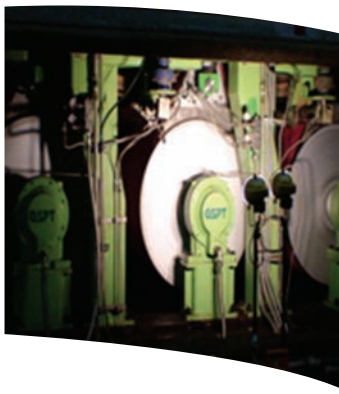
ECO-ENERGY!
IT IS GIL SOLUTION!

Environment, Energy... for Future





GIL INDUSTRIAL CO.,LTD.

Contents

“Eco-friendly energy saving solution leader”

We believe this success was only made possible through an open minded approach to the challenges that occur when called to the duty of creating enclosed hood and total air handling systems. We are also blessed with the love and support of our customers, family and our community.

At Gil ind. We proud ourselves on our ‘customer satisfaction management’ through our efforts to a continually enhance our values, while listen to our customers via everyday interactions and past responses.

Gils advanced technology allows us to create an ‘Eco-friendly management’ system which puts environmental responsibility first. Allowing us to secure our future growth as a green company.

Our new slogan “Eco-friendly energy saving solution leader”

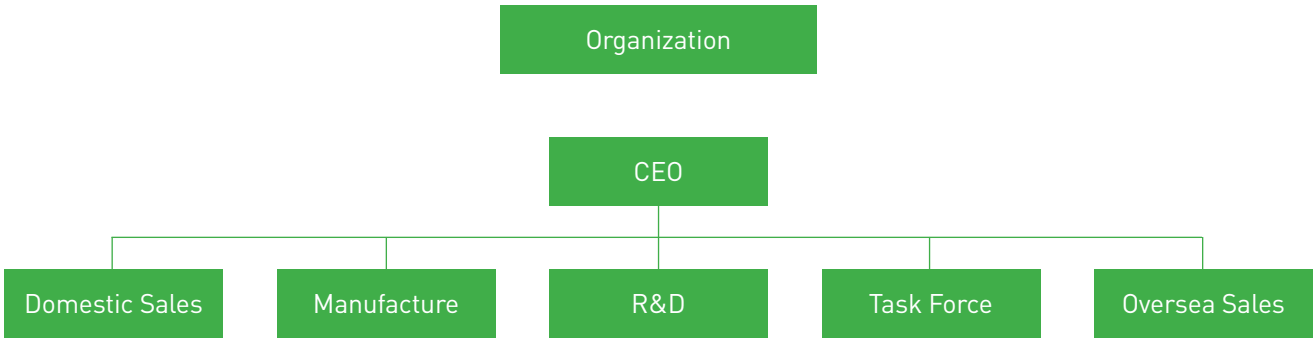
We are always thinking about what we can do for our customers and our community to Gils positive reputation. We have to do what is best for the environment and our customer. We encourage communication and collaboration to maximize energy savings and green solutions. This is every ones world.

We ask for your continuous interest and support as Gil steps up to the challenge of change.

Thank you.

History of GIL INDUSTRIAL

Nov. 1998	Gil Industry Co., Ltd. Established.
Aug. 1999	Renovation of Enclosed Hood & Heat Recovery System for Hongwon Paper PM2.(Saving B-C Oil 3,000,000L/year)
Oct. 2000	Installation of Air Handling System for Dong-Ah Paper PM1.(Increasing Machine Speed up to 25%)
Jun. 2003	Enclosed Hood & Air Handling System for Wolsan Paper PM1.(Increasing Mchine Speed up to 50%)
Mar. 2004	Enclosed Hood & Air Handling System for A-Jin Paper PM3.(Dew Point was achieved up to 60℃)
Oct. 2004	Heat Recovery & Sym-Run and Hi Run Wet end Exhaust Duct System for Daehan Paper PM3.12 days with Metso’s Engineering / Increasing Machine Speed uo to 11%
Nov. 2004	Yankee Hood, Tunnel Dryer & Heat Recovery System for Reconstituted Tabacco Leaves Machine of KT&GIncreasing Machine Speed up to 42%
Dec. 2004	Arch Dryer of Cast Coating Board for Sea-Ha
Oct. 2005	Renovation of Heat Recovery System & Enclosed Hood for Hongwon Paper. PM2/Completed in 7days.Best Sample System for Saving Energy in 2005 Selected by Korea Energy Management Corporation.
Jul. 2006	Enclosed Hood, Heat Recovery & Air Handling System for Century Paper in Pakistan.
May. 2007	Scaf Dryer for Hansol Paper.
Sep. 2007	Shower, Oscillator & Lifting Device Equipment for Lee & Man, PM12.
Feb. 2008	Uno Run Blow Box System for Koryo Paper.
Mar. 2008	Enclosed Hood & Air Handling System for Hong Won Paper PM1, Completed in 7 days,Investment Payback in 11 months
Oct. 2008	Pre Dryer Enclosed Hood System of High Dew Point for EN Paper.Lower Steam consumption 1.9Ton to 1.5Ton/hour.
Jun. 2009	Semi closed Hood System for Samil Paper(Decreasing steam consumption up to 15%)
Jul. 2009	Installation 5sets of Stabilizer for Asia Paper.
Aug. 2009	Installation Stabilizer & Lopeless Tail Threading System for Dong-Il Paper.
Jan. 2010	Heat Recovery System for Hansol Paper, PM21
Nov. 2010	After Enclosed Hood System for Asia Paper, PM3
Jan. 2011	Air Turn System & Water Jet Tail Cutter for GSPT in China, PM5
Mar. 2011	Enclosed Hood System for DWI in Uzbekistan.
May. 2011	Installation Stabilizer 13sets for Dong-Il Paper
Jun. 2011	Back Coater Air Impigement Dryer System for Shin Poong Paper.
Aug. 2011	Air to Water Heat Exchange for Dealim Paper.(Decreasing Steam Consumption 3,000,000kcal/hour)
Jan. 2012	Enclosed Hood & Air Handling System for Voith IHI, VKPC PM1, in Vietnam
Dec. 2012	Superlite Through Dryer for Hanwha L&C System
Jan. 2013	Certificated R&D Rap.
Mar. 2013	Certificated ISO 9001:2008
May. 2013	Certificated Venture Company
May. 2013	Certificated INOBIZ
Sep. 2013	Certificated ISO 14001:2008



Main Equipments List

No	Specification	Maker	Q'ty	Remarks
1	Overhead Crane(10 Ton)	Dain	1	
2	Overhead Crane(5+5 Ton)	Dain	1	
3	Overhead Crane(5 Ton)	Dain	1	
4	Overhead Crane(3 Ton)	Dain	1	
5	Gantry Crane(10 Ton)	Dain	1	
6	Shearing M/C(4Mx12t)	Dain	1	
7	Lathe	HHM	1	
8	Radical Drilling M/C(L:1500mm)	JO GWANG	1	
9	Milling M/C(#9)	HWACHEON	1	
10	Roll Bending M/C	Gil Ind.	2	
11	HYD. Press (300 Ton)	Gukdo	1	
12	Beading M/C 2400L	-	10	
13	TDF Forming M/C	Hana	1	
14	Standing Seam M/C	Hana	2	
15	Plazma Welding M/C PCM150	L-TEC(U.S.A)	2	
16	TIG Welding M/C YC300TWSP	-	10	
17	CO2 Auto-Welding M/C UNI-F350	Sewon	5	
18	ARC Welding M/C 10KW	Local	8	
19	Measuring equipment(Humidity sensor, Level etc	U.S.A	1	

Enclosed Hood & Total Air Handling Systems

Before

After

Enclosed hood is a vital part of a modern paper machine. The main goals of the Enclosed hood are to ensure a high humidity level inside the hood and to support accurate operation of the paper machine.

GIL Industrial Systems offers you the Enclosed hoods. The foundation of design can easily be adapted to fit all machine configurations. Also our systems provide even and optimum condition for web drying which save energy consumption, prevent the heat and humidity from spreading into the machine hall, and protect the machine operators from noise, dust, heat radiation and humidity.

GIL Industrial Systems hoods starts from the steel frame and continues to the high-quality safety equipment, which ensures safe working conditions for your machine operators.

Pocket Ventilating & Blow boxes

Pocket Ventilation is installed in the cylinder pockets of dryer sections to blow dry supply air into the pockets. This decreases the pocket humidity level and allows moisture profile correction. In addition, this system decreases steam consumption and it also prevents over-drying and edge flutter.

Blow boxes are designed to create an under pressure that supports the sheet from the fabric side of the sheet run. By using a special configuration of air nozzles, blow boxes wipe boundary layers of air from fabric and roll surfaces to seal and remove air from between the sheet and the fabric.

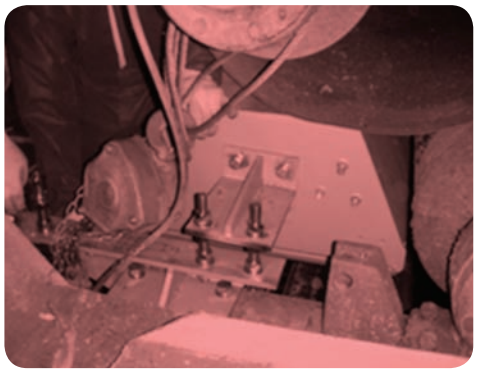
Exhaust Air system

GIL Industrial systems are designed to transport the evaporated moisture from the paper machine enclosed hood to the heat recovery system and finally to the atmosphere.

In this process, Heated air deliver to the enclosed hoods to balance the air being exhausted and therefore limit cold air infiltration thus promoting a higher efficiency of the dryer section.

Runnability Components

PR Web Stabilizer



Main Work
*Press Run
- Englineering
- Manufacturing
- Insatlling
*Machine Specification
800~1800(speed)
* Type of Paper Machine ;
Liner Board, News print, Coat paper, copy paper, etc.

UR Web Stabilizer

Main Work
*Uno Run & Press Run
- Englineering
- Manufacturing
- Insatlling
*Machine Specification
800~1800(speed)
* Type of Paper Machine ;
Liner Board, News print, Coat paper, copy paper, etc.

VR Web Stabilizer

Main Work
*Vacuum Roll Stabilizer
- Englineering
- Manufacturing
- Insatlling
*Machine Specification
800~1800(speed)
* Type of Paper Machine ;
Liner Board, News print, Coat paper, copy paper, corrugated medim paper, etc.

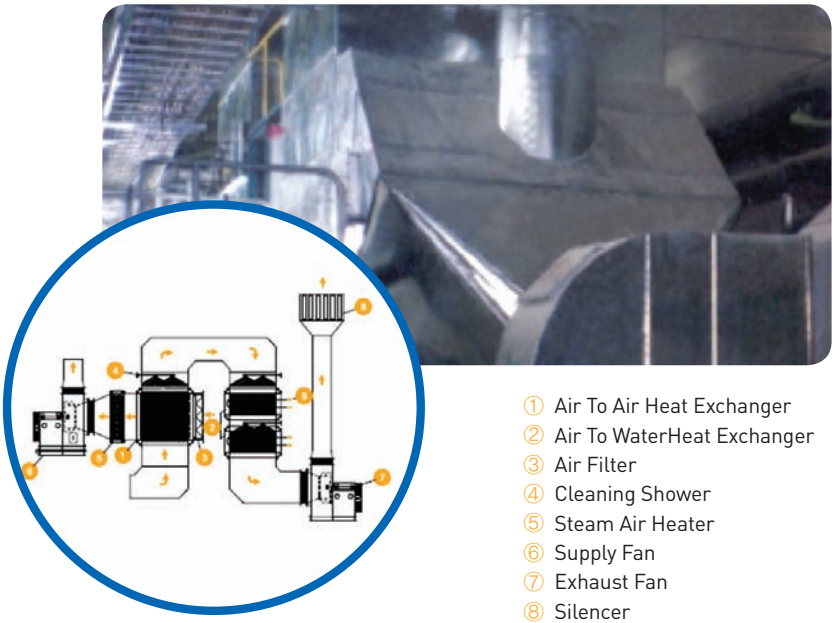
Enclosed Hood & Total Air Handling Systems

Heat Recovery Systems

The heat recovery systems utilize the surplus heat produced during the drying process. In the paper machine, it is necessary to operate at least one stage of heat recovery system in order to save the power and the drying steam consumption.

GIL Industrial Systems supplies heat recovery systems for heating dryer section primary supply air, building ventilation air, process water and etc. Our multi-stage systems will optimized for maximum total efficiency for your paper machine.

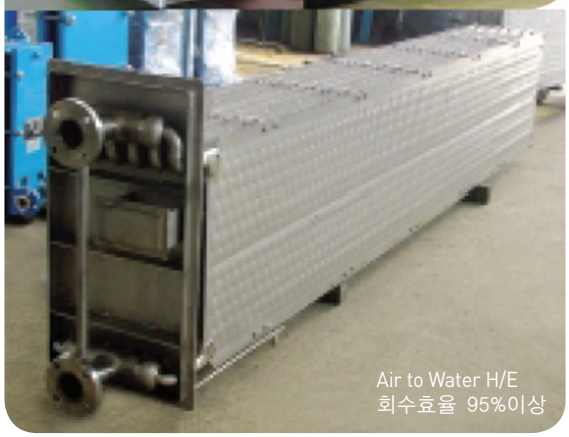
GIL Industrial Systems heat recovery systems include different kinds of heat exchangers, applications and layout solutions for your paper machines. Also our rebuild package, which includes custom-made heat exchangers, makes it possible to reduce operating costs include the older paper machines.



① Air To Air Heat Exchanger
② Air To WaterHeat Exchanger
③ Air Filter
④ Cleaning Shower
⑤ Steam Air Heater
⑥ Supply Fan
⑦ Exhaust Fan
⑧ Silencer
⑨ Fresh Water

Heater

Plate Air to Air H/E
회수효율 98%이상



Air to Water H/E
회수효율 95%이상

Supply Fan

Exhaust Fan

Enclosed Hood & Total Air Handling Systems

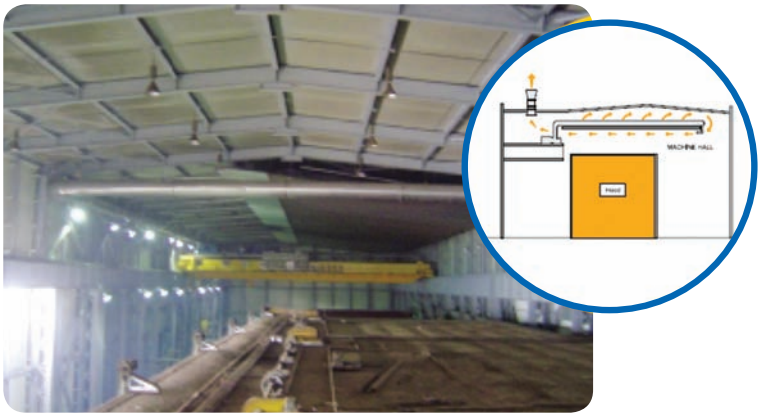
Room Ventilation Systems

GIL Industrial Air design approach takes into account the process needs such as the paper machine exhaust and it assess the need for roof or wall exhausters to provide the desired room air change rate for summer and winter operation. Required building (wet-end area, dryer hood, and etc.) fresh make-up air is then determined to counterbalance the air exhausted while making an allowance for heat recovery to reduce heating costs.

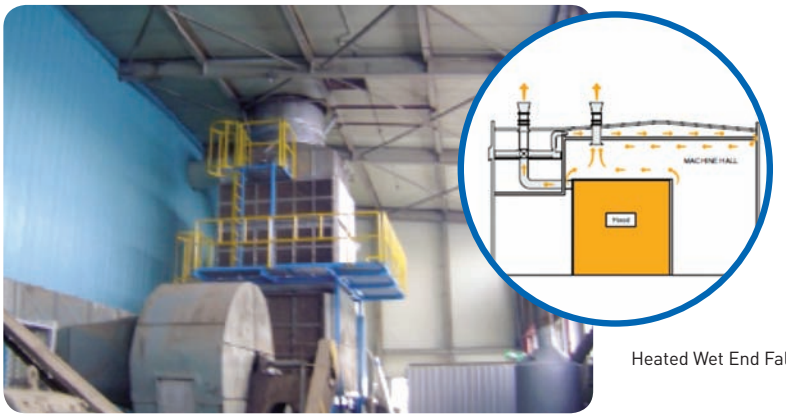
- GIL Industrial systems ensure comfortable working conditions throughout the customer desired area.

- Protect the building structure against corrosion by avoiding humid stagnant air pockets that leads to condensation and eventually costly repairs.

- Provide free or low cost heating.



Wet End False Celing System



Heated Wet End False Celling Roof Supply Air Heated

Sound Absorbing Systems

For Customer satisfaction regarding noise, it is the best optimized application for government environment requirements.

Mist Separator

Mist in and around paper machines is a common occurrence impacting operations. Therefore, GIL's Mist Separator is a unique system that incorporates the paper machine components to thoroughly clean forming fabrics and, at the same time, eliminate mist.

Wet Part Exhaust

To the control and elimination of mist and high humidity levels at the machine wet-end.

Hot Air Dryer

Scaf Dryer

Arch Dryer

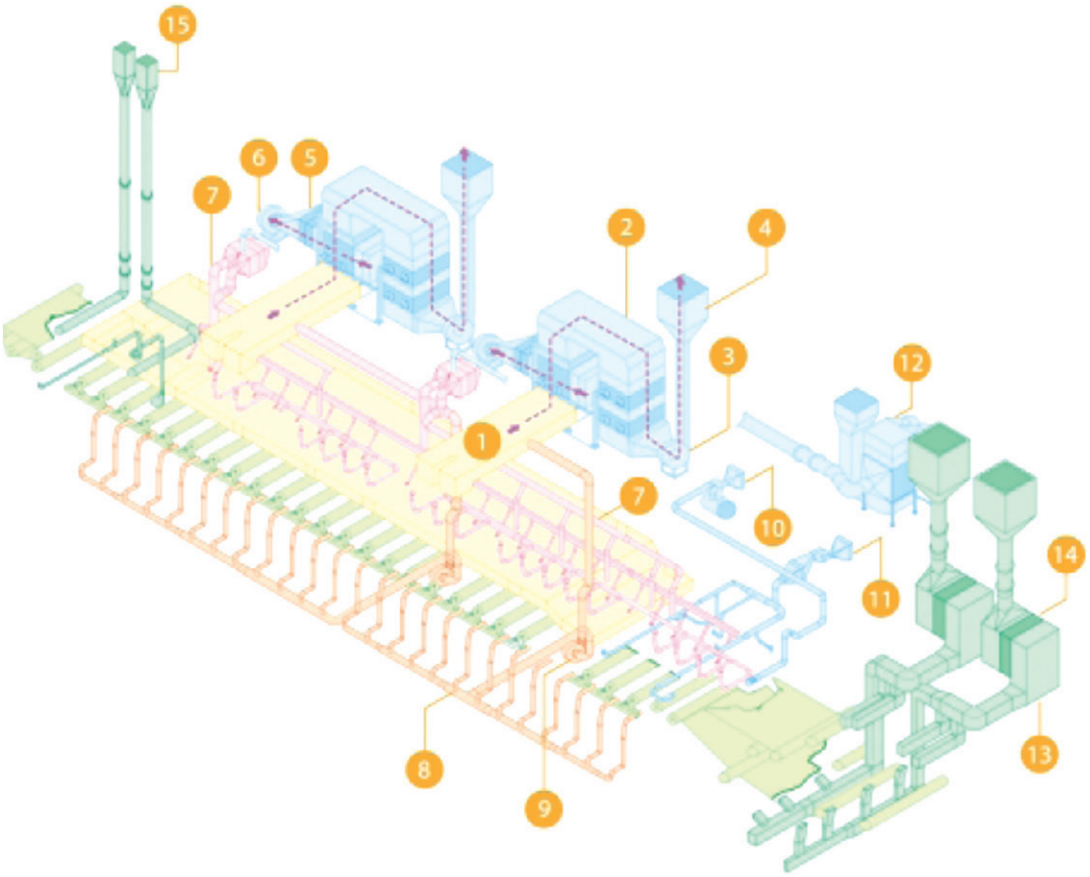
Tunnel Dryer

Yankee Dryer

Superlite Through Dryer

Air Turn Dryer

Enclosed & Total Air Handling System

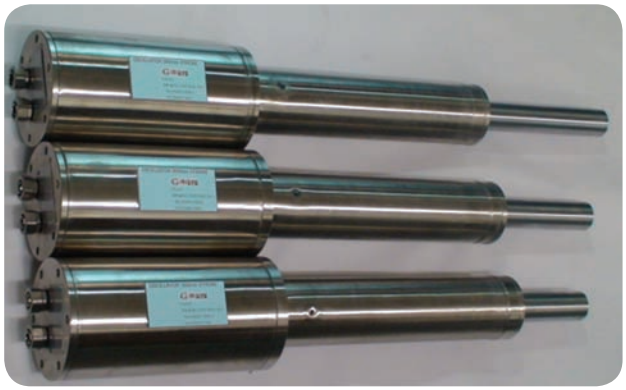


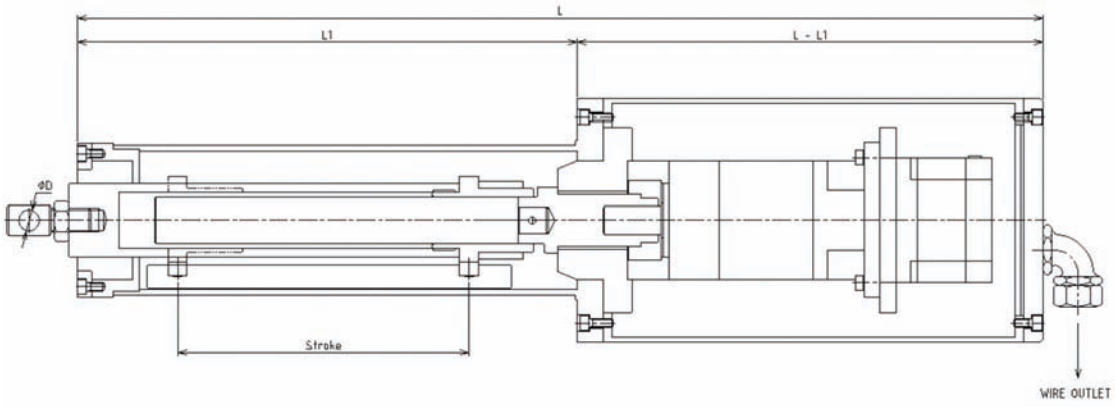
① Hood Exhaust Air
② Heat Recovery Unit
③ Exhaust Fan
④ Sound Absorber & MIST SEPARATOR
⑤ Steam Air Heater
⑥ Supply Fan
⑦ Supply Air
⑧ Stabilizer Exhaust Air
⑨ Stabilizer Exhaust Air
⑩ Wire Cleaning Fan & Duct
⑪ Air Knives Fan & Duct
⑫ Heat Recovery Unit For Turb Air
⑬ Former Exhaust Fan & Duct
⑭ Mist Separator
⑮ Calender Pit Exhaust

Oscillator Series

For positions where suction roll shell cleanliness presents a major challenge, GIL Industrial system offers an internal oscillating high-pressure cleaning series. It efficiently keeps the suction roll shell holes clean, enabling the roll to run all the time at its maximum dewatering capacity.

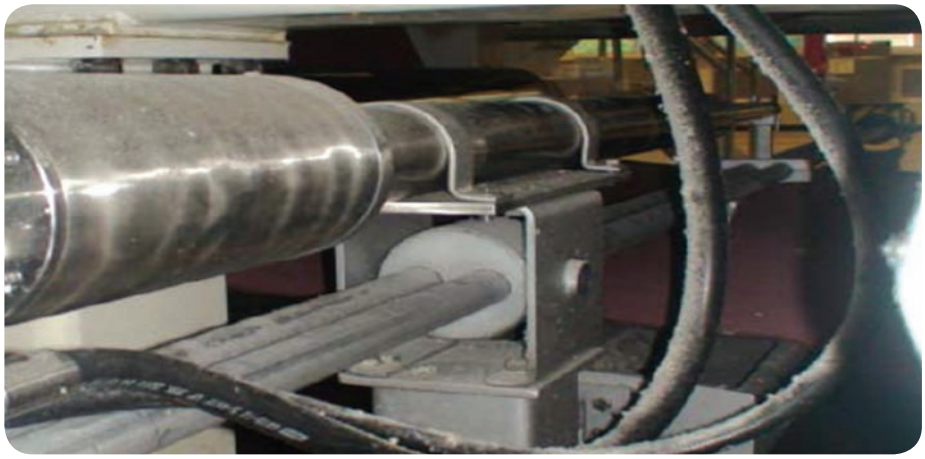
The oscillation movement is powered with reliable water hydraulics. Since the oscillator is driven with the same pressurized water, which is used for cleaning, no additional power unit is needed. It is high efficiency during operation breaks and shut down times. This contributes to low water consumption and cost.





Type & Size	Stroke	L	L1	Ð	Motor	Reduction Gear Ratio	IEC529/IP	Control System
KS-150	152.4			14	AC Syncronous Motor 30W 72 RPM	1/20~1/320	IP65	1) Type is dual Waterproof housing. 2) Power is AC 220V, 50~60Hz. 3) Component is PLC, Inverter, etc. * Interlock of Paper machine, Can operate in Automatic & Manual. * Remote control operation and can be stopped. KS-200200
KS-200	200							
KS-300	304.8	765	445					
KS-500	533.4	1030	710					
KS-1100	1105	1640	1320					

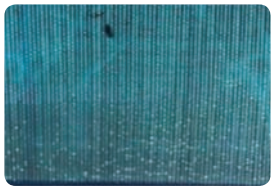
Shower



Befor Cleaning of Canvas

After Cleaning of Canvas

Before Cleaning of Belt



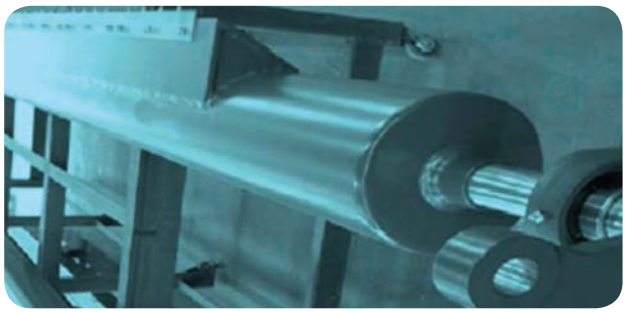
After Cleaning of Belt

Shower Category	
Wire Section shower	Press Section shower
Breast roll shower	Uhle box lub shower
Wire roll shower	Felt cleaning H.P shower
Trim knock off shower	Felt edge shower
Sheet knock off shower	Doctor lub shower
Web flushing shower	Suction roll wash shower
Wire cleaning shower	Suction roll flush showr
Couch roll wash shower	Suction roll lub shower
Couch roll flush shower	Felt roll lub shower
Couch roll lub shower	Suction pick-up roll lub
Trim squirt	Suction pick-up roll flushing
Tail cutter	Felt chemical shower
Wire edge wash	Anti blow box lub shower
Ceramic Lub shower	
Ceramic edge lub shower	
Starch shower	

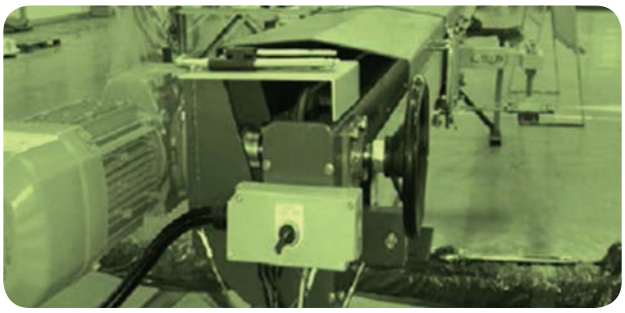
Tail Cutter series

Wire Part Trim Cutter

Dryer Web cutter

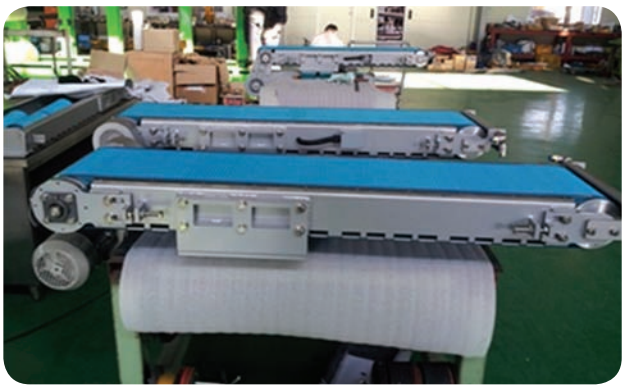


Dryer tail cutter(Water Jet)



Dryer tail cutter(Saw type)

Vacuum Conveyor



Ropeless

license

Certificate
of Registration

This is to certify that :

GIL Industrial Co., Ltd.

27-1B 6L, Geumjeon-dong, Gumi-si, Gyeongbuk, Korea

Has been assessed by International Certification Registrar Ltd., in respect of their Quality Management Systems and found to comply with

ISO 9001:2008

Approval is hereby granted for registration providing the rules and conditions relating to certification are observed at all times.

Certification Scope

Design, Development, and Manufacture of
Paper machine Waste heat recovery equipment and Energy savings equipment

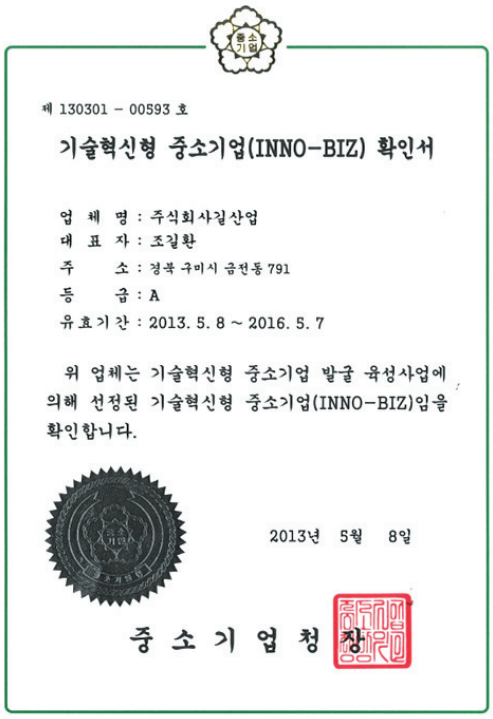
Certificate Issue Date : 22nd March 2013 Certificate No. : Q198113
Expiration Date : 21st March 2016

The Seal of ICR Limited was here to affixed in the presence of :

President

International Certification ICR ISO 9001 REGISTERED FIRM Registrar Ltd.

IAF AMAB



제 130301 - 00593 호

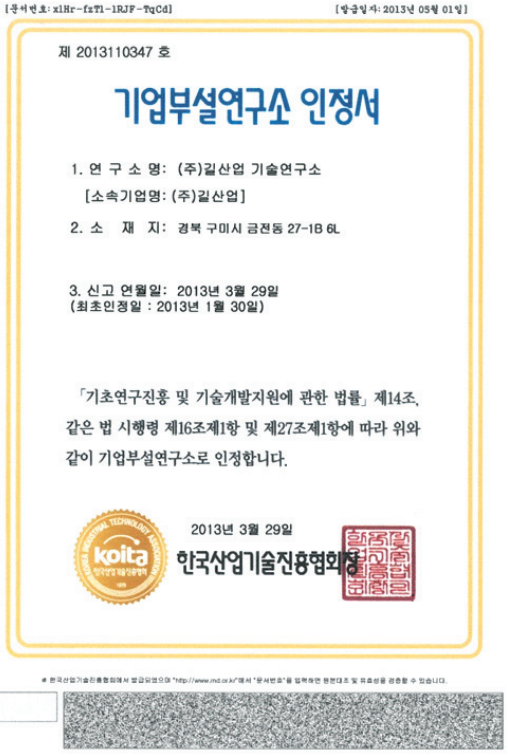
기술혁신형 중소기업(INNO-BIZ) 확인서

업 체 명 : 주식회사길산업
대 표 자 : 조길환
주 소 : 경북 구미시 금전동 791
등 급 : A
유효기간 : 2013. 5. 8 ~ 2016. 5. 7

위 업체는 기술혁신형 중소기업 발굴 육성사업에 의해 선정된 기술혁신형 중소기업(INNO-BIZ)임을 확인합니다.

2013년 5월 8일

중 소 기 업 청 장



[문서번호: x1Hr-fzT1-1RJF-TqCd] [발급일자: 2013년 05월 01일]

제 2013110347 호

기업부설연구소 인정서

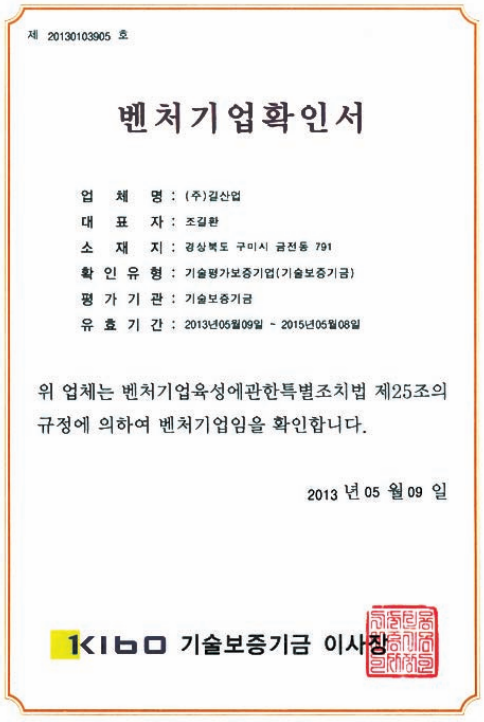
1. 연 구 소 명: (주)길산업 기술연구소
[소속기업명: (주)길산업]
2. 소 재 지: 경북 구미시 금전동 27-1B 6L

3. 신고 연월일: 2013년 3월 29일
(최초인정일 : 2013년 1월 30일)

「기초연구진흥 및 기술개발지원에 관한 법률」 제14조, 같은 법 시행령 제16조제1항 및 제27조제1항에 따라 위와 같이 기업부설연구소로 인정합니다.

2013년 3월 29일

koita 한국산업기술진흥협회장



제 20130103905 호

벤처기업확인서

업 체 명 : (주)길산업
대 표 자 : 조길환
소 재 지 : 경상북도 구미시 금전동 791
확 인 유 형 : 기술평가보증기업(기술보증기금)
평 가 기 관 : 기술보증기금
유 효 기 간 : 2013년05월09일 ~ 2015년05월08일

위 업체는 벤처기업육성에관한특별조치법 제25조의 규정에 의하여 벤처기업임을 확인합니다.

2013 년 05 월 09 일

KIBO 기술보증기금 이사장

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