

# ST YOUNGWON

STRETCHING WIDER AND FASTER

ULTRA-WIDE WET PRODUCTION LINE  
DURONIC 8300  
UFLOW 85

FROM PLANT DESIGN TO  
MASS PRODUCTION

**Headquarters | 1st Factory**

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TOTAL SOLUTION

## Lithium-ion battery wet separator production equipment

### ST YOUNGWON's greeting

'ST YOUNGWON' is a specialized company that manufactures innovative production systems for Lithium-ion battery wet separators. Through one-stop consulting, we aim to lead the global market by providing advanced technology and excellent solutions.

'ST YOUNGWON' production systems produce the world's best equipment capable of wide and high-speed production, achieving maximum efficiency and capacity. In addition, our experienced R&D team develops cutting-edge design innovations and engineering systems that exceed customer expectations. To reduce customer costs, we continuously research and develop eco-friendly equipment that can produce high-performance Lithium-ion battery wet separators by increasing length and width at higher speed.

'ST YOUNGWON' strives to provide high-quality products and various solutions for the benefits of individuals, corporates, and our society.

## Equipment manufacturer that supplies Lithium-ion battery wet separator production line

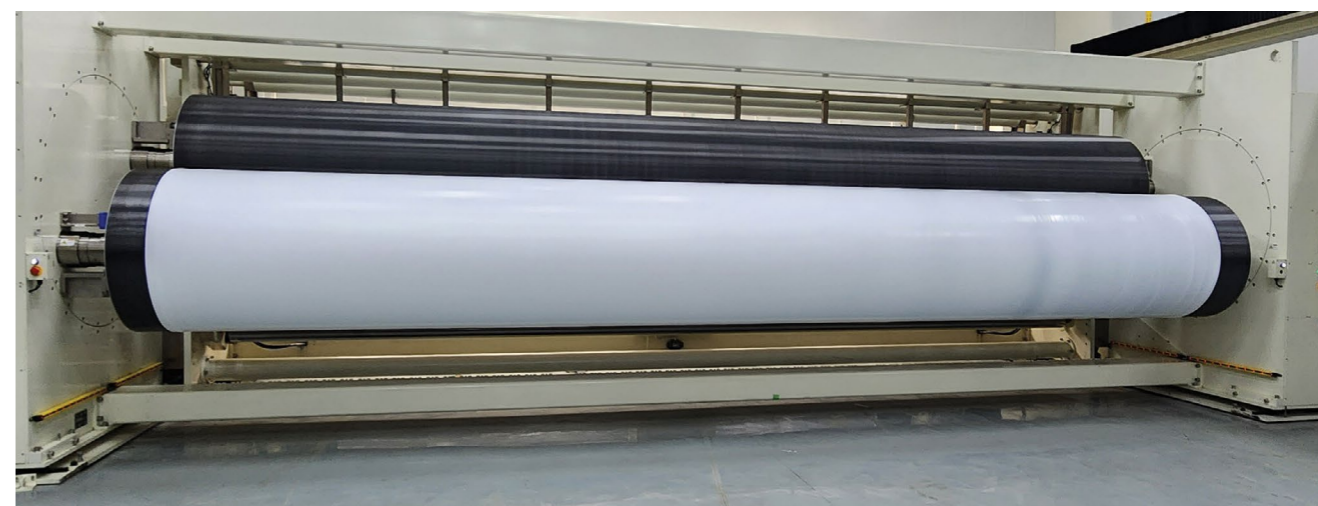


# Stretching wider and faster

To your esteemed company, which aims to leap forward as a global top-tier company for the highest corporate value, ST YOUNGWON as an experienced manufacturer of secondary battery separator production line equipment proposes the Lithium-ion battery material business.

## ST YOUNGWON, your trusted partner

If you are interested in the production of Lithium-ion battery separator materials, our company, as a reliable partner, provides comprehensive consulting for starting the separator business and quickly resolves the comprehensive issues that you may be concerned about, achieving customer goals through customer-centered integrated solutions.



# Consulting

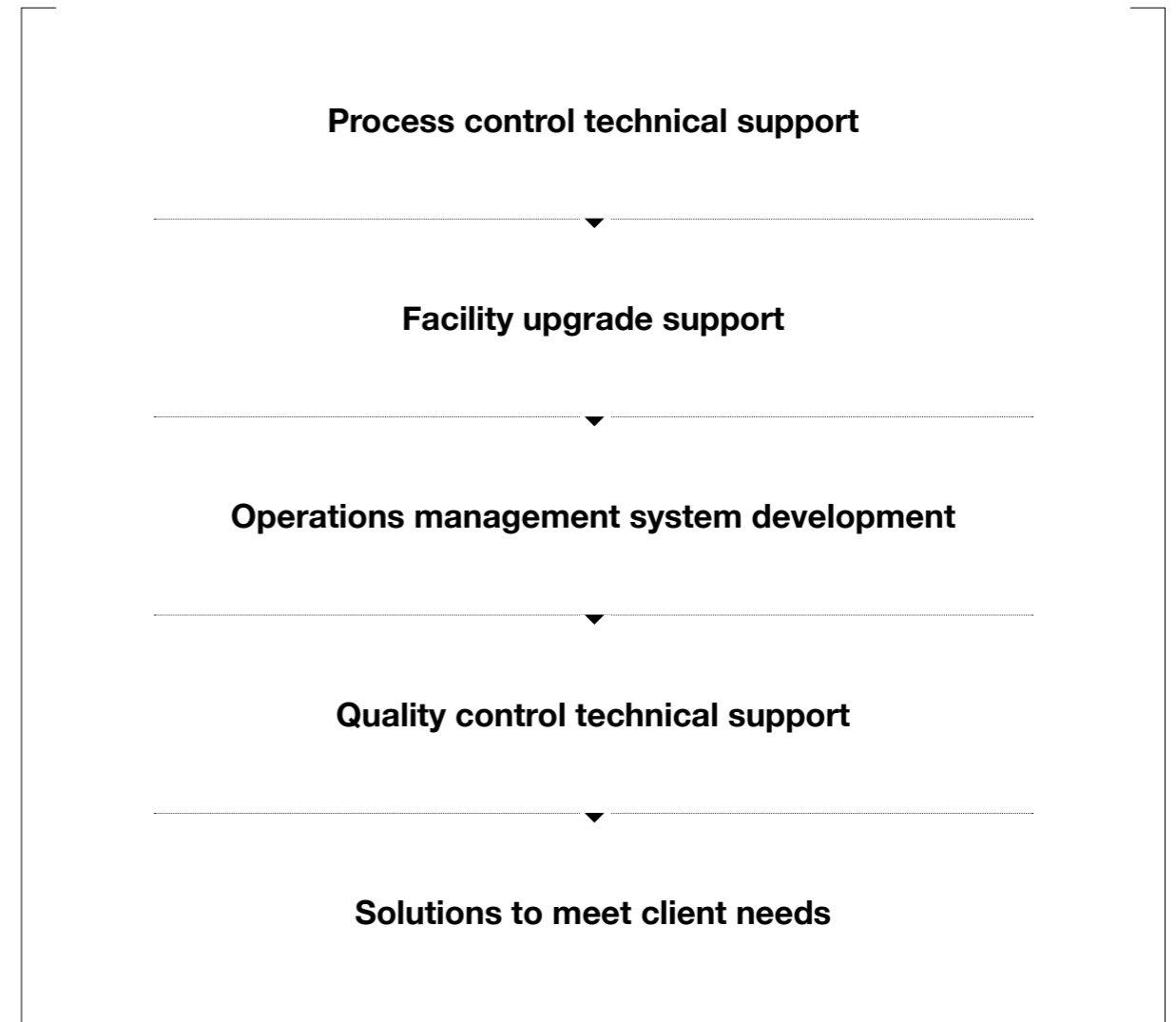
The 'customized solutions' provided by ST YOUNGWON support our accumulated practical know-how and expertise based on one-stop consulting, from factory concept to mass production stabilization.



## One-stop consulting

According to your specific needs, providing a comprehensive solution from 'factory concept > design > construction > project management > production line operation training > initial mass production'.

# Solutions



## Built-to-suit solutions

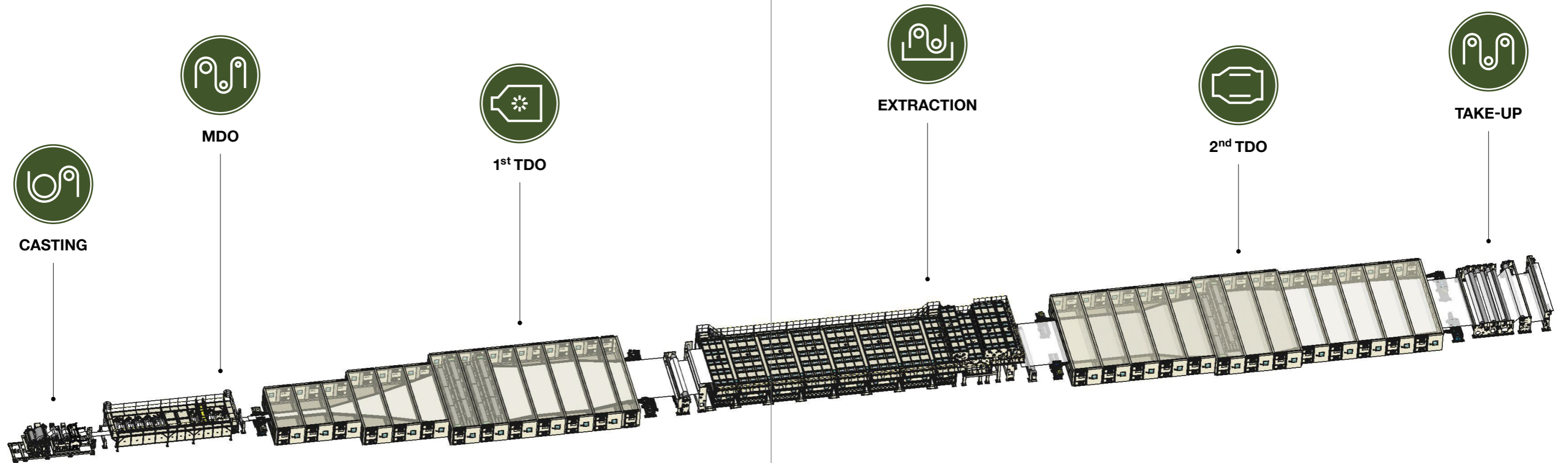
Comprehensive solutions provided by senior separator experts with over 15 years of experience in project management 'Process Management Optimization Support > Facility Upgrade Support > Operations Management System Setup > Quality Management Support > Solutions to Satisfy Client Needs'

# DURONIC 8300

## Ultra-wide wet separator production line for Lithium-ion battery

### World's first and largest! Ultra-wide 8m-class separator mass production equipment

"Ultra-wide width and higher speed production increases the separator area produced per hour by up to 60% while maintaining uniform thickness and micropore dispersion. Separators can be customized with thicknesses ranging from 5 μm to 20 μm"



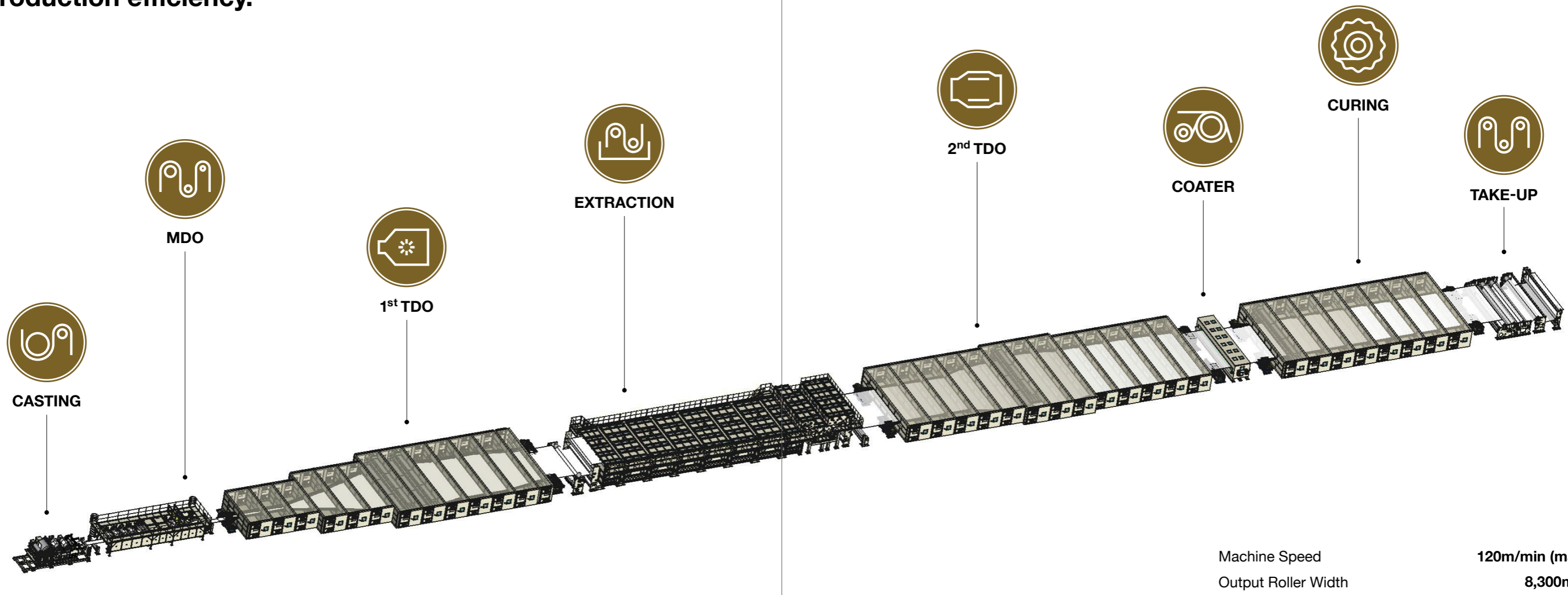
Machine Speed	<b>120m/min (max)</b>
Total Length	<b>170m</b>
Output Roller Width	<b>8,300mm</b>

# UFLOW 85

It is remarkable that **UFLOW 85** combines the excellent manufacturing performance of **DURONIC 8300** with coating process in line, which ensures significantly enhancing production efficiency.

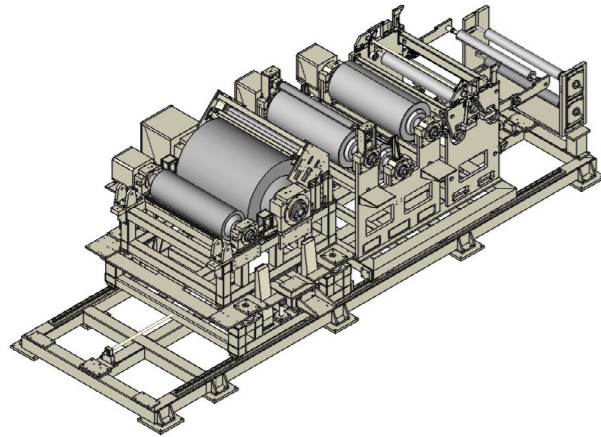
## Launch of the Coating (COATER) Process Combination model (2024)

Significantly simplifies the process, saves space and time, reduces production costs, and minimizes quality variation compared to existing coating methods.



Machine Speed	120m/min (max)
Output Roller Width	8,300mm

## CASTING UNIT

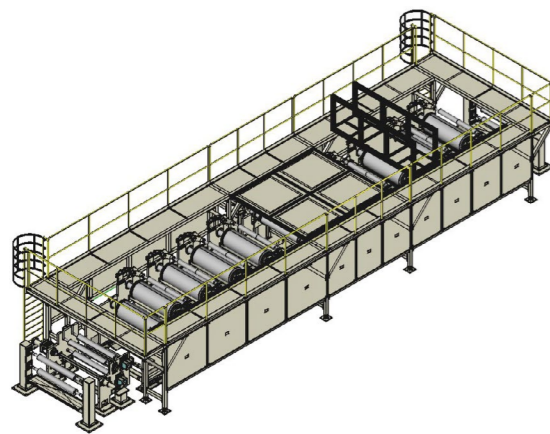


Forming the hot melt of the raw materials into a sheet form

Speed  
~20m/min

Roll Width  
1,400mm

## MDO UNIT



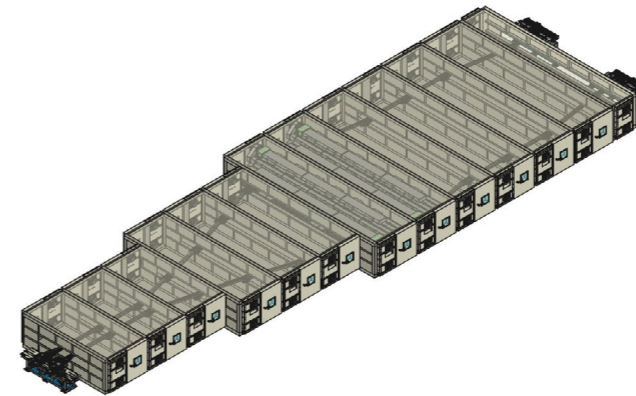
Stretching the sheet in a longitudinal direction

Speed  
~120m/min

Stretch Ratio  
1 : 1~10

Roll Width  
1,400mm

## 1<sup>st</sup> TDO UNIT



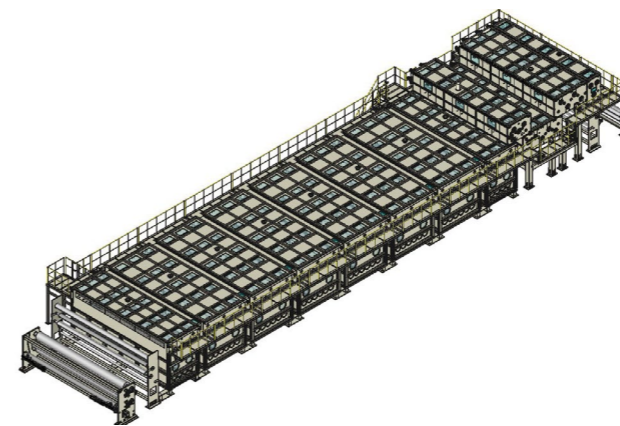
Elongating the sheet in the transverse direction

Speed  
~120m/min

Stretch Ratio  
1 : 4.5~11

Outlet Width  
9,000mm

## EXTRACTION UNIT

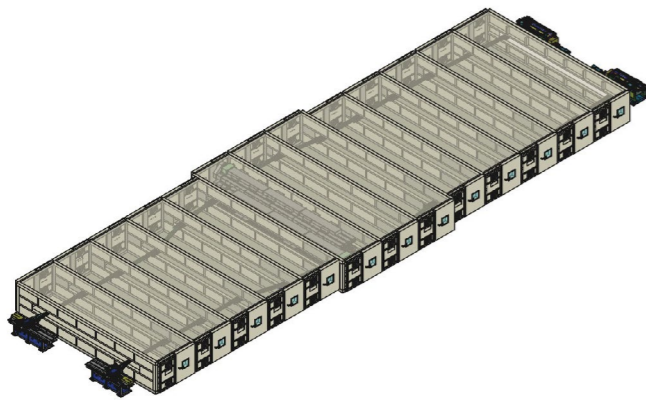


Creating micropores by dissolving and extracting paraffin oil within the film dipping through many MC tanks

Speed, Dipping Length  
~120m/min, About 150m

Roll Width, MC Tanks  
6,500mm , 8EA

## 2<sup>nd</sup> TDO UNIT



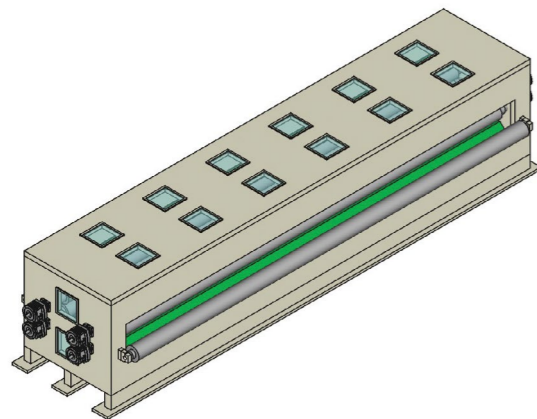
Elongating the extracted film again in the transverse direction

Speed  
~120m/min

Stretch Ratio  
1 : 1.1~2.0

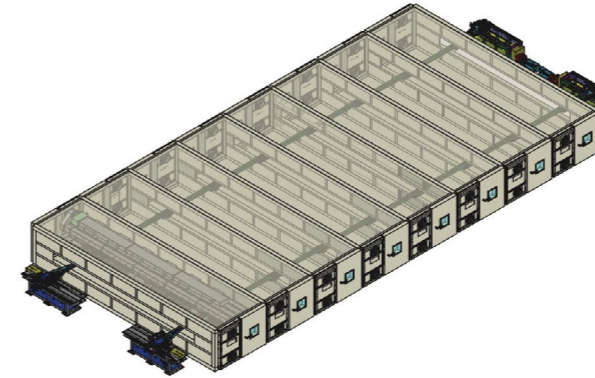
Outlet Width  
~9,000mm

## COATER UNIT



Double-sided coating process

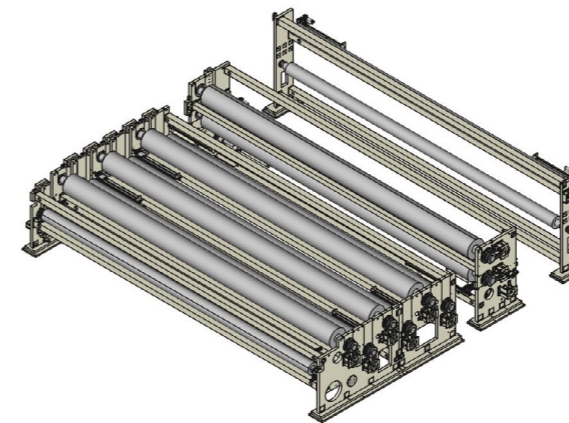
## CURING UNIT



Drying process

Speed  
~120m/min(max)

## TAKE-UP UNIT



Heat treating the film to fix its shape

Double Jacket Type

Roll Width  
**8,300mm**



# HISTORY

Innovative technology fueling remarkable growth

**2021. 02**

Incorporation of ST YOUNGWON

**2022. 03, 05**

Contracted for 2 wet separator production lines

Certified as Venture Business

**2022. 06**

Established Research Center

Expanded and relocated headquarters and 1st factory

**2022. 08**

Contracted for 2 Extraction equipments

**2022. 11**

Commendation of the Head of Small and Medium Enterprises and Startups in Daegu-Gyeongbuk Region

**2022. 12**

Shipped 2 wet separator production lines

**2024. 01**

Shipped 2 wet process separator production lines

**2023. 12**

Won the 'Export Tower Prize' for \$30M

**2023. 09**

Commendation by the Minister of Small and Medium Enterprises and Startups

**2023. 07, 08**

Established 2nd factory  
Commendation by the Mayor of Daegu

**2023. 04**

Designated as Company specializing in materials, parts and machinery

**2023. 01**

Contracted for 4 wet separator production lines

# Patents and Certificates

01



Clip opening and closing apparatus for film stretching

02



Extracting solvent apparatus for oil extraction and drying system for manufacturing wet separator

03



Air circulation system of TDO stretching equipment

04



Extracting solvent apparatus for manufacturing secondary battery separator

05



Machine direction orientation of stretching apparatus for manufacturing secondary battery separator

06



Nozzle apparatus and nozzle system for hot air supplying of film stretching equipment

07



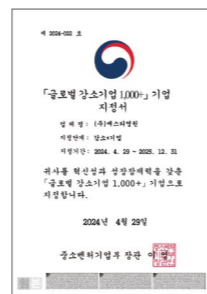
ISO 45001:2018

08



ISO/IEC 27001:2013

09



Global Small Giant 1000

# ST YOUNGWON VISION

ST YOUNGWON always thinks from the customer's perspective. Creating value for customers is the most important value that a company should pursue. The establishment of strategies based on the innovation of technology and thinking, as well as the creation of more creative and challenging values, is ST YOUNGWON's efforts to achieve the goals of our customers. Additionally, through customer-centered integrated solutions, leading our customers' businesses to success is the direction in which ST YOUNGWON ultimately aims to advance.

