“That's a safety issue. There is no question about that.”

Ken McEldowney
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1. Company Information

KSPC at a Glance
Company History
Organization
KSPC at a Glance

- **Established**: 1991.3.1
- **Capital**: $100,000
- **Sales in 2014**: $3,500,000
- **Employees**: 27

- **World-wide Networks**: 31 countries
- **Factory & Head Office**: Busan, Kimhae, Gimpo
- **Plant / Factory Area**: 4,300 / 1,700 m²
- **Branch Offices**: Kimhae, Ulsan, Yeochon, Shanghai
Company History

- 1991: Established KSPC at Hanam City, Kyoung-Ki Province
- 1994: Moved HQ & built new factory at Kimhae City, Kyoung-Nam Province
- 1996: Established a Research Institute of Technology
- 1999: Awarded The first Kyoung-Nam Best Trader by Kyoung-Nam Province

- 2000:
  - Established company name to TANKTECH CO LTD
  - Obtained USCG Certification for NEW-ISO-HV SERIES
  - Won Official Commendation from Minister of Ministry of Commerce
  - Developed Water Mist Firefighting System (X-MIST) & Tank Cleaning Machine (PM-80)

- 2010:
  - Moved office & built new factory at Gimpo City named to Korea Steel Power Corp.
2 Main Products

Safety & Protection System
Automatic Tank Cleaning System
Fire Fighting System
Safety & Protection System

- Pressure Vacuum Relief Valve
- Flame Arrester
- Emergency Vent Cover
- Gauge Hatch, N2 blanketing System, R/Disc
KSPC Pressure Vacuum Relief Valves are designed manufactured and tested according to the API 2000 code, these valves utilize the latest technologies to provide protection against positive or vacuum over pressure and prevent air intake, evaporative losses of product and help to contain odorous and potentially explosive vapor.

<table>
<thead>
<tr>
<th>P/V Valve Types</th>
<th>Operation</th>
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<tbody>
<tr>
<td>KSBB/BS</td>
<td><img src="image1" alt="Diagram" /></td>
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<tr>
<td>KSVR/VS</td>
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<td>KSBG/GS</td>
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<tr>
<td>KSBBF1/BSF1</td>
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<tr>
<td>KSBBFH/BSFH</td>
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<tr>
<td>KSBBJ/BBJS</td>
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<tr>
<td>KSPR</td>
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<td>KSPS</td>
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<td>KSBD/DS</td>
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<tr>
<td>KSBGF1/GSF1</td>
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<tr>
<td>KSBGFH/GSFH</td>
<td><img src="image12" alt="Diagram" /></td>
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<tr>
<td>KSBBFY</td>
<td><img src="image13" alt="Diagram" /></td>
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**KSPC Flame Arrester** of the model KSFI/FH is designed, manufactured, and tested according to ISO 16852 / EN12874 code. Installed in the top nozzle of the several kinds of the flammable low pressure storage tank (the ignition point below 65°C), it is the explosion proof and deflagration proof which blocks the influx of flame ignited externally into the tank.

**Flame Arrester Types**

- KSFH
- KSFI
- KSFT
- KSFL
- KFD
- KSFD
- KSFLD
- KSFM
- KSFE
- KSFF

**Operation**

1. Exposed Side
2. Protected Side
3. Flame Stabilized on arrester element
4. Flame arrester element absorbs
5. Piping
**Emergency Vent Cover**

**KSPC Emergency Vent Covers** provide the capacity to meet API standard 2000 for emergency venting due to fire exposure when properly sized. These covers also provide quick easy access for tank inspection and maintenance. The KSEP/EPK emergency pressure relief vent provides pressure relief only. Vacuum relief must be supplied by normal venting devices, or use our KSEV emergency pressure and vacuum relief vent covers. When excessive pressure builds within the storage tank the KSEP series emergency pressure relief vent begin to open at a predetermined set pressure relieving excessive pressure. And when the overpressure has dissipated the cover reseat onto the base.

**Emergency Vent Cover Types**

- **KSEP**
- **KSEPK**
- **KSES**
- **KSEV**
- **KSEVK**
- **KSESV**
Gauge Hatch, N2 Blanking, R/Disc

Gauge Hatch Cover with Sampling System
- KSGH
- KSGE
- KSSD
- T2000-TSS-01

N2 Blanking System

Rupture Disc

Explosion Panel
**Portable Oil/Water Interface Detector**, T2000 series offer total solution for management of cargo in tanks. This device can detect and measure the Ullage, Oil/Water Interface and Temperature Gauging of cargo at the same time.

- Measurement of tank liquid storage level, Water bound and Ullage
- Measurement of tank liquid temperature
- Inert Gas Sampling
- Liquid Sampling
- Inert Gas Pressure measurement
- Dryness check (hand Dipping)

**Portable Measuring Devices**

- **T2000-TFC-01**
  - Oil/Water/Ullage
- **T2000-TSS-01**
  - Liquid Sampling
- **T2000-TPG-01**
  - Inert Gas Pressure
- **T2000-TLS-01**
  - Dryness Check
**Air Release Valve**

**KSPC Air release valves** are designed to release accumulated air pockets from the system, while pressured pipelines. Air pockets increase energy consumption because pumping operation will be at higher water heads to overcome pressured air. Air release valves have functions to protect high shock and surge pressure, water hammer and liquid overflow from fresh or sea water pipelines.

KSBJ air release valve can provide low cost insurance to protect expensive maintenance cost of pipelines and pump systems.

**Air Release Valve Function**
- Anti-Surge & Anti-Shocks
- Surge and Water-hammer Protection
- Liquid Overflow Protection
- Release air pocket from pipeline
- Increasing of pump efficiency
- Less system energy
- Maintenance free

**Operation**
- Activation 1: Vacuum Relief
- Activation 2: Pressure Relief
- Activation 3: Liquid Overflow Protection
Automatic Tank Cleaning System

- Automatic Tank Cleaning Machine
- Floating-Roof Tank Cleaning System
- Cone-Roof Tank Cleaning System
**Automatic Tank Cleaning Machine**

**Automatic Tank Cleaning System** is using fresh crude oil or cleaning chemical as cleaning agent. And the cleaning pump supplies the fresh crude oil to the tank cleaning machine through the flexible hoses.

**Application Procedure**
1. Measuring of sludge profile
2. Installation plan
3. Automatic tank cleaning
4. Extraction of sludge-oil mixture
5. Measuring of sludge profile
6. Repeat step 3 ~ 5 until cleaning completed

**Easy Installation & Mobilization**

![Container Module](image)

<table>
<thead>
<tr>
<th>Project</th>
<th>Customer</th>
<th>Oil Field / Operator</th>
<th>Qty</th>
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<tr>
<td><strong>Offshore</strong></td>
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<tr>
<td>Floating Production Unit</td>
<td>Total</td>
<td>Moho Bilondo field, Congo</td>
<td>10 sets</td>
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<td></td>
<td>EPC</td>
<td>Bahrein field, Persian Gulf, Iran</td>
<td>101 sets</td>
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<tr>
<td>Floating Storage and Offloading Unit</td>
<td>Abu Cluster field, Malaysia</td>
<td>55 sets</td>
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<td>Procal</td>
<td>Bunga Oliid field, Malaysia</td>
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<td>Roadline</td>
<td>Bach Ho field, Vietnam</td>
<td>57 sets</td>
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<td>Floating Production Storage and Offloading Unit</td>
<td>Penlac</td>
<td>Cendor Phaze II field, Malaysia</td>
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<tr>
<td><strong>Onshore</strong></td>
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<tr>
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<td>North Refineries, Iraq</td>
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<td>Al Ghaith, Qatar</td>
<td>1 full system</td>
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<tr>
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<td>Akita Oil Storage, Japan</td>
<td>10 sets</td>
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</table>
Floating-Roof Tank Cleaning System

**Operation Concept**

**Schematic Drawing**

**Legend**
- **ROD PIPE**
- **FLEXIBLE HOSE (RUBBER)**
- **FLEXIBLE HOSE (POLYESTER)**
- **FLANGE COUPLING**
- **BUTTERFLY VALVE**
- **PRESSURE GAUGE**

**HAZARDOUS AREA**
- TO GAS FREEING
- FRESH CRUDE OIL FROM OTHER TANK
- FRESH CRUDE OIL

**NON-HAZARDOUS AREA**
- ACCESSORY CONTAINER

**INTERMEDIARY TANK**
- RESIDUAL SEMI-LIQUID SLUDGE

**FROM SUMP**
- FRESH CRUDE OIL

**TO PONTOON**
- PUMP & MOTOR

**TANK**
- FLOATING ROOF
- SUPPORT PIPE
- NOZZLE MOVING ANGLE

**RECEIVING TANK**
- GAS RETURN TO TANK
Cone-Rooftop Tank Cleaning System

**Operation Concept**

**Schematic Drawing**

[Diagram of Cone-Rooftop Tank Cleaning System]

Legend:
- Solid Pipe
- Flexible Hose/Rubber
- N2 Supply Line
- Flange Coupling
- Thread Coupling
- Gate Valve
- Pressure Gauge
- Site Supply Scope

**Areas:**
- Non-Hazardous Area
- Hazardous Area

**Components:**
- Accessory Container
- N2 Supply Station
- Receiving Tank
- Suction
- Fresh Water from Service Tank

**Techniques:**
- Nozzle Rotation Angle
Fire Fighting System

- Water-mist Fire Fighting System
- Deluge Fire Fighting System
X-MIST® SYSTEM is the next generation of fire fighting solutions and this system extinguishes fires by water vapor (water-mist). The exceptional cooling effect of water mist is a result of the division of water into very fine droplets, which increase the total surface area available to absorb heat and maximizes the evaporation rate of the water. All fire types, ie. A, B, C type, can be covered by this new fire fighting system.

**System Component**

- **Pump Unit (MOW type)**
  - Supply water to each protected area
  - Composed of pump/motor, MOW valve, motor starter panel
  - **Benefits**
    - Motor operation valve with manual override
    - No leakage while pump's running
    - Easy maintenance

- **Main Control Panel**
  - Receive fire signal from alarm control panel
  - Operate pump/motor and section valve
  - Check status of system

- **Alarm Control Panel**
  - Receive fire data from detector and control loop

- **Local Control Panel**
  - The panel is installed at each section
  - Manual release of water mist
  - Smoke / Flame Detector
    - Addressable type

**Major Component**

- **Water-Mist Nozzles for Local Area Application**

- **Water-Mist Nozzles for Total Flooding Application**

**Deluge Fire Fighting System**

**Deluge system** is keeping closing state. When fire breaks out or in other emergency situation, the system is opened by electric actuating or manual and supply the fire water or foam to each deluge nozzle of the fire water line. And this system has the pressure regulating function which can preset the outlet pressure and supply the fire water as the preset pressure when the valve is opened.

**Schematic Drawing & Major Component**

**System Design Capacity**

- Deluge Full Package: Valve + Nozzle + Control + Foam + Skid
Quality Management

Quality Management System

ERP Management System
Quality Management System
ERP Management System

ERP System Integration

- Top Management
- ERP Controller
- Account
- Production
- Human Resource
- Procurement
- Customer
- Sub-Vendor

ERP System Application
4 Major customers

Customer List
Major Customers

- Technip
- Saudi Aramco
- CHIYODA CORPORATION
- Maire Tecnimont
- ExxonMobil
- bp
- Petrofac
- CPC Corporation
- PERTAMINA
- DIALOG
- KNPC
- SK E&C
- Samsung
- SAMSUNG ENGINEERING
- Daewoo E&C
- HYUNDAI HEAVY INDUSTRIES CO., LTD.
- Vopak
- INITC
- AMCL
- SeaLand Shipping Management
- PTT Global Chemical
- Dialog
- PETRONAS
- Oiltanking
- Kawasaki
- Daelim
5 World-wide Networks

KSPC Networks Map
KSPC Partners List
KSPC Networks Map
# KSPC Partners List

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<thead>
<tr>
<th>AMERICA</th>
<th>Phone</th>
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<tr>
<td>CASHCO INC</td>
<td>+1 850 434 1286</td>
<td><a href="mailto:troyb@cashco.com">troyb@cashco.com</a></td>
</tr>
<tr>
<td>ENVISION MANUFACTURING &amp; SUPPLY</td>
<td>+1 403 304 8314</td>
<td><a href="mailto:tom@envisionmanufacturing.ca">tom@envisionmanufacturing.ca</a></td>
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<tr>
<td>IM + M LTD</td>
<td>+44 114 285 3040</td>
<td><a href="mailto:alanj@im-m.co.uk">alanj@im-m.co.uk</a></td>
</tr>
<tr>
<td>P &amp; ID B.V</td>
<td>+31 174 280 371</td>
<td><a href="mailto:info@pandid.nl">info@pandid.nl</a></td>
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<table>
<thead>
<tr>
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<tr>
<td>TANKTECH CO LTD</td>
<td>+82 51 979 1600</td>
<td><a href="mailto:tanktech@tanktech.co.kr">tanktech@tanktech.co.kr</a></td>
</tr>
<tr>
<td>TANKTECH SHANGHAI OFFICE</td>
<td>+86 21 6278 2288</td>
<td><a href="mailto:tanktech@tantech.cn">tanktech@tantech.cn</a></td>
</tr>
<tr>
<td>ESCO LTD</td>
<td>+81 3 3366 9351</td>
<td><a href="mailto:kazama@esco-ltd.co.jp">kazama@esco-ltd.co.jp</a></td>
</tr>
<tr>
<td>FELCA INT’L CORP</td>
<td>+886 3 321 9565</td>
<td><a href="mailto:felca123@felca.com.tw">felca123@felca.com.tw</a></td>
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<tr>
<td>JTM GLOBAL PTE LTD</td>
<td>+65 6725 0710</td>
<td><a href="mailto:jun@jtmglobal.co.sg">jun@jtmglobal.co.sg</a></td>
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# KSPC Partners List

## ASIA

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<th>Company</th>
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<tr>
<td>DANCOMECH ENG’G SDN BHD</td>
<td><a href="mailto:daniel.ai@dancomech.com.my">daniel.ai@dancomech.com.my</a></td>
<td>+603 5569 2929</td>
<td>+603 5569 2935</td>
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<td>PT MITRA WIRA PRATAMA</td>
<td><a href="mailto:soedarmin@mitrawp.com">soedarmin@mitrawp.com</a></td>
<td>+62-21-5824949</td>
<td>+62-21-5814041</td>
</tr>
<tr>
<td>AURORA WORKS CO LTD</td>
<td><a href="mailto:komgrich@aurora-works.com">komgrich@aurora-works.com</a></td>
<td>+66 2815 5114</td>
<td>+66 2815 6128</td>
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<tr>
<td>SAMARTH ENGINEERING CO</td>
<td><a href="mailto:info@samarthgroup.com">info@samarthgroup.com</a></td>
<td>+91 22 236 3170</td>
<td>+91 22 380 1062</td>
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<tr>
<td>INTEG ENG’G &amp; TRADING SERVICE</td>
<td><a href="mailto:proposal4@integets.com">proposal4@integets.com</a></td>
<td>+92 21 3496 1853</td>
<td>+92 21 3497 7211</td>
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## MIDDLE EAST

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<td>KHUFF GENERAL TRADING</td>
<td><a href="mailto:khuff@khuff.co.kr">khuff@khuff.co.kr</a></td>
<td>+965 332 4576</td>
<td>+965 332 4457</td>
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<tr>
<td>TILE MARINE</td>
<td><a href="mailto:tileship@emirates.net.ae">tileship@emirates.net.ae</a></td>
<td>+97 14 324 2820</td>
<td>+97 14 324 2823</td>
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<tr>
<td>PMME</td>
<td>a.shahpasandi@ parsmosamam.com</td>
<td>+98 21 7772 3312</td>
<td>+98 21 7772 3092</td>
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<td>DEVELOPMENT INT’L GROUP LTD</td>
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<td>+9 202 403 9366</td>
<td>+9 202 266 3890</td>
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<tr>
<td>INDUSTRIAL PROJECTS TECH(IPTECH)</td>
<td><a href="mailto:sales@iptech.com.sa">sales@iptech.com.sa</a></td>
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<tr>
<td>AFRICA</td>
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<tr>
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<td><strong>DUBRAI CONTRACTORS LIMITED</strong></td>
<td><strong>PRESSURE SYSTEMS PTY LTD</strong></td>
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<tr>
<td><a href="mailto:dubrai@gmail.com">dubrai@gmail.com</a></td>
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When was the last time you got really good safety protection?