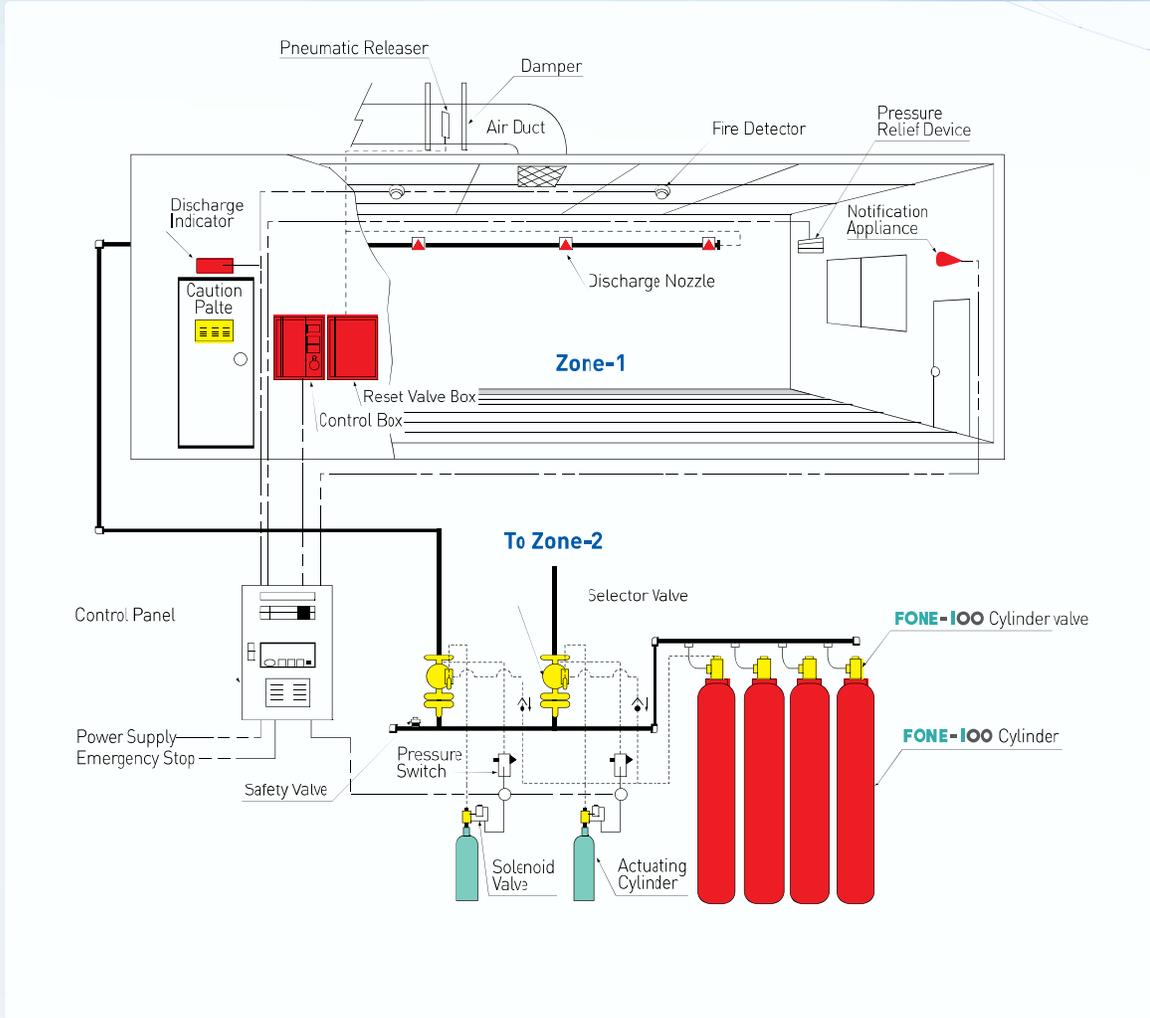


*The Pride of Korean  
Gas Fire Fighting facilities.*

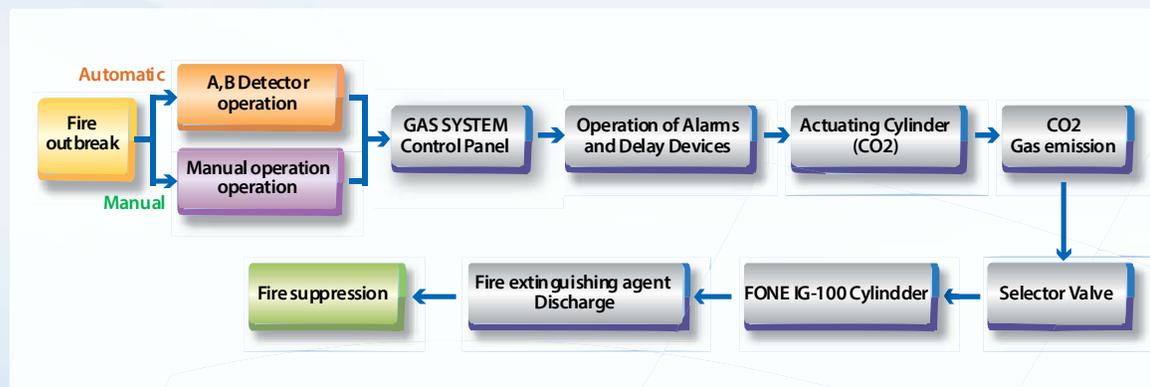
## **Material authorizarion document**



# FONE-100 System Configuration



## Operation Flow Chart





# IG-100 (FONE-100) SYSTEM

- IG-100 Cylinder
  - Cylinder Valve
    - Flared Tee
- Pilot Flexible Tube
- Flexible Hose W/Check
  - Pneumatic Actuator
- Manual/Pneumatic Actuator
  - Electromagnetic Actuators
- Discharge Pressure Regulator

## IG-100 Cylinder



A container for storing compressed gas by pressurizing 20.0 ~ 30.0 MPa at 21°C Agent quantity is 18.9m<sup>3</sup>.

|                   |  |               |         |
|-------------------|--|---------------|---------|
| Manufacturer      | L&P Co.,LTD  |               |         |
| Model No.         | F100-CYL-84  |               |         |
| Standard          | 1,720mm  |               |         |
| Charging Pressure | 20.0 ~ 30.0 MPa (200bar ~ 300bar)                            |               |         |
| Working Pressure  | 30.0MPa  | Test Pressure | 45.0MPa |
| Agent Quantity    | 18.9 m <sup>3</sup>  | Agent Weight  | 21.5kg  |
| Material          | 34Cr-Mo Steel(KGS AC212 2010)/34Cr-Mo Steel(KS B ISO 9899-1) |               |         |

## Pressure Gauge



Pressure gauge to measure and display cylinder pressure to confirm the fire safety system is properly charged and ready, pressure range 200bar / 280bar / 300bar.

|                    |                             |  |  |
|--------------------|-----------------------------|--|--|
| Manufacturer       | Wika - Gemany / L&P Co.,LTD |  |  |
| Model No.          | F100-PG-01 (029720092)      |  |  |
| Gauge connection   | M10 x 1                     |  |  |
| Gauge Face         | 0 ~ 360 bar                 |  |  |
| Certification      | CE                          |  |  |
| Ingress protection | IP 65                       |  |  |
| Material           | Steel                       |  |  |

## Pneumatic Actuator



Single-piston pneumatic release device 20 BAR — used in fixed installation fire systems, 20 bar actuation force.

|                           |             |  |  |
|---------------------------|-------------|--|--|
| Manufacturer              | L&P Co.,LTD |  |  |
| Model No.                 | F100-AC-01  |  |  |
| Size                      | 50A         |  |  |
| Height                    | 50mm        |  |  |
| Max. pressure             | 30.0MPa     |  |  |
| Actuation force/ pressure | 20.0MPa     |  |  |
| Material                  | Brass       |  |  |

## Manual/Pneumatic Actuator



Double-piston manual/pneumatic actuator for fire cylinder valves — used in fixed installation fire systems.

|                           |                 |  |  |
|---------------------------|-----------------|--|--|
| Manufacturer              | L&P Co.,LTD     |  |  |
| Model No.                 | F100-AC-02      |  |  |
| Size                      | 50A             |  |  |
| Height                    | 136.5mm         |  |  |
| Max. pressure             | 30.0MPa         |  |  |
| Actuation force/ pressure | <150N / 20.0MPa |  |  |
| Material                  | Brass           |  |  |

## Electromagnetic Actuators



Electromagnetic release device for fire cylinder valves — used in fixed installation fire systems.

|                 |             |
|-----------------|-------------|
| Manufacturer    | L&P Co.,LTD |
| Model No.       | F100-AC-03  |
| Size            | 65A         |
| Height          | 135mm       |
| Nominal voltage | 24 VDC      |
| Nominal current | 0.5A        |
| Material        | Brass       |

## Manual Release Device



Manual release device for IG-100 (N2)— used in fixed installation fire systems.

|                   |             |
|-------------------|-------------|
| Manufacturer      | L&P Co.,LTD |
| Model No.         | F100-AC-04  |
| Size              | 50A         |
| Working pressure  | 34.0Mpa     |
| Outlet connection | G 1/8"      |
| Inlet connection  | M 42 x 1,5  |
| Material          | Brass       |

## Flexible Hose



It is located between Cylinder valve and Manifold pipe and comes with check valve which keeps nitrogen gas from flowing backward.

|                  |                                |
|------------------|--------------------------------|
| Manufacturer     | L&P Co.,LTD                    |
| Model No.        | F100-004-01                    |
| Size             | 25A                            |
| Length           | 400mm ~ 450mm                  |
| Working pressure | 35.0MPa                        |
| Burst Pressure   | 140.0 Mpa                      |
| Material         | Synthetic rubber oil resistant |

## Rubber Tube



Hose to connect a master valve or pneumatic actuator with another pneumatic actuator — used in fixed installation fire systems.

|                  |                                |
|------------------|--------------------------------|
| Manufacturer     | L&P Co., LTD                   |
| Model No.        | F100-FT-01                     |
| Diameter         | 4A                             |
| Working Pressure | 40.0MPa                        |
| Burst Pressure   | 160.0MPa                       |
| Material         | Synthetic rubber oil resistant |

## • Safety Valve For 200bar



Safety device to prevent over pressure during discharge.

|                 |                 |
|-----------------|-----------------|
| Manufacturer    | L&P Co.,LTD     |
| Model No.       | F100-SV-01      |
| Size            | 15A             |
| Height          | 100mm           |
| Connection      | G 1/2"          |
| Relief pressure | 66 bar at 20 °C |
| Material        | Brass           |

## • Discharge Pressure Regulator



Pressure regulator to create a constant discharge flow in 200/300 bar inert gas fire protection systems.

|                  |                        |
|------------------|------------------------|
| Manufacturer     | L&P Co., LTD           |
| Model No.        | F100-RF-01             |
| Maximum Pressure | 36.0MPa                |
| Inlet Pressure   | 30.0MPa                |
| Inlet connection | W 21,8 x 1/14" DIN 477 |
| Material         | Bras s                 |

## • Pilot Cylinder 10.2L



It is a gas discharge trigger tank, charged with 100bar pressure. For fire extinguishing system FM200, HFC-125, IG-100, Novec1230 or CO2.

|                   |  |               |         |
|-------------------|--|---------------|---------|
| Manufacturer      | L&P Co.,LTD  |               |         |
| Model No.         | F100-CYL-10  |               |         |
| Standard          | 1,720mm  |               |         |
| Charging Pressure | 100 bar  |               |         |
| Working Pressure  | 10.0MPa  | Test Pressure | 30.0MPa |
| Agent Quantity    |  | Agent Weight  | 16.6kg  |
| Material          | 34Cr-Mo Steel(KGS AC212 2010)/34Cr-Mo Steel(KS B ISO 9809-1) |               |         |

## • Pilot Cylinder 16L



It is a gas discharge trigger tank, charged with 100bar pressure. For fire extinguishing system FM200, HFC-125, IG-100, Novec1230 or CO2.

|                   |  |               |         |
|-------------------|--|---------------|---------|
| Ma nufacturer     | L&P Co.,LTD  |               |         |
| Model No.         | F100-CYL-16  |               |         |
| Standard          | 1,780mm  |               |         |
| Charging Pressure | 100 bar  |               |         |
| Working Pressure  | 10.0MPa  | Test Pressure | 30.0MPa |
| Agent Quantity    |  | Agent Weight  | 22.3kg  |
| Ma terial         | 34Cr-Mo Steel(KGS AC212 2010)/34Cr-Mo Steel(KS B ISO 9809-1) |               |         |



# HFC-227ea (FM-200) SYSTEM

- Storage Cylinder
  - Cylinder Valve
- Pressure Gauge
  - Needle Valve
  - Flexible Hose

## Storage Cylinder



A Mn-Steel container for storing liquefied gas at 25.0 Mpa working pressure. It should be certified by KGS. Extinguishers are pressurized with dry nitrogen up to 42 bar or 50 bar at 21°C

| Manufacturer           | L&P Co., LTD         |                      |
|------------------------|----------------------|----------------------|
| Model No.              | F227-CYL-68          | F227-CYL-82          |
| Water capacity         | 67.5ℓ (±1%)          | 82.5ℓ (±1%)          |
| Out Diameter           | 267mm                | 279mm                |
| Length                 | 1,567mm              | 1,717mm              |
| Test Pressure          | 25.0MPa (250bar)     | 25.0MPa (250bar)     |
| Working Pressure       | 15.0MPa (150bar)     | 15.0MPa (150bar)     |
| Loading strip (FM-200) | 10kg ~ 76kg          | 40kg ~ 91kg          |
| Net weight (Cylinder)  | About 76kg (±5%)     | About 87kg (±5%)     |
| Material               | Mn-Steel (KS B 6210) | Mn-Steel (KS B 6210) |

## Storage Cylinder



A Mn-Steel container for storing liquefied gas at 25.0 Mpa working pressure. It should be certified by KGS. Extinguishers are pressurized with dry nitrogen up to 42 bar or 50 bar at 21°C

| Manufacturer           | L&P Co., LTD         |                      |
|------------------------|----------------------|----------------------|
| Model No.              | F227-CYL-140         | F227-CYL-180         |
| Water capacity         | 140ℓ (±1%)           | 180ℓ (±1%)           |
| Out Diameter           | 356mm                | 406mm (±4.06)        |
| Length                 | 1,767mm              | 1,635mm              |
| Test Pressure          | 25.0MPa (250bar)     | 25.0MPa (250bar)     |
| Working Pressure       | 15.0MPa (150bar)     | 15.0MPa (150bar)     |
| Loading strip (FM-200) | 70kg ~ 160kg         | 100kg ~ 209kg        |
| Net weight (Cylinder)  | About 134kg (±5%)    | About 119kg (±5%)    |
| Material               | Mn-Steel (KS B 6210) | Mn-Steel (KS B 6210) |

## Cylinder Valve



A valve used to release fire extinguishing agent.

| Manufacturer              | L&P Co., LTD                  |
|---------------------------|-------------------------------|
| Model No.                 | F1-25-002-01 / F1-25-002-02   |
| Size                      | 40A / 50A                     |
| Test Pressure             | 24.5MPa (245bar ~ 3553psi)    |
| Working Pressure          | 14.7MPa (147bar ~ 2132psi)    |
| Safer disc burst Pressure | 7.8MPa~9.4MPa (78bar ~ 94bar) |
| Material                  | Brass (KS D 5101 C3771)       |

## Pressure Gauge



Pressure gauge for indicating and monitoring the pressure in tanks and for signalling leaks.

| Manufacturer       | L&P Co., LTD                                 |
|--------------------|--|
| Model No.          | F227-PG-01                                   |
| Scale ranges (bar) | 25bar / 36bar/ 42bar / 50bar / 55bar / 60bar |
| Switching current  | 5 ~ 100 mA                                   |
| Contact load       | Max. 2.4 W                                   |
| Medium             | + 60 °C                                      |
| Switch contact     | Normally closed (NC)                         |

## Needle Valve



It activates cylinder valve by breaking Burst Disc.

|                  |   |
|------------------|---|
| Manufacturer     | L&P Co., LTD  |
| Model No.        | F1-25-003 for the 68L and 82L<br>F1-25-003-01 for the 140L and 180L |
| Diameter         | 6A  |
| Working pressure | 1.8MPa  |
| Material         | Brass (KS D 5101 C3771)   |

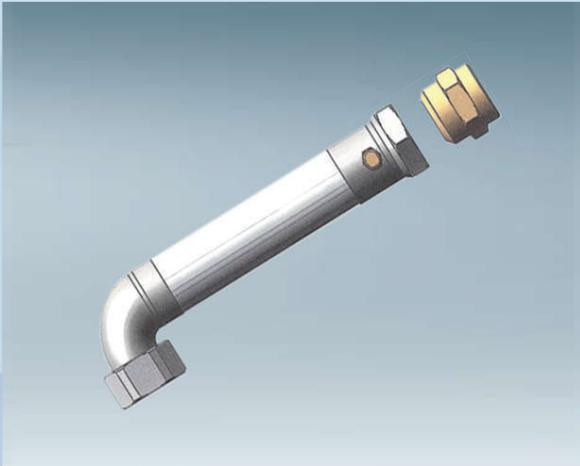
## Flexible Hose 40A



A hose to connect between cylinder and manifold to deliver gas agent from cylinder, coming with check valve.

|               |                                     |
|---------------|-------------------------------------|
| Manufacturer  | L&P Co., LTD                        |
| Model No.     | F1-25-004-01                        |
| Diameter      | 40A                                 |
| Length        | 430m m~470mm                        |
| Test Pressure | 9.7MPa                              |
| Material      | Stainless Steel (KS D 3706 STS 304) |

## Flexible Hose 32A



A hose to connect between cylinder and manifold to deliver gas agent from cylinder, For Modular cabinets.

|               |                                     |
|---------------|-------------------------------------|
| Manufacturer  | L&P Co., LTD                        |
| Model No.     | F1-25-004-02                        |
| Diameter      | 32A                                 |
| Length        | 330mm                               |
| Test Pressure | 9.7MPa                              |
| Material      | Stainless Steel (KS D 3706 STS 304) |

## Flexible Hose 50A



A hose to connect between cylinder and manifold to deliver gas agent from cylinder, coming with check valve.

|               |                                     |
|---------------|-------------------------------------|
| Manufacturer  | L&P Co., LTD                        |
| Model No.     | F1-25-004-03                        |
| Diameter      | 50A                                 |
| Length        | 480m m~511mm                        |
| Test Pressure | 9.7MPa                              |
| Material      | Stainless Steel (KS D 3706 STS 304) |



# NOVEC-1230 (FONE-123) SYSTEM

- Storage Cylinder
  - Cylinder Valve
- Pressure Gauge
  - Needle Valve
- Flexible Hose

## Storage Cylinder



A Mn-Steel container for storing liquefied gas at 25.0 Mpa working pressure. It should be certified by KGS. Extinguishers are pressurized with dry nitrogen up to 42 bar or 50 bar at 21°C

| Manufacturer            | L&P Co., LTD         |                      |
|-------------------------|----------------------|----------------------|
| Model No.               | F123-CYL-68          | F123-CYL-82          |
| Water capacity          | 67.5ℓ (±1%)          | 82.5ℓ (±1%)          |
| Out Diameter            | 267mm                | 279mm                |
| Length                  | 1,567mm              | 1,717mm              |
| Test Pressure           | 25.0MPa (250bar)     | 25.0MPa (250bar)     |
| Working Pressure        | 15.0MPa (150bar)     | 15.0MPa (150bar)     |
| Loading strip(Nove1230) | 10kg ~ 65kg          | 30kg ~ 85kg          |
| Net weight(Cylinder)    | About 76kg (±5%)     | About 87kg (±5%)     |
| Material                | Mn-Steel (KS B 6210) | Mn-Steel (KS B 6210) |

## Storage Cylinder



A Mn-Steel container for storing liquefied gas at 25.0 Mpa working pressure. It should be certified by KGS. Extinguishers are pressurized with dry nitrogen up to 42 bar or 50 bar at 21°C

| Manufacturer            | L&P Co., LTD        |                     |
|-------------------------|---------------------|---------------------|
| Model No.               | F123-CYL-140        | F123-CYL-180        |
| Water capacity          | 140ℓ (±1%)          | 180ℓ (±1%)          |
| Out Diameter            | 356mm               | 406mm (±4.06)       |
| Length                  | 1,767mm             | 1,635mm             |
| Test Pressure           | 25.0MPa (250bar)    | 25.0MPa (250bar)    |
| Working Pressure        | 15.0MPa (150bar)    | 15.0MPa (150bar)    |
| Loading strip(Nove1230) | 67kg ~ 156.8kg      | 90kg ~ 185kg        |
| Net weight(Cylinder)    | About 134kg (±5%)   | About 119kg (±5%)   |
| Material                | Mn-Steel(KS B 6210) | Mn-Steel(KS B 6210) |

## Cylinder Valve



A valve used to release fire extinguishing agent.

| Manufacturer              | L&P Co., LTD                  |  |
|---------------------------|-------------------------------|--|
| Model No.                 | F1-25-002-01 / F1-25-002-02   |  |
| Size                      | 40A / 50A                     |  |
| Test Pressure             | 24.5MPa (245bar ~ 3553psi)    |  |
| Working Pressure          | 14.7MPa (147bar ~ 2132psi)    |  |
| Safer disc burst Pressure | 7.8MPa~9.4MPa (78bar ~ 94bar) |  |
| Material                  | Brass(KS D 5101 C3771)        |  |

## Pressure Gauge



Pressure gauge for indicating and monitoring the pressure in tanks and for signalling leaks.

| Manufacturer       | L&P Co., LTD                                 |  |
|--------------------|--|--|
| Model No.          | F227-PG-01                                   |  |
| Scale ranges (bar) | 25bar / 36bar/ 42bar / 50bar / 55bar / 60bar |  |
| Switching current  | 5 ~ 100 mA                                   |  |
| Contact load       | Max. 2.4 W                                   |  |
| Medium             | + 60 °C                                      |  |
| Switch contact     | Normally closed (NC)                         |  |

## Flexible Hose 40A



A hose to connect between cylinder and manifold to deliver gas agent from cylinder, coming with check valve.

|               |                                     |
|---------------|-------------------------------------|
| Manufacturer  | L&P Co., LTD                        |
| Model No.     | F1-25-004-01                        |
| Diameter      | 40A                                 |
| Length        | 430mm~470mm                         |
| Test Pressure | 9.7MPa                              |
| Material      | Stainless Steel (KS D 3706 STS 304) |

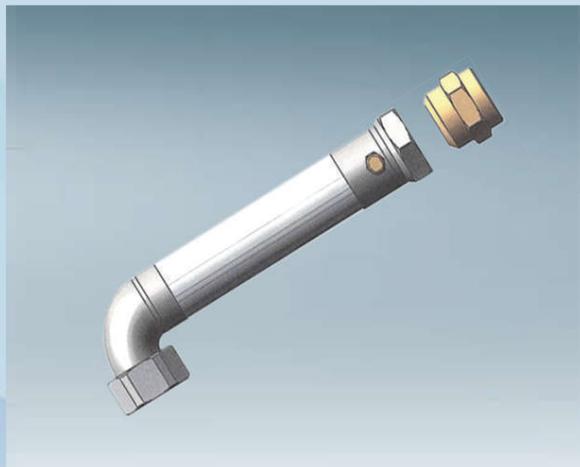
## Flexible Hose 50A



A hose to connect between cylinder and manifold to deliver gas agent from cylinder, coming with check valve.

|               |                                     |
|---------------|-------------------------------------|
| Manufacturer  | L&P Co., LTD                        |
| Model No.     | F1-25-004-03                        |
| Diameter      | 50A                                 |
| Length        | 480mm~511mm                         |
| Test Pressure | 9.7MPa                              |
| Material      | Stainless Steel (KS D 3706 STS 304) |

## Flexible Hose 32A



A hose to connect between cylinder and manifold to deliver gas agent from cylinder.

|               |                                     |
|---------------|-------------------------------------|
| Manufacturer  | L&P Co., LTD                        |
| Model No.     | F1-25-004-02                        |
| Diameter      | 32A                                 |
| Length        | 330mm                               |
| Test Pressure | 9.7MPa                              |
| Material      | Stainless Steel (KS D 3706 STS 304) |



# HFC-125 (FONE-25) SYSTEM

- Storage Cylinder
  - Cylinder Valve
- Pressure Gauge
  - Needle Valve
  - Flexible Hose

## Storage Cylinder



A Mn-Steel container for storing liquefied gas at 25.0 Mpa working pressure. It should be certified by KGS. Extinguishers are pressurized with dry nitrogen up to 42 bar or 50 bar at 21°C

| Manufacturer            | L&P Co., LTD         |                      |
|-------------------------|----------------------|----------------------|
| Model No.               | F125-CYL-68          | F125-CYL-82          |
| Water capacity          | 67.5ℓ (±1%)          | 82.5ℓ (±1%)          |
| Out Diameter            | 267mm                | 279mm                |
| Length                  | 1,567mm              | 1,717mm              |
| Test Pressure           | 25.0MPa (250bar)     | 25.0MPa (250bar)     |
| Working Pressure        | 15.0MPa (150bar)     | 15.0MPa (150bar)     |
| Loading strip (HFC-125) | 10kg ~ 61kg          | 30kg ~ 75kg          |
| Net weight(Cylinder)    | About 76kg (±5%)     | About 87kg (±5%)     |
| Material                | Mn-Steel (KS B 6210) | Mn-Steel (KS B 6210) |

## Storage Cylinder



A Mn-Steel container for storing liquefied gas at 25.0 Mpa working pressure. It should be certified by KGS. Extinguishers are pressurized with dry nitrogen up to 42 bar or 50 bar at 21°C

| Manufacturer            | L&P Co., LTD        |                     |
|-------------------------|---------------------|---------------------|
| Model No.               | F125-CYL-140        | F125-CYL-180        |
| Water capacity          | 140ℓ                | 180ℓ                |
| Out Diameter            | 356mm               | 406mm (±4.06)       |
| Length                  | 1,767mm             | 1,635mm             |
| Test Pressure           | 25.0MPa (250bar)    | 25.0MPa (250bar)    |
| Working Pressure        | 15.0MPa (150bar)    | 15.0MPa (150bar)    |
| Loading strip (HFC-125) | 60kg ~ 125kg        | 90kg ~ 155kg        |
| Net weight(Cylinder)    | About 134kg (±5%)   | About 119kg (±5%)   |
| Material                | Mn-Steel(KS B 6210) | Mn-Steel(KS B 6210) |

## Cylinder Valve



A valve used to release fire extinguishing agent.

| Manufacturer              | L&P Co., LTD                  |  |
|---------------------------|-------------------------------|--|
| Model No.                 | F1-25-002-01 / F1-25-002-02   |  |
| Size                      | 40A / 50A                     |  |
| Test Pressure             | 24.5MPa (245bar ~ 3553psi)    |  |
| Working Pressure          | 14.7MPa (147bar ~ 2132psi)    |  |
| Safer disc burst Pressure | 7.8MPa~9.4MPa (78bar ~ 94bar) |  |
| Material                  | Brass(KS D 5101 C3771)        |  |

## Pressure Gauge



Pressure gauge for indicating and monitoring the pressure in tanks and for signalling leaks.

| Manufacturer       | L&P Co., LTD                                 |  |
|--------------------|--|--|
| Model No.          | F227-PG-01                                   |  |
| Scale ranges (bar) | 25bar / 36bar/ 42bar / 50bar / 55bar / 60bar |  |
| Switching current  | 5 ~ 100 mA                                   |  |
| Contact load       | Max. 2.4 W                                   |  |
| Medium             | + 60 °C                                      |  |
| Switch contact     | Normally closed (NC)                         |  |

## Flexible Hose 40A



A hose to connect between cylinder and manifold to deliver gas agent from cylinder, coming with check valve.

|               |                                     |
|---------------|-------------------------------------|
| Manufacturer  | L&P Co., LTD                        |
| Model No.     | F1-25-004-01                        |
| Diameter      | 40A                                 |
| Length        | 430mm~470mm                         |
| Test Pressure | 9.7MPa                              |
| Material      | Stainless Steel (KS D 3706 STS 304) |

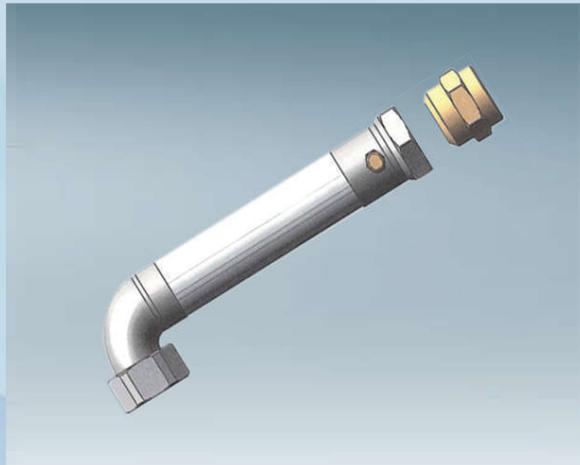
## Flexible Hose 50A



A hose to connect between cylinder and manifold to deliver gas agent from cylinder, coming with check valve.

|               |                                     |
|---------------|-------------------------------------|
| Manufacturer  | L&P Co., LTD                        |
| Model No.     | F1-25-004-03                        |
| Diameter      | 50A                                 |
| Length        | 480mm~511mm                         |
| Test Pressure | 9.7MPa                              |
| Material      | Stainless Steel (KS D 3706 STS 304) |

## Flexible Hose 32A



A hose to connect between cylinder and manifold to deliver gas agent from cylinder.

|               |                                     |
|---------------|-------------------------------------|
| Manufacturer  | L&P Co., LTD                        |
| Model No.     | F1-25-004-02                        |
| Diameter      | 32A                                 |
| Length        | 330mm                               |
| Test Pressure | 9.7MPa                              |
| Material      | Stainless Steel (KS D 3706 STS 304) |



# CO<sub>2</sub> (FONE-CO2) SYSTEM

- Cylinder
- Cylinder Valve
- Flexible Hose
- Needle Valve

## Cylinder



A cylinder for storing CO2 gas at 15.0 Mpa working pressure.

|                  |                      |                      |
|------------------|----------------------|----------------------|
| Manufacturer     | L&P Co., LTD         |                      |
| Model No.        | FCO2-CYL-68          | FCO2-CYL-87          |
| Water capacity   | 68ℓ                  | 87ℓ                  |
| Diameter         | 267mm                | 280mm                |
| Length           | 1,500mm              | 1,720mm              |
| Test Pressure    | 25.0MPa              | 25.0MPa              |
| Working Pressure | 15.0MPa              | 15.0MPa              |
| Color            | Blue                 | Blue                 |
| Weight(Cylinder) | About 75kg           | About 97kg           |
| Material         | Mn-Steel (KS B 6210) | Mn-Steel (KS B 6210) |

## Cylinder Valve



A valve used to release fire extinguishing agent.

|                           |                          |  |
|---------------------------|--------------------------|--|
| Manufacturer              | L&P Co., LTD             |  |
| Model No.                 | F-CO2-15                 |  |
| Size                      | 20mm                     |  |
| Test Pressure             | 24.5 MPa                 |  |
| Working Pressure          | 14.7 MPa                 |  |
| Safer disc burst pressure | 17.7~24.5Pa              |  |
| Material                  | Bras s (KS D 5101 C3771) |  |

## Flexible Hose



A valve used to release nitrogen gas from Pilot Cylinder by activating Needle valve.

|               |                                     |  |
|---------------|-------------------------------------|--|
| Manufacturer  | L&P Co., LTD                        |  |
| Model No.     | F1-25-004-450                       |  |
| Diameter      | 15A                                 |  |
| Length        | 450mm                               |  |
| Test pressure | 15.0MPa                             |  |
| Material      | Stainless Steel (KS D 3706 STS 304) |  |

## Needle Valve



It activates cylinder valve by breaking Burst Disc.

|                  |                          |  |
|------------------|--------------------------|--|
| Manufacturer     | L&P Co., LTD             |  |
| Model No.        | F1-25-004-15             |  |
| Diameter         | 6A                       |  |
| Working pressure | 1.8MPa                   |  |
| Material         | Bras s (KS D 5101 C3771) |  |



## **FS-27S / FS-25S Gas Fire Extinguishing Unit for TPS, EPS**

- Storage Cylinder FM-200
- Storage Cylinder HFC-125
- Pressure Switch

## Storage Cylinder



The system is designed specifically for electrical engineering rooms, electrical engineering axes, small areas.

|                    |                        |                        |
|--------------------|------------------------|------------------------|
| Manufacturer       | L&P Co., LTD           |                        |
| Model No.          | FS-27S-XXXX            | FS-25S-XXXX            |
| Water capacity     | 4ℓ                     | 4ℓ                     |
| Activation type    | Automatic by 68oc heat | Automatic by 68oc heat |
| Air discharge time | <10s                   | <10s                   |
| Test Pressure      | 42.0MPa (42bar)        | 42.0MPa (42bar)        |
| Working Pressure   | 25.0MPa (25bar)        | 25.0MPa (25bar)        |
| Color              | Red                    | Red                    |
| Load range         | 2kg ~ 6kg (FM-200)     | 2kg ~ 4kg (HFC-125)    |
| Material           | Mn-Steel (KS B 6210)   | Mn-Steel (KS B 6210)   |

## Storage Cylinder



The system is designed specifically for electrical engineering rooms, electrical engineering axes, small areas.

|                  |                        |                        |
|------------------|------------------------|------------------------|
| Ma nufacturer    | L&P Co., LTD           |                        |
| Model No.        | FS-27S-XXXX            | FS-25S-XXXX            |
| Water capacity   | 14ℓ                    | 14ℓ                    |
| Activation type  | Automatic by 68oc heat | Automatic by 68oc heat |
| Length           | <10s                   | <10s                   |
| Test Pressure    | 42.0MPa (42bar)        | 42.0MPa (42bar)        |
| Working Pressure | 25.0MPa (25bar)        | 25.0MPa (25bar)        |
| Color            | Red                    | Red                    |
| Load range       | 7kg ~ 16kg (FM-200)    | 5kg ~ 10kg (HFC-125)   |
| Material         | Mn-Steel (KS B 6210)   | Mn-Steel (KS B 6210)   |

## Storage Cylinder



The system is designed specifically for electrical engineering rooms, electrical engineering axes, small areas.

|                  |                        |                        |
|------------------|------------------------|------------------------|
| Manufacturer     | L&P Co., LTD           |                        |
| Model No.        | FS-27S-XXXX            | FS-25S-XXXX            |
| Water capacity   | 20ℓ                    | 20ℓ                    |
| Activation type  | Automatic by 68oc heat | Automatic by 68oc heat |
| Le nght          | <10s                   | <10s                   |
| Test Pressure    | 42.0MPa (42bar)        | 42.0MPa (42bar)        |
| Working Pressure | 25.0MPa (25bar)        | 25.0MPa (25bar)        |
| Color            | Red                    | Red                    |
| Load range       | 10kg ~ 23kg (FM-200)   | 8kg ~ 16kg (HFC-125)   |
| Material         | Mn-Steel (KS B 6210)   | Mn-Steel (KS B 6210)   |

## Pressure switch



A devide to turn on the discharge La mp, it is activated by outlet gas pressure

|                   |                             |
|-------------------|-----------------------------|
| Ma nufacturer     | L&P Co., LTD                |
| Mo del No.        | DY-PS-01 / DY-PS-02         |
| Operating Voltage | DC-24V                      |
| Rated Current     | 5A                          |
| Di mension        | 67mm(W) x 28mm(D) x 62mm(H) |
| Color             | Black                       |
| Operating         | 5-100 kg/Cm2                |



## Others

- Selection Valve
- Discharge Nozzle
  - Safety valve
  - Check Valve
  - Relief Valve
- Actuating Device
  - Solenoid Valve
- Modular Control Panel
  - Discharge Lamp
  - Pressure Switch
- Bush Button Activate/ Pause

## Selection Valve



A valve discharges gas agent selectively to where it is needed if you need to make single manifold with more than two Enclosure. Used for system FM-200, Novec1230, CO2

|                     |   |
|---------------------|---|
| Manufacturer        | L&P Co., LTD                              |
| Model No.           | F1-25-005-S25~S150                        |
| Working Pressure    | 6.0MPa                                    |
| Test Pressure       | 12.0Mpa                                   |
| Leak Test           | 13.2MPa                                   |
| Method of Operation | Pneumatic Type / Laver Type               |
| Material            | Stainless Steel Casting(KS D 4103 SSC13A) |

## Selection Valve



A valve discharges gas agent selectively to where it is needed if you need to make single manifold with more than two Enclosure. Used for system IG-100, IG-541

|                     |   |
|---------------------|---|
| Manufacturer        | L&P Co., LTD                              |
| Model No.           | F1-25-005-25~150                          |
| Working Pressure    | 9.5MPa                                    |
| Test Pressure       | 16.5Mpa                                   |
| Leak Test           | 13.2MPa                                   |
| Method of Operation | Pneumatic Type / Laver Type               |
| Material            | Stainless Steel Casting(KS D 4103 SSC13A) |

## Discharge Nozzle



A Nozzle to discharge gas agent to Enclosure effectively, making agent quantity and timing on time.

|              |  |
|--------------|--|
| Manufacturer | L&P Co., LTD   |
| Model No.    | F1-25-007-F15~F50 Type 360<br>F1-25-007-S15~S50 Type 180<br>(for FM-200, HFC-125, IG-100 system exclusively) |
| Size         | 15A~50A  |
| Material     | Aluminium(KS D 6763 A6061) / Brass(KS D 5101 C3604)  |

## Safety valve



A valve which automatically releases gas agent when the pressure exceeds preset limits. It prevents manifold broke down.

|                  |                         |                         |
|------------------|-------------------------|-------------------------|
| Manufacturer     | L&P Co., LTD            |                         |
| Model No.        | F1-25-009               | F1-25-009               |
| Size             | 20A                     | 15A                     |
| Working pressure | 9.0MPa                  | 6~8 Mpa                 |
| Material         | Brass (KS D 5101 C3604) | Brass (KS D 5101 C3604) |

## Check Valve



A check valve which keeps CO<sub>2</sub>, N<sub>2</sub> from flowing backward.

|                |                        |
|----------------|------------------------|
| Manufacturer   | L&P Co., LTD           |
| Model No.      | F1-25-010              |
| Diameter       | 6A or 8A               |
| Leak Test      | 6.5MPa                 |
| Hydraulic Test | 9.8MPa                 |
| Material       | Brass(KS D 5101 C3604) |

## Relief Valve



A valve used to control gas agent discharge mistakenly when CO<sub>2</sub>, N<sub>2</sub> cylinder leaks.

|                  |                        |
|------------------|------------------------|
| Manufacturer     | L&P Co., LTD           |
| Model No.        | F1-25-008              |
| Diameter         | 6A or 8A               |
| Working Pressure | 0.1~0.3MPa             |
| Material         | Brass(KS D 5101 C3604) |

## Actuating Device



Activating device to release high pressured gas from CO<sub>2</sub> cylinder by using solenoid valve. The discharged gas opens selection valve and cylinder valve.

|                       |   |
|-----------------------|---|
| Manufacturer          | L&P Co., LTD  |
| Model No.             | F1-25-006 (CO <sub>2</sub> )                        |
| Standard              | 0.65kg/1L, DC-24V                                   |
| Dimension             | 320mm(W) x 125mm(D) x 410mm(H)                      |
| Material              | SSC 13A   |
| accessories and parts | Actuating cylinder, Pressure switch, Solenoid valve |

## Actuating Device



Activating device to release high pressured gas from N<sub>2</sub> cylinder by using solenoid valve. The discharged gas opens selection valve and cylinder valve.

|                       |   |
|-----------------------|---|
| Manufacturer          | L&P Co., LTD  |
| Model No.             | F1-25-006 (N <sub>2</sub> )                         |
| Standard              | 5.1L/100Bar, DC-24V                                 |
| Dimension             | 350mm(W) x 180mm(D) x 620mm(H)                      |
| Material              | SSC 13A   |
| accessories and parts | Actuating cylinder, Pressure switch, Solenoid valve |

## • Solenoid Valve



It is an electromechanically operated valve. It activates CO<sub>2</sub>, N<sub>2</sub> cylinder valve in actuating device.

|                   |                               |
|-------------------|-------------------------------|
| Manufacturer      | L&P Co., LTD                  |
| Model No.         | DY-6A-01                      |
| Dimension         | 135mm(W) x 25mm(D) x 103mm(H) |
| Operating Voltage | DC-24V                        |
| Rated Current     | 1.5A                          |

## • Discharge Lamp



Lamp to indicate danger of enclosure when gas agent discharged.

|                   |                              |
|-------------------|------------------------------|
| Manufacturer      | Dongshin Fire Co., LTD       |
| Model No.         | DS-DLX21                     |
| Operating Voltage | DC-24V                       |
| Dimension         | 272mm(W) x 45mm(D) x 94mm(H) |
| Rated Current     | 100mA                        |
| Color             | Pale yellow                  |

## • Discharge Lamp



Lamp to indicate danger of enclosure when gas agent discharged (Waterproof type).

|                   |                               |
|-------------------|-------------------------------|
| Manufacturer      | Dongshin Fire Co., LTD        |
| Model No.         | DS-DLX22                      |
| Operating Voltage | DC-24V                        |
| Dimension         | 300mm(W) x 60mm(D) x 120mm(H) |
| Rated Current     | 100mA                         |
| Color             | Red                           |

## • Modular Control Panel



It controls a manual operation box, smoke & heat detectors, Siren, Solenoid valve and so on.

|                       |                               |
|-----------------------|-------------------------------|
| Manufacturer          | Dongshin Fire Co.,LTD         |
| Model No.             | DSCP-3E / DSCP-3              |
| Dimension             | 250mm(W) x 85mm(D) x 360mm(H) |
| Circuit Specification | Single                        |
| Rated Current         | AC220V/60Hz                   |

## Push Button Activate/ Pause



A firearms term describing any type of firearm action that is loaded one shot at a time by the user rather than automatically. Located near main door to discharge gas agent manually.

|                   |                               |
|-------------------|-------------------------------|
| Manufacturer      | Dong shin Fire Co.,LTD        |
| Model No.         | DMB-1 / DMB-1A                |
| Dimension         | 170mm(W) x 60mm(D) x 185mm(H) |
| Operating Voltage | DC -24V                       |
| Color             | Pale yellow                   |

## Modular Package 1BT



Modular FM200, HFC-125 or Novec1230 gas cylinder box set. Type for 1 gas cylinder.

|               |   |
|---------------|---|
| Manufacturer  | L&P Co., LTD  |
| Model No.     | F227-MD-01  |
| Dimension     | 450mm(W) x 430mm(D) x 1900mm(H) Type 67.5L<br>450mm(W) x 430mm(D) x 2100mm(H) Type 82.5L<br>500mm(W) x 480mm(D) x 2100mm(H) Type 140L |
| Type Cylinder | 67.6Ltr / 82.5Ltr / 140Ltr  |
| Color         | Ivory   |

## Modular Package 2BT



Modular FM200, HFC-125 or Novec1230 gas cylinder box set. Type for 02 gas cylinder.

|               |   |
|---------------|---|
| Manufacturer  | L&P Co., LTD  |
| Model No.     | F227-MD-02  |
| Dimension     | 620mm(W) x 430mm(D) x 1900mm(H) Type 67.5L<br>620mm(W) x 430mm(D) x 2100mm(H) Type 82.5L<br>670mm(W) x 480mm(D) x 2100mm(H) Type 140L |
| Type Cylinder | 67.6Ltr / 82.5Ltr / 140Ltr  |
| Color         | Ivory   |

## Modular Package 3BT



Modular FM200, HFC-125 or Novec1230 gas cylinder box set. Type for 03 gas cylinder.

|               |  |
|---------------|--|
| Manufacturer  | L&P Co., LTD   |
| Model No.     | F227-MD-03   |
| Dimension     | 930mm(W) x 430mm(D) x 1900mm(H) Type 67.5L<br>930mm(W) x 430mm(D) x 2100mm(H) Type 82.5L<br>1100mm(W) x 480mm(D) x 2100mm(H) Type 140L |
| Type Cylinder | 67.6Ltr / 82.5Ltr / 140Ltr   |
| Color         | Ivory  |

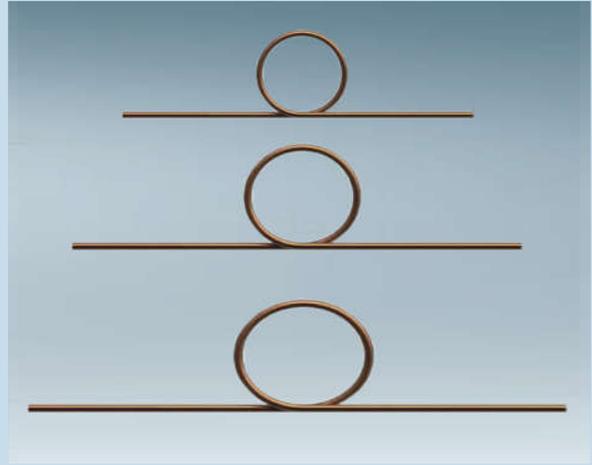
## Lock Out Valve (Safety)



Safety valve lock is used in case of emergency, it is necessary to lock the main pipeline of the gas fire extinguishing system. Do not allow the exhaust system to enter the room.

|                    |                 |               |                  |
|--------------------|-----------------|---------------|------------------|
| Manufacturer       | L&P Co.,LTD     |               |                  |
| Model No.          | LV - 50 ~ 150   |               |                  |
| Size               | 50A ~ 150A      |               |                  |
| Design Pressure    | 8.0 MPa (80bar) |               |                  |
| Leak Test          | 9.6MPa (96bar)  | Hyd Test      | 12.0MPa (120bar) |
| Actuator Air Press | 5.5 ~ 10bar     | Test Pressure | To KFI Law       |
| Material           | NACE MR0175     |               |                  |

## Copper Tube



Copper tubing is used to direct the flow of the drive fluid to the pneumatic actuators. These devices include a selector valve actuator, a needle cylinder (discharge valve actuator), and a pressure switch.

|                     |   |
|---------------------|---|
| Manufacturer        |   |
| Model No.           |   |
| Dimension           | 320mm / 420mm / 600mm / 3000mm / 6000mm |
| Nominal size        | 6A (1/4")                               |
| Min. wall thickness | 0.70mm                                  |

## Cylinder Strap



The cylinder holder can be bolted to a rigid wall or welded to the cylinder assembly support frame.

|                  |                         |  |
|------------------|-------------------------|--|
| Manufacturer     | AEMechanical JSC        |  |
| Model No.        |                         |  |
| Size of cylinder | 68L / 82L / 140L / 180L |  |
| Thickness        | 2mm                     |  |
| Material         | Steel CT3               |  |
| Color            | Black                   |  |

## Pressure Relief Damper



Pressure relief dampers for gas fire extinguishing systems and transformer substations. Blades open when the maximum differential pressure is exceeded and close automatically when the pressure drops. Operating temperature 0 to 80 °C

|                    |               |
|--------------------|---------------|
| Manufacturer       | L&P Co., LTD  |
| Model No.          | LP BDD-1 ~ 7  |
| Product dimensions | 150mm ~ 700mm |
| Working pressure   | 50 ~ 100 pa   |
| Carbon steel       | 1.5mm ~ 4mm   |

L&P Co., Ltd will make a standard  
not only in Korea, but globally.

*Thank you always*



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