMO / LXUMMO / LEUMO / LTUMO**

# SMOKE CONTROL



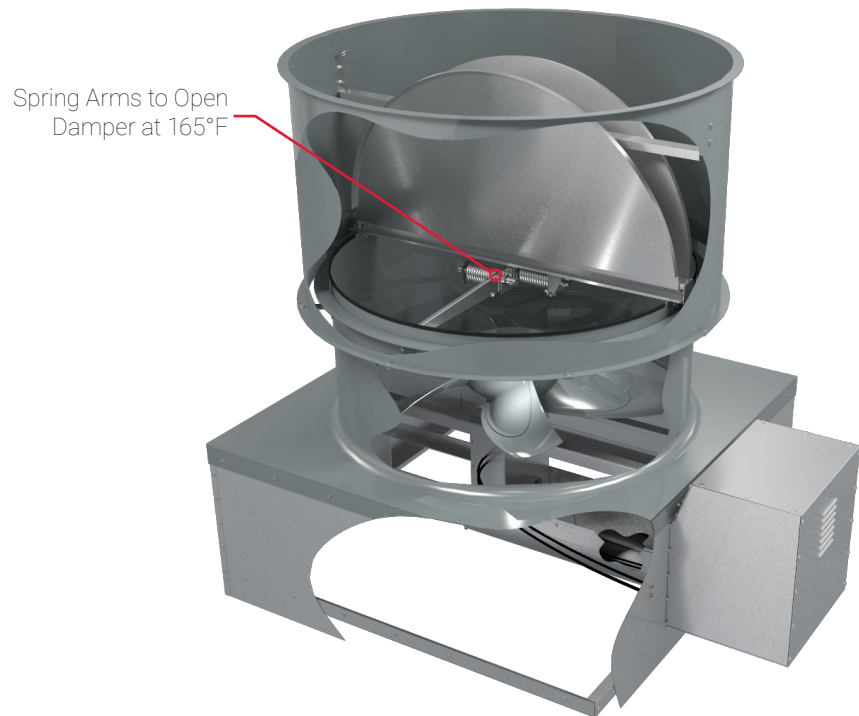
The Smoke Control package includes spring loaded arms with fusible links

## STANDARD UPBLAST



TUD / TUB

## LOW SILHOUETTE



LTUMO



# UPBLAST ACCESSORIES



Beyond the standard construction features, Cook offers accessories to fit your custom air-movement requirements and/or preferences.

## ROOF CURB

Roof curbs are used as roof support structures for fans and ventilators. They are available for flat, pitched and ridged roofs with or without insulation.

## INLET GUARD

An inlet guard protects personnel and prevents debris from entering the fan.

## NOT SHOWN

## INLET BASKET GUARD

An inlet basket guard protects personnel and prevents debris from entering the fan. Available on LTU, LXU, LEU.

## ANTICONDENSATE COAT

Anticondensate coat will provide insulation level capable of preventing surface sweating for temperature differences up to 60 deg F (inside to outside temperature) with a relative humidity of 70%.

## MAGNETIC LATCHES

Magnetic latches are available to prevent buffeting of the damper doors due extreme pressure changes.

## DISCHARGE GUARD

A discharge guard protects personnel and prevents debris from entering the fan. Guards are constructed of wound spiral guard and are factory installed.

## DRIP PANS

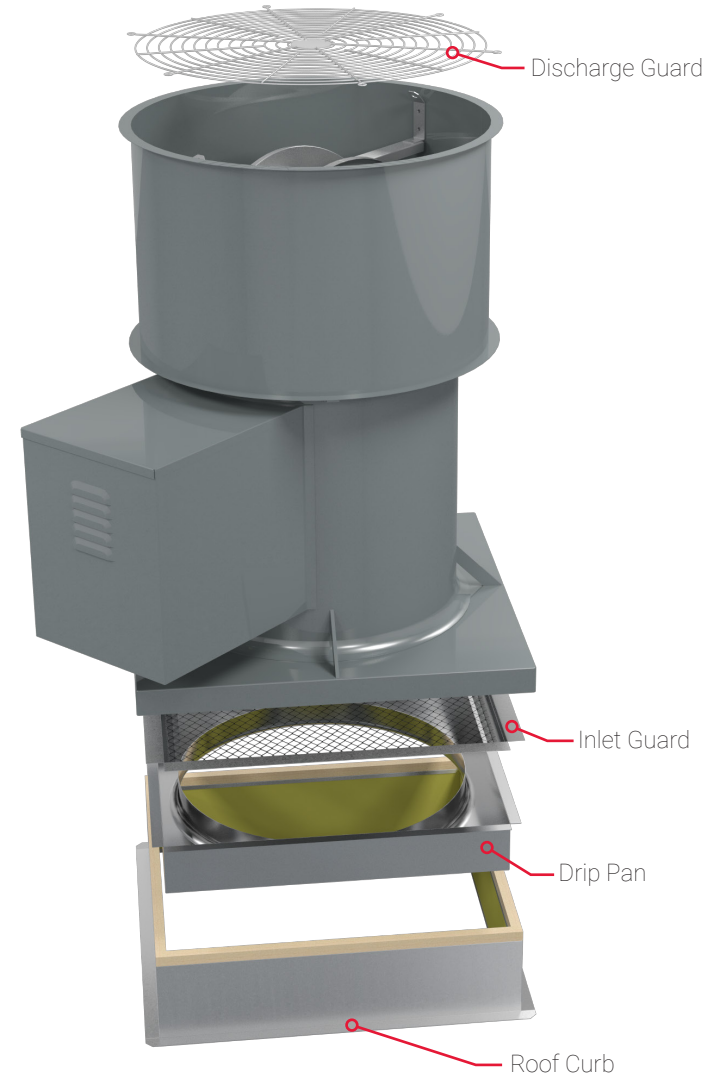
Drip pans are available for field installation below the fan to collect moisture that may develop due to condensation or that may enter the fan while operating during periods of severe weather.

## ACCESS DOOR

An access door is available in a bolted or hinged configuration. The access door provides access to the prop for cleaning and inspection and is constructed of the same material as the fan housing. A gasket is also utilized to minimize leakage.

## BELT AND BEARING COVER

The belt and bearing cover shields the belt and bearings from heat and dust. Available for motor out of airstream (MO) fans.



# UPBLAST ACCESSORIES



Beyond the Standard Construction Features, Cook offers accessories to fit your custom air-movement requirements and/or preferences.

## FUSE LINK DAMPER

Spring loaded damper arms which will open the doors automatically when the airstream temperature reaches 165°F. Not available on AUD, EUD, TUD, LXU, LEU, and LTU.

## SHAFT COOLER

A Shaft cooler is required above 200°F. The shaft cooler is an aluminum casting with radial vanes mounted on the shaft between the inboard bearing and the fan housing. It is designed to dissipate heat which is conducted along the shaft. In addition, it prevents excessive bearing temperatures. Not available on AUD, EUD, TUD, LXU, LEU, and LTU.

## ALUMINUM DAMPER DOOR

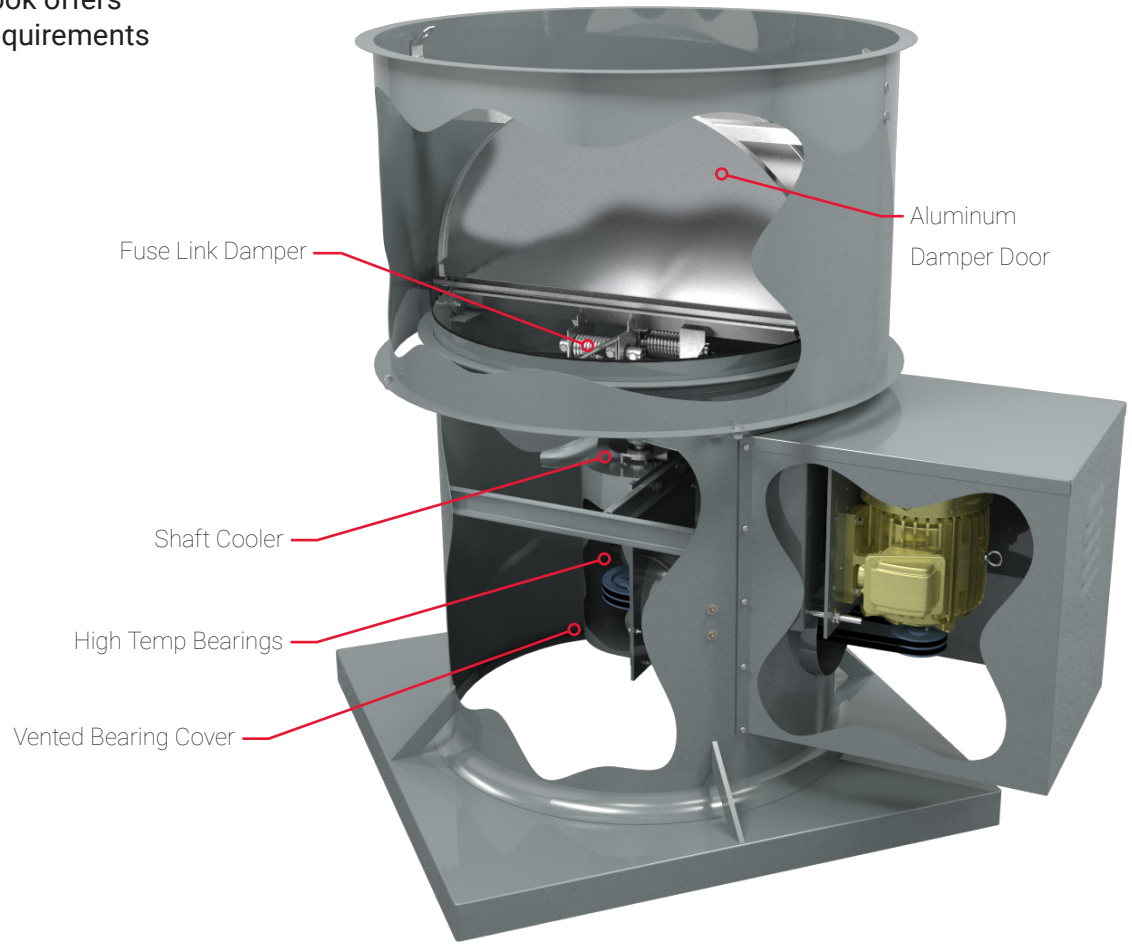
Aluminum damper doors are available for corrosion resistance or to allow dampers to open at lower flow.

## VENTED BEARING COVER

Vents allow airflow to the bearings for high temperature airstream.

## HIGH TEMP BEARINGS

Bearings are available for high temp airstreams.  
( Do not operate below 230°F)



# ACCESSORY PACKAGES



Cook also offers two accessory packages, High Temperature and Non-UL Smoke Control. Only available on select fans equipped with a Triton® Series Propeller.



## HIGH TEMP PACKAGE

Temperature Range (°F)	Construction Requirements
-20° - 200°	▶Standard Construction
200° - 500°	<ul style="list-style-type: none"> <li>▶Shaft Cooler</li> <li>▶High Temp Coating</li> <li>▶Vented Bearing Cover</li> <li>▶High Temperature Bearings Required above 300°F (do not operate below 230°F)</li> </ul>



## NON-UL SMOKE CONTROL

Temperature Range (°F)	Construction Requirements
4 hours at 500°F or 15 Minutes at 1000°F	<ul style="list-style-type: none"> <li>▶Shaft Cooler</li> <li>▶Vented Bearing Cover</li> <li>▶Fuse Link Damper (Non-UL)</li> </ul>



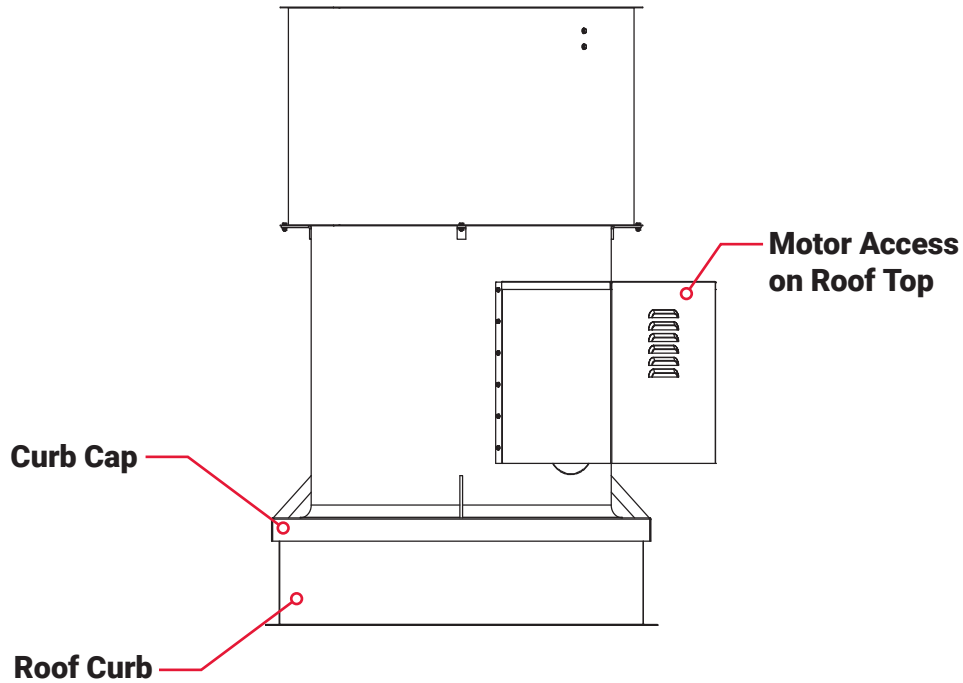
For more information contact your local COOK rep.

# INSTALLATION & MOUNTING



Curb cap installation and mounting. Additional detail can be found in the Propeller Upblast Installation, Operation and Maintenance Manual.

## ROOF MOUNT



**STANDARD UPBLAST**

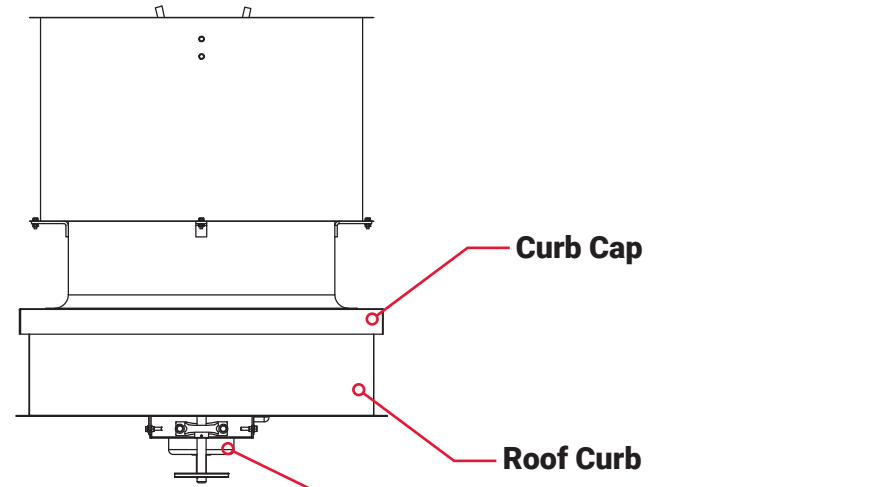
## DESIGN BENEFITS



Butterfly dampers provide protection against weather from entering the building when the fan is not in operation.



Lifting lugs are provided in the windband assembly to assist in product installation.



**LOW SILHOUETTE**

# STANDARD COATING



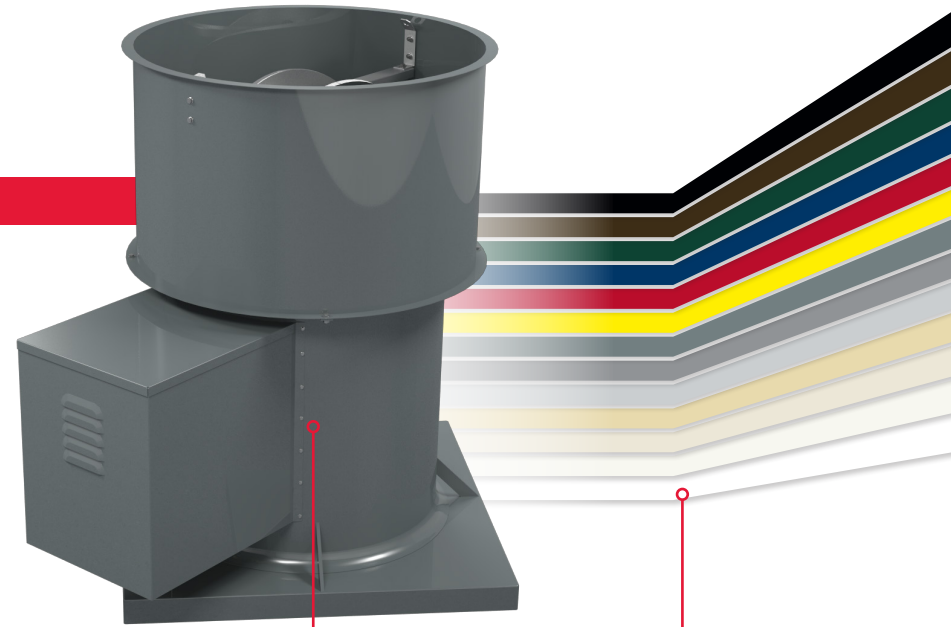
Upblast propeller fans are available with 3 coatings. The Lorenized™ coating in gray is standard. Lorenized™ is also available in 12 other colors shown.



TUB in Lorenized Cook Red coating

## LORENIZED™ COATING

- ▶ Electrostatically applied, baked polyester powder coating
- ▶ Undergoes a five-stage environmentally friendly pretreatment/wash process before coating
- ▶ Baked and cured at 400°F; final coating thickness of 2.5–3.5 mil
- ▶ Coating is required to exceed 1,000 hour salt spray under ASTM B117 test method
- ▶ Offers strong chemical resistance, efficient mechanical performance and tough protection from outdoor elements



Lorenized™ standard coating

all 13 available Lorenized™ colors

# OPTIONAL COATINGS



Each type of coating offers unique qualities, benefits and color availability.

## COOK PHENOLIC EPOXY POWDER

- ▶ Electrostatically applied, baked phenolic epoxy powder coating
- ▶ Final coating thickness is 1.5–4.0 mil
- ▶ For outdoor applications, an optional UV resistant topcoat is required to prevent coating deterioration

Available in **LIGHT GRAY** and **BROWN**.

## COOK HIGH TEMP COATING

- ▶ Solvent based, heat resistant liquid coating which exhibits good corrosion resistance and color stability
- ▶ Final coating thickness is 0.8–1.5 mil
- ▶ Withstands service temperatures up to 1,000°F

Available in **BLACK**.

Only Available on select fans equipped with a Triton® Series Propeller

## COOK EPOXY POWDER

- ▶ Electrostatically applied, baked epoxy powder coating
- ▶ Final coating thickness is 2.5–3.5 mil
- ▶ For outdoor applications, an optional UV resistant topcoat is available to prevent coating deterioration

Available in **DARK GRAY**.



**See our Coatings Brochure  
for more information.**

# UPBLAST CERTIFICATIONS



Cook uses third party verification agencies for certification, qualification, and listing of fan performance.

## AMCA FEI AIR

### AMCA Certified Ratings Seal

Loren Cook products that bear the AMCA Certified Ratings Seal are licensed by AMCA International. These products meet the AMCA Standard and are within the product scope of AMCA International.

All Sizes

AUB | AUD | EUB  
 LTU | TUB



## AMCA SOUND AND AIR

### AMCA Certified Ratings Seal

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Sizes 48 & 63

EUD



## AMCA FEI SOUND AND AIR

### AMCA Certified Ratings Seal

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All Sizes

LEU | LEUMO | LTUMO | LXUL  
 LXULMO | LXUM | LXULMO



# CERTIFICATIONS CONTINUED



Cook uses third party verification agencies for certification, qualification, and listing of fan performance.



## SMOKE CONTROL

## UL 705 LISTED

### Power Ventilator for Smoke Control Systems

The UL Listing “Power Ventilator for Smoke Control Systems” is a test procedure and category initiated by Loren Cook Company and developed in a joint effort with UL in 1990. The products below are UL Smoke Control Listed.

### Power Ventilator

The UL 705 Listing is the standard for electrical safety for permanently connected power ventilators. All models are constructed in accordance with UL 705, only when with motors.

Sizes 20 – 72 TUB

Sizes 20– 60 TUD | LTUMO | LXULMO | LXUMMO

All Models



#### UL Requirements

- ▶ Unit must be listed under UL 705
- ▶ Unit must be supplied with belt tunnel, motor heat shield, steel wheel construction
- ▶ Unit must withstand specified elevated air stream temperature for specified duration



**For more information, see  
UL Smoke Control Flyer.**

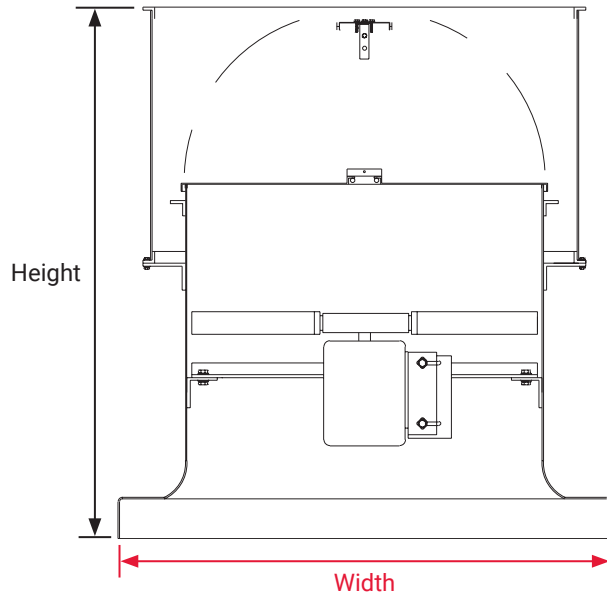


# OVERALL DIMENSIONS

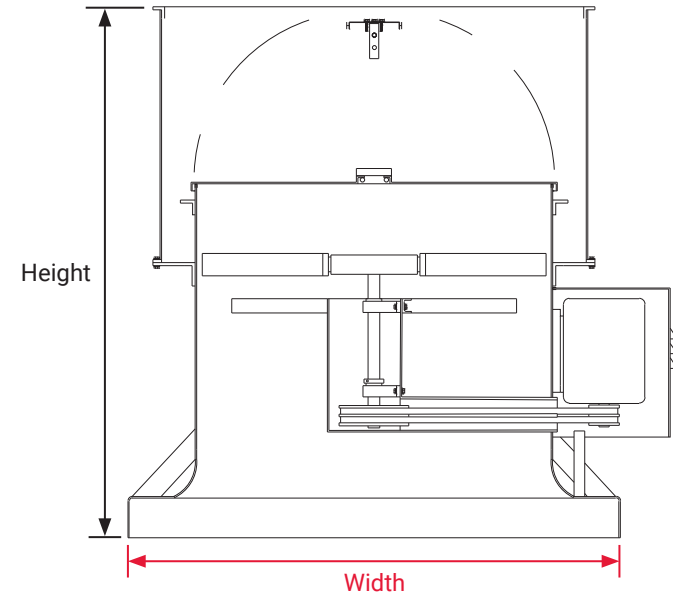


Overall dimensions are in inches. For more detailed dimensions, see the product submittal.

## AUD / EUD



## AUB / EUB



Unit Size	24	30	36	42	48	54*	60*	63+	72*
Height	50 3/4	55 3/8	63 7/8	66 5/8	70	80	81 1/4	91 3/8	95 3/4
Width	36	42	48	54	60	66	72	72	84

\* Unit Size only available on EUB

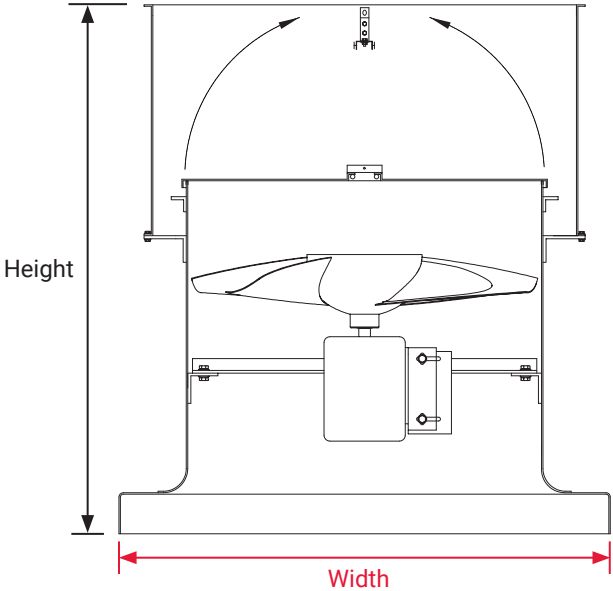
+ Unit Size only available on EUD

# OVERALL DIMENSIONS

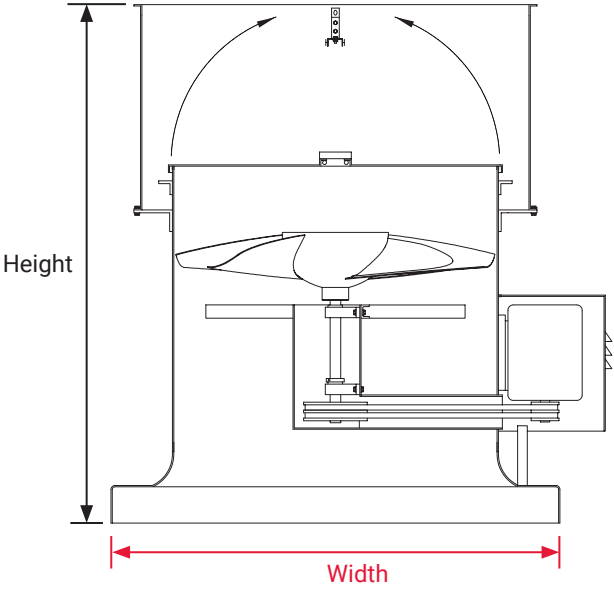


Overall dimensions are in inches. For more detailed dimensions, see the product submittal.

## TUD



## TUB



Unit Size	20	24	30	36	42	48	54	60	72*
Height	49 3/4	51 3/8	57 1/8	64 1/8	67 9/16	73 13/16	82 1/4	86 3/4	101 13/16
Width	32	36	42	48	54	60	66	72	84

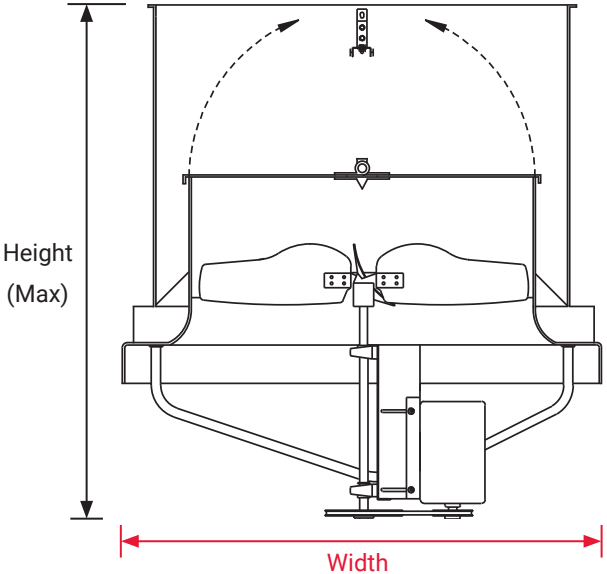
\* Unit Size only available on TUB

# OVERALL DIMENSIONS



Overall dimensions are in inches. For more detailed dimensions, see the product submittal.

## LEU / LXUL / LXUM



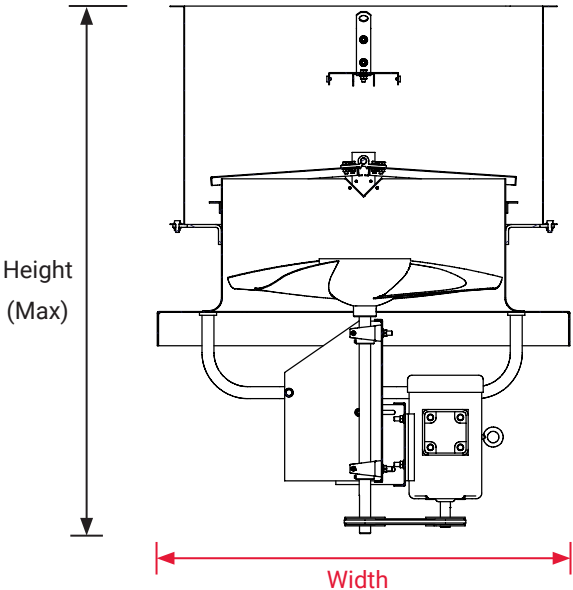
Unit Size	20	24	30	36	42	48	54	60
<b>Height</b>	45 1/8	49	55	59	66	74	74	79
<b>Width</b>	32	36	42	48	54	60	66	72

# OVERALL DIMENSIONS



Overall dimensions are in inches. For more detailed dimensions, see the product submittal.

## LTU



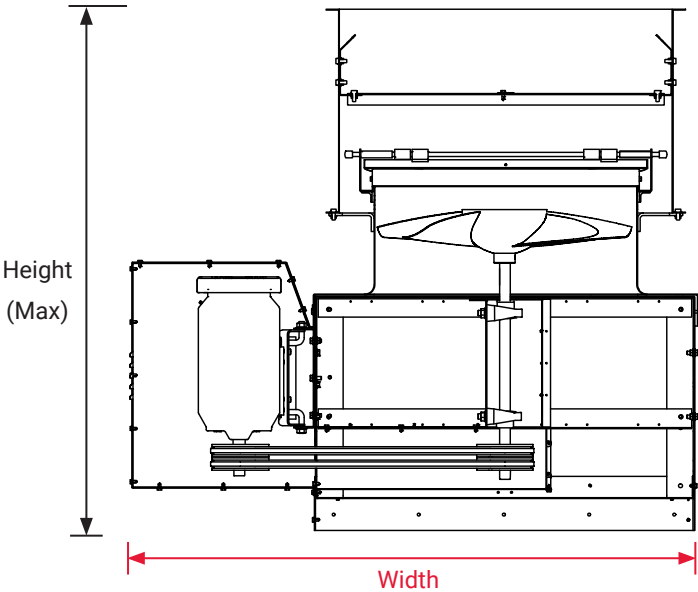
Unit Size	20	24	30	36	42	48	54	60
Height	46 <sup>7</sup> / <sub>8</sub>	48 <sup>3</sup> / <sub>4</sub>	55 <sup>3</sup> / <sub>4</sub>	60	66	74 <sup>5</sup> / <sub>8</sub>	77 <sup>1</sup> / <sub>8</sub>	79 <sup>3</sup> / <sub>8</sub>
Width	32	36	42	48	54	60	66	72

# OVERALL DIMENSIONS



Overall dimensions are in inches. For more detailed dimensions, see the product submittal.

## LTUMO / LXUMMO / LXULMO / LEUMO



Unit Size	20	24	30	36	42	48	54	60
<b>Height</b>	47 1/8	48 3/4	55 3/4	62	70 3/8	73 5/8	65 5/8	71 5/8
<b>Width</b>	44 13/16	48 13/16	54 13/16	64 11/16	70 11/16	76 11/16	83 11/16	93 11/16

