

WATER BASED FIRE FIGHTING SYSTEM

EV-Drill Lance

Friendly Environmental and
Future Oriented Fire Fighting System



Handle Type EV-Drill Lance

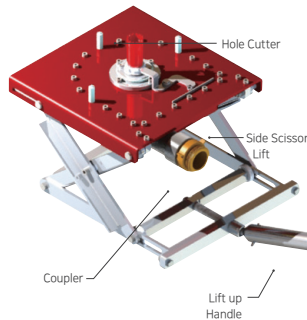
EVDL-H

Characteristics of EV FIRE

- Temperature skyrockets due to the thermal runaway of battery cell.
- Extinguishing agent cannot reach to the battery cell because of battery case.
- Risk of reignition due to the thermal runaway of battery cell.

Characteristics of EV-Drill Lance

- Drilling the battery case only using water jet and directly supplying extinguishing agent to battery pack.
- Safer than any other EV fire fighting equipment.
- Tested and validated with actual EV battery.
- No power source needed except water supply from fire hydrant or fire truck.
- Applicable to the vehicle of various size.



Specification

Type	EVDL-H
Material	AL + SUS
Size (L x W x H)	400 x 350 x 130 ~ 270
Weight (kg)	12.5
Min. Pressure (bar)	4 ~ 10
Min. Flow Rate (m³/h)	20 ~ 30
Connection	40A
Min. Penetration Time (sec.)	10



Operation Sequence



Connecting the Hose



Connecting the Handle



Extending the Handle



Pushing in under the Vehicle



Lifting



Supplying Water



Fixed Type EV-Drill Lance

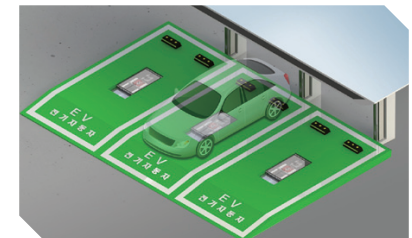
EVDL-F

Characteristics

- Fixed fire extinguisher at EV charging station and parking area.
- Door open, lifting and drilling to bottom of EV vehicle in order only by hydraulic pressure of fire water.
- Easily combined with fire detector and fire alarm into a fully automatic and unmanned system.

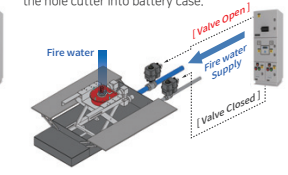
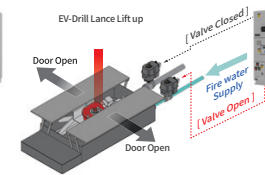
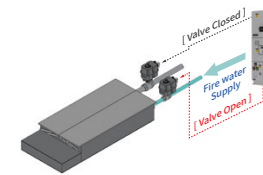
Specification

Type	EVDL-F
Material	AL + SUS
Case Size(L x W x H)	1210 x 540 x 190
Min. Pressure(bar)	4 ~ 10
Min. Flow Rate(m³/h)	20 ~ 30
Connection	40A / 15A
Min. Penetration Time(sec.)	10



Operation Sequence

- Once the fire is detected, fire water starts to be supplied.
- The door is opened and EV-Drill Lance is lifted up by hydraulic power of fire water within 20 seconds.
- After EV-Drill Lance is lifted up, fire water supplying line is changed automatically and fire water begins to flow into EV-Drill Lance.
- The hole cutter of EV-Drill Lance starts to rotate by water flow.
- After drilling is finished, fire water flow through the hole cutter into battery case.



Moving Type EV-Drill Lance



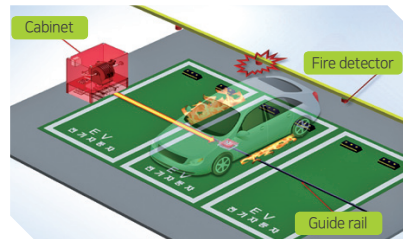
EVDL-M

Characteristics

- Suitable for several parking spot in a row.
- Automatically moving to the car on fire.
- Easily combined with fire detector and fire alarm into a fully automatic and unmanned system.

Specification

Type	EVDL-M
Material	AL + SUS
Control Box Size(L x W x H)	1200 x 800 x 1300
Min. Pressure(bar)	4 ~ 10
Min. Flow Rate(m³/h)	20 ~ 30
Connection	40A / 10A
Min. Penetration Time(sec.)	10



Operation Sequence

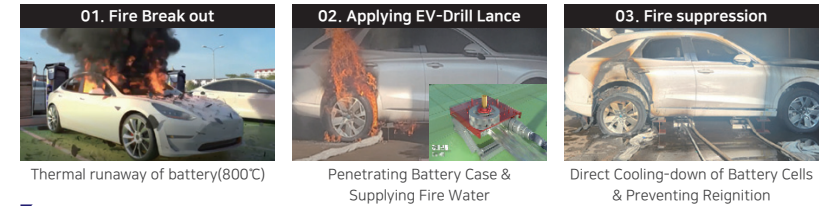
- Once the fire breaks out, automatic fire detection response and fire point are transmitted.
- Driving motor will be operated.
- EVDL-M moves to fire point (at the bottom of vehicle)
- Lifting up the EVDL-M
- Opening the operation valve and supplying water to EVDL-M
- Once supplying water, the drill cutter rotates and penetrating the battery case
- After penetration, water is supplied into the battery case.



EV-Drill Lance

EV-Drill Lance Fire Fighting Process

※OPERATING POWER: WATER PRESSURE

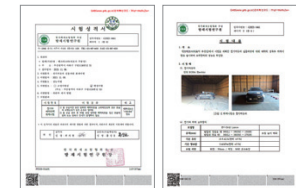


Effects after using EV-Drill Lance

- Reducing fire suppression time by direct cooling(160 mins → 25 mins based on actual EV fire test)
- No need to approach close to the car on fire
- Budget reduction for EV fire fighting equipment



FILK TEST CERTIFICATE



Type of EV-Drill Lance



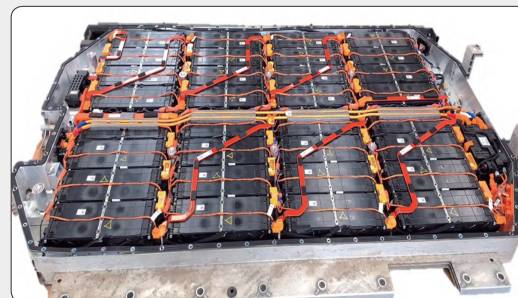
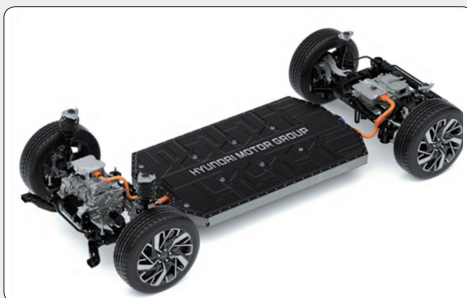
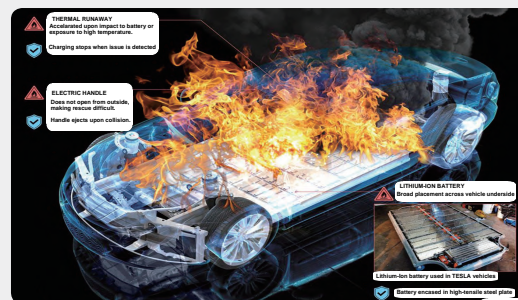
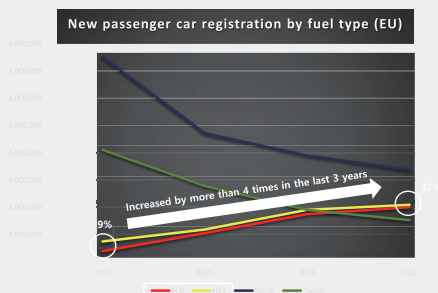
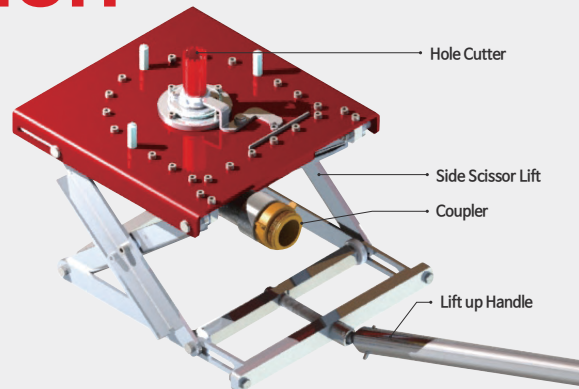
Awards



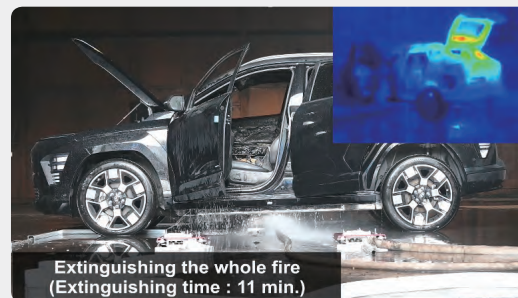
Patent



EV-Drill Lance is Best Solution Of EV FIRE

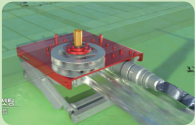





Characteristic of battery in EV

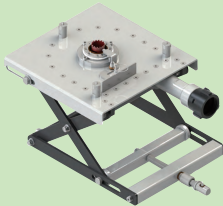


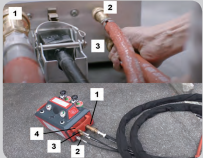

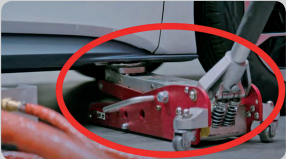


Actual fire test of battery & EV

COMPARISON WITH OTHER METHOD

Product	EV-Drill Lance	Fire Blanket	Water Pool	Upward Water Spray
Principle	Direct Cooling	Indirect Suffocation	Indirect Cooling	Indirect Cooling
Time to Install	Less than 1 min.	About 10 min.	About 30 min.	Less than 1 min.
Extinguishing Time	2~3 min. (10 min. for cooling enough)	4~6 hours	1~3 hours	2~4 hours
Water Consumption	Low	N/A	High	High
Fire Exposure Risk	Low	High	High	Low
Weight	12.5 kg	30kg	45kg (Air Tube Type)	15kg
Personnel Required for Installing	1	4	4	1
Picture				

COMPARE WITH SIMILAR DEVICE

Product	EV-Drill Lance	PIERCING MACHINE(AUSTRIA BRAND)
Principle	Direct Cooling	Direct Cooling
Weight	13 kg 	67 kg 
Hose Connection	1 hose connection 	7 hoses connection 
Installation	Extra tool is not required 	Hydraulic Jack required 

COMMERCIALLY SUPPLIED



BROADCAST

한국경제 - A30면 1단 - 1주 전 - 네이버뉴스

'해양모빌리티' 성장엔진 단 부산기업 뜬다

14일 부산의 한 신축 아파트 현장에서 조전기차 업체 탱크테크와 종합 건설사 DL이앤씨가 주차된 전기차 화재를 단 10여 분 만에 진압하는 기술 시연회를 공동으로 열었다. 이 기술은 바닥에 깔린 가이드레일을 따...

www.gukjeonews.com > news

탱크테크, '2024 건축소방방재산업전' 참가...전기차 화재 대응 ...
2024.02.02. 언제 어디서든 소화전 또는 소방차에 연결하면 사용가능한 'EVDL-H(수동식)' 뿐만 아니라 전기차 주차장 및 충전소에 매립하여 설치하는 'EVDL-F(고정식장비)' 및 'EVDL-M(이동식장비)' 등 다양한 솔루션을...

연합뉴스 PICK - 1주 전 - 네이버뉴스

전기차 배터리에 구멍 뚫어 화재 진압... "10분 만에 완전"

탱크테크는 세계 최초로 수압을 이용한 드릴 관통형 전기차 화재진압 시스템(EV-DL)을 개발해 시판 중이라고 14일 밝혔다. 이 시스템은 소화전이 나 소방차에서 호스로 공급하는 물의 강한 압력으로 터빈을 돌려 드릴...

FPN - 6일 전

"전기차 배터리에 구멍 뚫어 화재 잡는다" ... 'EV-DL'

이번 시연회는 탱크테크와 DL이앤씨가 함께 개발한 전기차 화재진압 시스템을 선보이기 위한 자리다. 배터리를 동력원으로 사용하는 전기차는 화재 시 진압이 어렵다. 배터리에 기계적·화학적·열적 충격이 가해지...



Company Introduce

1991 Established KOREA STEEL POWER Co., Ltd.

2000 Changed Company Name to TANKTECH Co., Ltd.

2009 Awarded "Korea World-Class Product(X-MIST)"

2011 Obtained "Green Certification"

2013 Designated "Advanced Technology Center(ATC)"

2014 Awarded a Minister Citation of the Small and Medium Business Administration

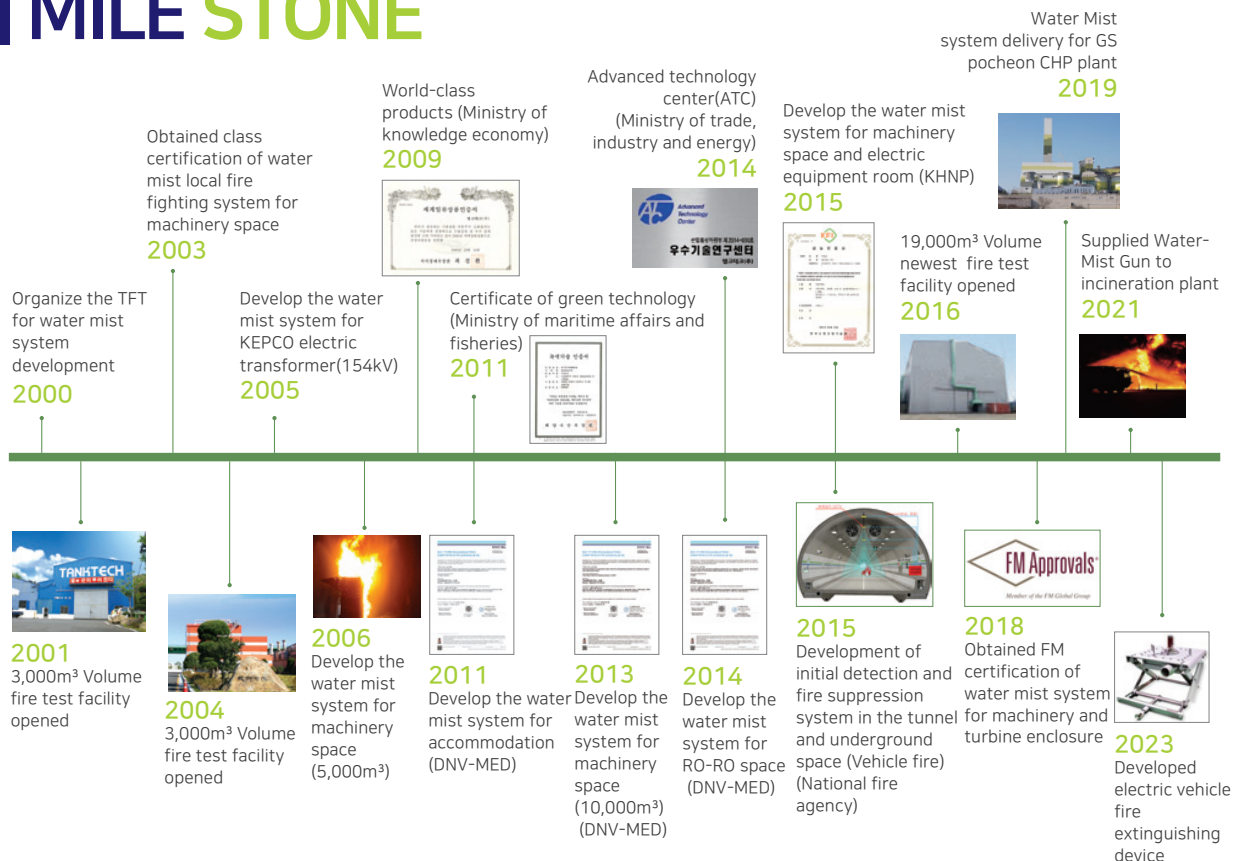
2015 Awarded Prime Minister's Prize

2016 Designated World Class 300 Company

2021 Supplied Water-Mist Gun to incineration plant

2023 Developed electric vehicle fire extinguishing device

mile stone



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