

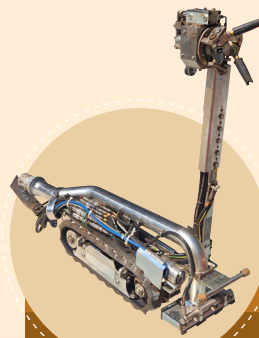
引入防爆機械人 清洗地下油缸更安全便捷

Introduction of Explosion-proof Robot to Clean Underground Fuel Tanks More Safely and Efficiently

機電署一直緊貼最新的創新科技。我們得知現時歐洲採用液壓式防爆機械人處理特定場景的密閉空間工作，有助提升工作安全性和效率，於是在更換銅鑼灣消防局的燃油添加系統時，特地與承辦商協調引入本質安全和防爆機械人技術，用以清洗地下油缸。

機電署為消防處引入的「ATEX區域0防爆機械人」，屬於遙距控制的液壓式機械人，由動力裝置驅動，可在ATEX區域0(即持續或長期有易燃氣體空氣混合物存在的地區)用作清洗油缸。該機械人配備機械臂，以及可360度旋轉和調整水量的高壓噴嘴。工作人員可按需要橫向或直向調校高壓噴嘴的角度，以清洗油缸內部，並可使用吸管清除污垢。該機械人符合歐洲的ATEX區域0標準，已獲得防爆認證，能代替工作人員進入危險的密閉空間進行清洗工作，例如清洗地下柴油或汽油缸。

工作人員也可以利用影像檢查系統，遙距操作「ATEX區域0防爆機械人」，並使用不同裝置，例如攝錄機、屏幕、傳感器和發光二極管燈，以配合實際需要。該機械人不但提升清洗工作的效率，更讓工作人員無需在ATEX區域0進行密閉空間工作，從而減低他們的安全風險。



「ATEX區域0防爆機械人」可在危險的密閉空間進行清洗工作。

The Explosion-proof Robot for ATEX Zone 0 can perform cleaning tasks in dangerous confined spaces.

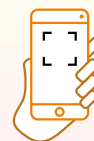
The EMSD has always kept abreast of the latest innovation and technology. Learning that hydraulic explosion-proof robots, currently used in Europe for confined space work in specific scenarios, can enhance work safety and efficiency, we especially co-ordinated with the contractor, when replacing the fuel dispensing system at the Tung Lo Wan Fire Station, to introduce intrinsically safe and explosion-proof robotic technology for cleaning underground fuel tanks.

The Explosion-proof Robot for ATEX Zone 0, introduced by the EMSD for the Fire Services Department, is a remotely controlled hydraulic robot driven by a power unit, and can be used for cleaning fuel tanks in ATEX Zone 0 (i.e. an area in which a flammable gas-air mixture is present continuously or for long periods). It is equipped with a mechanical arm, as well as high-pressure nozzles capable of rotating 360 degrees and adjusting the volume of water. Staff can adjust the angle of high-pressure nozzles horizontally or vertically as needed to clean the inside of fuel tanks, and remove dirt by a suction hose. The robot, which meets the European standards of ATEX Zone 0, has obtained explosion-proof certification. It can replace staff in performing cleaning tasks in dangerous confined spaces, such as cleaning underground diesel or petrol tanks.

Staff can also remotely operate the Explosion-proof Robot for ATEX Zone 0 through an imaging inspection system, along with various devices, such as cameras, monitors, sensors and light emitting diode lights, to meet the actual needs. The robot not only enhances work efficiency, but also eliminates the need for staff to carry out confined space work in ATEX Zone 0, thereby reducing their safety risks.

請掃描二維碼觀看「ATEX區域0防爆機械人」清洗地下油缸的示範短片。(只提供中文版)

Please scan the QR code to watch a demonstration video of the Explosion-proof Robot for ATEX Zone 0 cleaning underground fuel tanks. (Chinese version only)



<https://youtu.be/-D6gull1A9U>

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