

Greater Value Together  
**LS Cable & System**



## HV Cable Accessory for 66 ~ 550kV

Safety and Efficiency Always Lead to Right Solution



## About us

Since the company was founded in 1962, we have developed, produced and sold cable-related solutions, contributing to The establishment of power grids and communications networks at home and abroad. Our cutting-edge products such as submarine, superconducting, HV/EHV and communication cable system have been supplied to energy agencies, heavy electrical equipment manufacturers and telecommunication companies in North America, South America, Europe, Middle East and Asia, which have helped us to be Recognized as a global leading company.

### EHV Connection Division

We are one of the leading cable connection providers and has own development and design institutions. We are able to provide customized products upon customer's various requirements and conditions from our most efficient and convenient solutions.



We provide customized training program through our academy institution located in Korea. Our certified engineers are distinguished themselves in the fields over 50 countries in the world.



**2545**

Mil US\$  
Revenue 2016



**4065**

Employee  
world wide



**56**

Years  
in the market



**72**

Served  
Countries



**18**

Subsidiaries  
in 5 continents



**3**

R&D center  
world wide

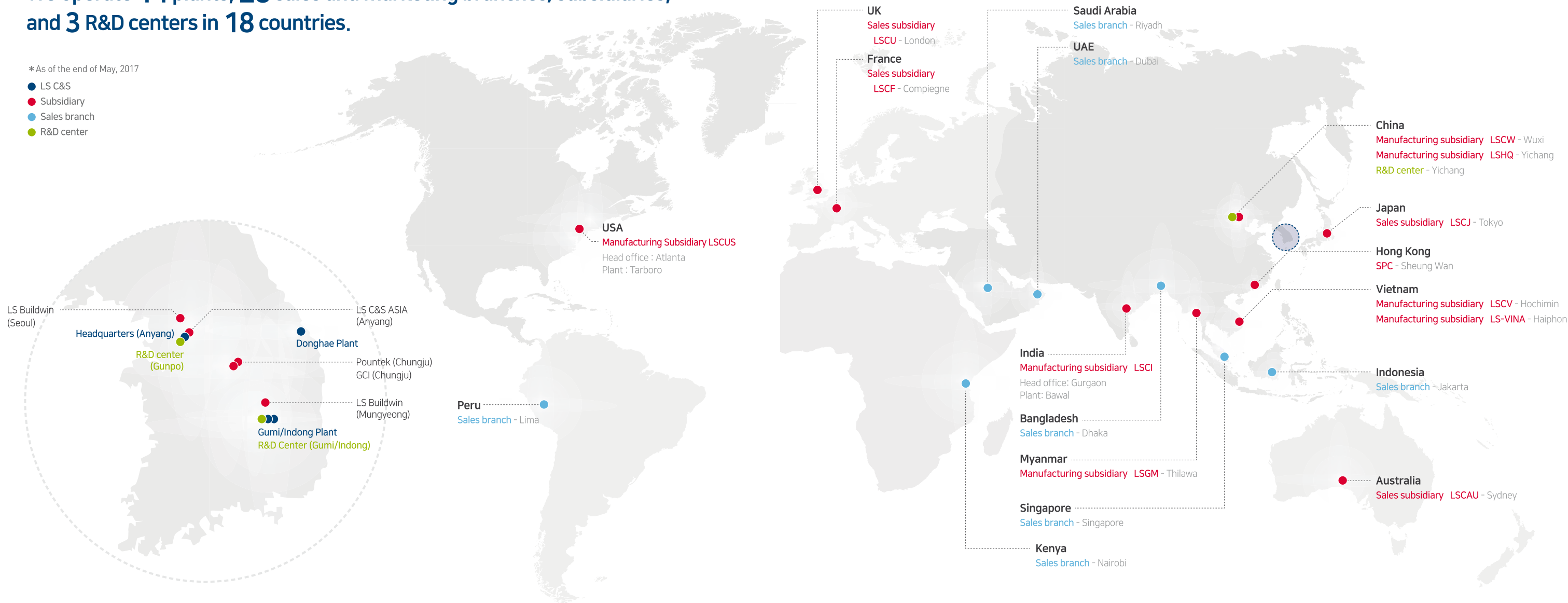


# Global Business

We operate **14** plants, **28** sales and marketing branches/subsidiaries, and **3** R&D centers in **18** countries.

\* As of the end of May, 2017

- LS C&S
- Subsidiary
- Sales branch
- R&D center



## Key Overseas Manufacturing Subsidiaries

LSCW	
Location (Date of Establishment)	Wuxi, China (2003)
Building Area	23,985㎡
Employees	339
Main Product	Industrial cables; tubes; AL PFC; and harness & module
Annual Capacity	1,680 km of industrial cables; 2,400 tons of AL PFC 2,400; and 258,000 units of harness & module

LSHQ	
Location (Date of Establishment)	Yichang, China (Incorporated in 2009)
Building Area	141,587㎡
Employees	430
Main Product	HV/EHV cables; submarine cables; power distribution cables; industrial/specialty cables; and overhead transmission lines
Annual Capacity	588km of HV/EHV cables; and 3,276km of power distribution cable

LS-VINA	
Location (Date of Establishment)	Haiphong, Vietnam (1996)
Building Area	29,337㎡
Employees	406
Main Product	HV/EHV cables; power distribution cables; and overhead transmission lines
Annual Capacity	63,000km of power cables; and 12,960km of overhead transmission lines

LSCV	
Location (Date of Establishment)	Ho Chi Minh, Vietnam (2006)
Building Area	89,542㎡
Employees	316
Main Product	Communications cables (UTP/Fiber optic cables); and power distribution cables
Annual Capacity	1,260,000 Boxes of UTP; 9,600 tons of LV; and 21,600km of fiber optic cables

LSCI	
Location (Date of Establishment)	Gurgaon/Bawal, India (2007)
Building Area	29,000㎡
Employees	138
Main Product	Communication cables (coaxial/FTTA); HV/EHV cables; and OPGW
Annual Capacity	9,600km communications cables; and 300km of power cables





## More, farther and more stably LS Cable & System progresses toward the future of the global energy industry

LS Cable & System is working to promote the development of more stable, reliable transmission of increasingly large quantities of electric power. Now that electric energy is becoming more important, we are prepared to challenge by developing extra high voltage and superconducting cables that respond to a growing need to increase transmission capacity, and develop HVDC cables that can connect power grids that span countries, borders, and bodies of water. LS Cable & System is capitalizing on its diverse experience and know-how of design and construction, e.g. connection and installation, as well as cable manufacturing to export cable systems to more than 100 countries around the world, making the company recognized on the global stage.



### Super conducting Cable

DC 154kV

Superconducting cable, the next generation, environmentally-friendly transmission system, can multi-line underground transmission lines with a single line. 154kV superconducting lines can also be used to substitute underground 345kV lines



### Extra high voltage Cable

500kV XLPE

The use of extra high voltage XLPE cables is increasing due to their excellent insulation capabilities costs. Currently, cables up to 500kV XLPE are available in the market.



### HVDC Cable

DC  $\pm 500$ kV MI

HVDC cable, capable of large-capacity and long-distance transmission with minimal power loss, requires state-of-the-art design and production technology. Two HVDC cables can transmit more electricity than three AC cable.







# HV Cable Accessory for 66 ~ 550kV

Safety and Efficiency Always Lead to Right Solution

As an extra high voltage cable and accessories manufacturer and a division of LS Cable, we never stop researching, designing, developing, and manufacturing products with the higher level of quality to address the ever-changing demands in everyday life as well as in the industry. Our quality control meets the most delicate requirements of international standards and the high level of quality is recognized both by local and international clients. Our commitment to develop and deliver solutions to address our customers' needs and challenges keep our technology on the cutting edge and our know-how in the field more valuable, which our customers highly appreciate. We are looking forward to working with you.

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## HV Cable Accessory for 66 ~ 550kV LS Pro-Con Outdoor Termination

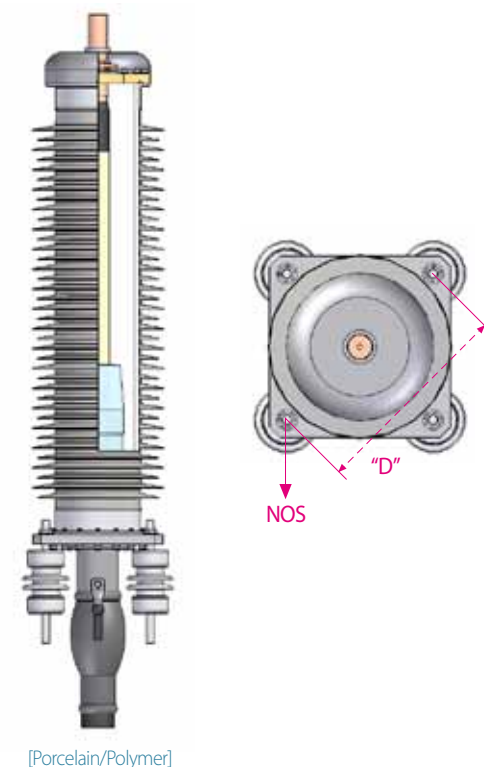
### Application Business

LS outdoor termination is based on pre-molded silicone rubber sleeve designed to fit with controlled interference over the cable insulation and able to follow the cable size variations with sufficient positive pressure to control the electrical stress by elastic retention of silicone material itself.

The termination is filled with polybutene oil up to optimized level where the electric stress is substantially reduced thereby not requiring an oil reservoir or monitoring system as additional maintenance expenses. The termination base plate and the cable's metallic sheath are electrically insulated from the supporting structure by means of stand off insulators designed to withstand both mechanical and electrical stresses in services. Either porcelain or polymer hollow insulator can be supplied depending upon requests. They are currently available to the maximum allowable cable conductor size of 2500mm<sup>2</sup>

### [Product Specification]

- For all types of XLPE insulated cables
- Porcelain & Polymer both available
- Without Pressurizing & Monitoring
- Configurable creepage distance design
- Self- supported type design
- Maintenance free after installation



Type	Insulator Type "L"		Creepage Distance "L"		Base Plate		Operating voltage	Cable size	Special Add-on
	(mm)	(mm)	"D" (mm)	NOS					
LSPA-01	1500	4000	Φ490	4	72.5 ~ 145kV	200SQ ~ 2500SQ			
LSPA-03	2000	6000	Φ490						
LSPA-05	2400	7200	Φ490						
LSPA-07	2700	8400	Φ600						
LSPA-09	3500	11500	Φ700	6	245 ~ 300kV	300SQ ~ 2500SQ			*OP: Embedded Fiber optic box
LSPA-11	4300	13000	Φ800						
LSPA-13	5000	16300	Φ800						
LSPA-15	5000	18700	Φ900						
LSPA-02	1500	4000	Φ490	4	72.5 ~ 145kV	200SQ ~ 2500SQ			
LSPA-04	2000	6400	Φ490						
LSPA-06	2400	7700	Φ490						
LSPA-08	2700	8900	Φ600						
LSPA-10	3500	11700	Φ700	6	245 ~ 300kV	300SQ ~ 2500SQ			*SB: Connection by shear bolt
LSPA-12	4300	14000	Φ800						
LSPA-14	5000	17000	Φ800						
LSPA-16	5100	18000	Φ900						

\* Dry flexible Type is order made designed upon request of installation conditions

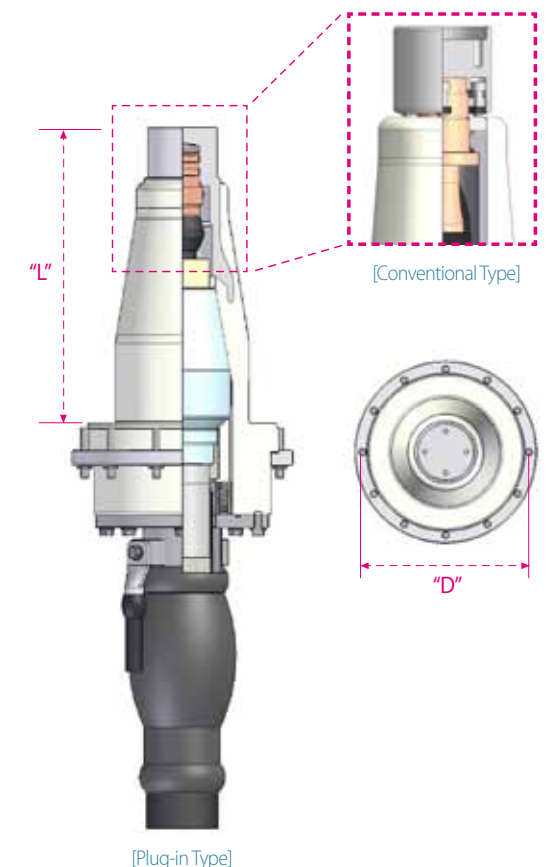
## HV Cable Accessory for 66 ~ 550kV LS Pro-Con GIS Termination

### Application Business

The construction of SF6 gas insulated termination is based on stress relief cone and epoxy resin housing. There are mechanical devices to maintain interface pressure for dry type and embedded insulating plate to isolate between cable sheath and GIS chamber thereby not requiring an oil reservoir as additional maintenance expenses. without oil reservoir for maintenance free. The dry type could be easily installed in any position. The SVL (Sheath Voltage Limiter) can be installed to protect epoxy insulating plate from switching impulse. The main insulation components are fully examined and tested in the factory. Design and scope of supply are fully complying with IEC 60859 and IEC 62271-209 and possibly adjusted to various needs of customers such as plug-in type. They are currently available to the maximum allowable cable conductor size of 2500mm<sup>2</sup>

### [Product Specification]

- For all types of XLPE insulated cables
- Conventional & Plug-in both available
- All dimension can be customized for existing system
- Without Pressurizing & Monitoring
- Easy adaptation for all GIS types
- Maintenance-free after installation



Type	Insulator Type according to IEC 62271-209	Insulator Size "L"		Base Plate	Operating voltage	Cable size	Special Add-on
		(mm)	"D" (mm)			(mm)	
LSPG-01	Conventional	Fluid filled Dimension (Figure.3)	583	Φ270	72.5 ~ 100kV	200SQ ~ 2500SQ	*OP: Embedded Fiber optic Joint box
LSPG-03			757	Φ320	123 ~ 170kV	200SQ ~ 2500SQ	
LSPG-05			960	Φ582	245 ~ 300kV	300SQ ~ 2500SQ	
LSPG-07			1400	Φ640	362 ~ 550kV	500SQ ~ 2500SQ	
LSPG-09	Plug-in	Dry Dimension (Figure.5)	310	Φ270	72.5 ~ 100kV	200SQ ~ 2500SQ	*SL: Surge limiter for protecting
LSPG-11			470	Φ320	123 ~ 170kV	200SQ ~ 2500SQ	
LSPG-13			620	Φ475	245 ~ 300kV	300SQ ~ 2500SQ	
LSPG-15			960	Φ640	362 ~ 550kV	500SQ ~ 2500SQ	
LSPG-02	Conventional	Fluid filled Dimension (Figure.3)	583	Φ270	72.5 ~ 100kV	200SQ ~ 2500SQ	*SB: Connection by shear bolt
LSPG-04			757	Φ320	123 ~ 170kV	200SQ ~ 2500SQ	
LSPG-06			960	Φ582	245 ~ 300kV	300SQ ~ 2500SQ	
LSPG-08			1400	Φ640	362 ~ 550kV	500SQ ~ 2500SQ	
LSPG-10	Plug-in	Dry Dimension (Figure.5)	310	Φ270	72.5 ~ 100kV	200SQ ~ 2500SQ	
LSPG-12			470	Φ320	123 ~ 170kV	200SQ ~ 2500SQ	
LSPG-14			620	Φ475	245 ~ 300kV	300SQ ~ 2500SQ	
LSPG-16			960	Φ640	362 ~ 550kV	500SQ ~ 2500SQ	

\* Non-IECT Type for existing GIS is order made designed upon request of installation conditions

## HV Cable Accessory for 66 ~ 550kV LS Pro-Con Transformer Termination

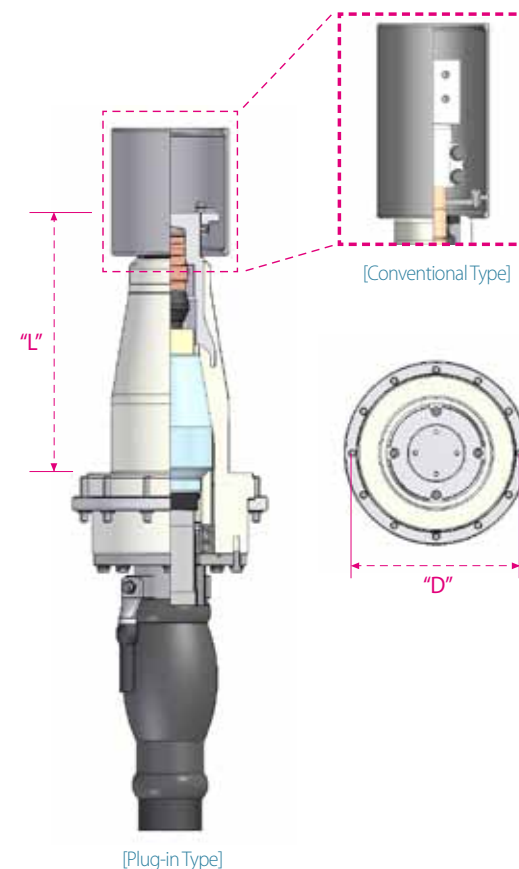
### Application Business

The construction of oil immersed terminations is based on stress relief cone and epoxy housing. There are mechanical devices to maintain interface pressure for dry type and embedded insulating plate to isolate between cable sheath and Transformer chamber thereby not requiring an oil reservoir as additional maintenance expenses. The dry type could be easily installed in any position.

The main insulation components are fully examined and tested in the factory. Design and scope of supply are normally complying with EN 50299 and possibly adjusted to various needs of customers such as plug-in type. If required, terminal lug can be supplied for TR design. They are currently available to the maximum allowable cable conductor size of 2500mm<sup>2</sup>.

### [Product Specification]

- For all types of XLPE insulated cables
- Conventional & Plug-in both available
- All dimension can be customized for existing system
- Without Pressurizing & Monitoring
- Easy adaptation for all Transformer types
- Maintenance-free after installation



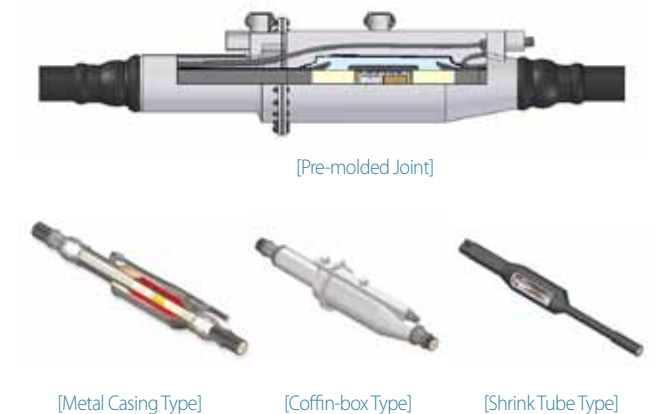
Type	Insulator Type according to IEC 62271-209	Insulator Size "L" (mm)	Base Plate "D" (mm)	Operating voltage	Cable size (mm)	Special Add-on
LSPO-01	Conventional	583	Φ270	72.5 ~ 100kV	200SQ ~ 2500SQ	*OP: Embedded Fiber optic Joint box
LSPO-03		757	Φ320	123 ~ 170kV	200SQ ~ 2500SQ	
LSPO-05		960	Φ582	245 ~ 300kV	300SQ ~ 2500SQ	
LSPO-07		1400	Φ640	362 ~ 550kV	500SQ ~ 2500SQ	
LSPO-09	Dry Dimension (50299-2)	310	Φ270	72.5 ~ 100kV	200SQ ~ 2500SQ	*SL: Surge limiter for protecting
LSPO-11		470	Φ320	123 ~ 170kV	200SQ ~ 2500SQ	
LSPO-13		620	Φ475	245 ~ 300kV	300SQ ~ 2500SQ	
LSPO-15		960	Φ640	362 ~ 550kV	500SQ ~ 2500SQ	
LSPO-02	Plug-in	583	Φ270	72.5 ~ 100kV	200SQ ~ 2500SQ	*SB: Connection by shear bolt
LSPO-04		757	Φ320	123 ~ 170kV	200SQ ~ 2500SQ	
LSPO-06		960	Φ582	245 ~ 300kV	300SQ ~ 2500SQ	
LSPO-08		1400	Φ640	362 ~ 550kV	500SQ ~ 2500SQ	
LSPO-10		310	Φ270	72.5 ~ 100kV	200SQ ~ 2500SQ	
LSPO-12		470	Φ320	123 ~ 170kV	200SQ ~ 2500SQ	
LSPO-14		620	Φ475	245 ~ 300kV	300SQ ~ 2500SQ	
LSPO-16		960	Φ640	362 ~ 550kV	500SQ ~ 2500SQ	

\* Non-EN Type for existing Transformer is order made designed upon request of installation conditions

## HV Cable Accessory for 66 ~ 550kV LS Smart Pre-molded Joint

### Application Business

The single piece pre-molded joint is based on silicone insulation embedded with two semi-conductive deflectors and one HV electrode. Without mechanical devices, the interface pressure is safely maintained with elastic retention of material itself. Upon condition of the installation outer protective casing are designed especially. For sheath sectionalizing, proper insulating layers would be included to disconnect between phases. The main insulation and components are fully examined and tested in the factory. The simplified design along with easy and smart installation meets the various needs of customers. They are currently available to the maximum allowable cable conductor size of 2500mm<sup>2</sup>.



### [Product Specification]

- For all types of XLPE insulated cables
- Transition free for Al to Cu conductor cable
- Maintenance free after installation
- One piece pre-molded joint based on SIR
- Easy Installation for all laying condition
- Diversion free for differential cable size
- Optimized outer casing solutions

Type	Outer casing Type	Operating voltage	Cable size	Special Add-on
LSIJ-01	Non-sheath sectionalizing	72.5 ~ 100kV	200SQ ~ 2500SQ	*OP: Embedded Fiber optic Joint box
LSIJ-02		123 ~ 170kV	200SQ ~ 2500SQ	
LSIJ-03		245 ~ 300kV	300SQ ~ 2500SQ	
LSIJ-04		362 ~ 550kV	500SQ ~ 2500SQ	
LSIJ-05		72.5 ~ 100kV	200SQ ~ 2500SQ	
LSIJ-06		123 ~ 170kV	200SQ ~ 2500SQ	
LSIJ-07		245 ~ 300kV	300SQ ~ 2500SQ	
LSIJ-08		362 ~ 550kV	500SQ ~ 2500SQ	
LSIJ-09		72.5 ~ 100kV	200SQ ~ 2500SQ	
LSIJ-10		123 ~ 170kV	200SQ ~ 2500SQ	
LSIJ-11		245 ~ 300kV	300SQ ~ 2500SQ	
LSIJ-12		362 ~ 550kV	500SQ ~ 2500SQ	
LSNJ-01	Sheath sectionalizing	72.5 ~ 100kV	200SQ ~ 2500SQ	*CD: Core differential Joint for Diversion
LSNJ-02		123 ~ 170kV	200SQ ~ 2500SQ	
LSNJ-03		245 ~ 300kV	300SQ ~ 2500SQ	
LSNJ-04		362 ~ 550kV	500SQ ~ 2500SQ	
LSNJ-05		72.5 ~ 100kV	200SQ ~ 2500SQ	*SB: Connection by shear bolt
LSNJ-06		123 ~ 170kV	200SQ ~ 2500SQ	
LSNJ-07		245 ~ 300kV	300SQ ~ 2500SQ	
LSNJ-08		362 ~ 550kV	500SQ ~ 2500SQ	
LSNJ-09		72.5 ~ 100kV	200SQ ~ 2500SQ	
LSNJ-10		123 ~ 170kV	200SQ ~ 2500SQ	
LSNJ-11		245 ~ 300kV	300SQ ~ 2500SQ	
LSNJ-12		362 ~ 550kV	500SQ ~ 2500SQ	

\* Shrink Tube Type is order made designed upon request of installation conditions

## HV Cable Accessory for 66 ~ 550kV

### LS Reliable Oil filled accessories

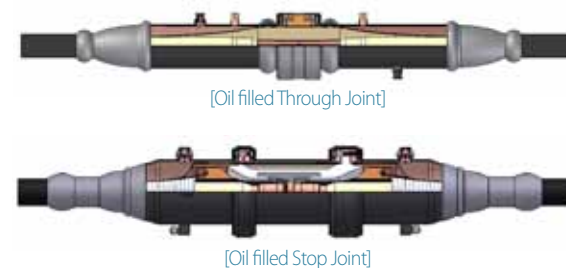
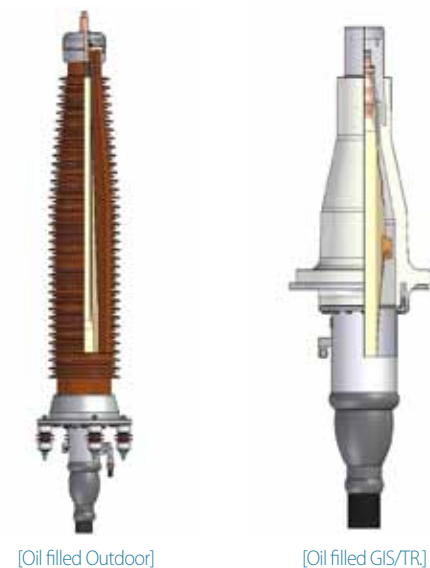
#### Application Business

For maintenance of existing oil filled cable system, LS can provide all type of adjustable oil filled accessories, if required with spare oil filled cable. Diversion case and transition case to XLPE system, LS oil filled accessories can be customized by means of special design with various of devices for oil feeding system. Design and scope of supply are fully complying with IEC 60141-1 and possibly adjusted needs of customers.

Moreover for management of reliable cable system LS have a capability to be optimized system engineering service and diagnosis solutions for remaining life expectancy of existing oil filled cable system.

#### [Product Specification]

- For all types of low pressure oil insulated cables
- Immersed Craft & PPLP insulation paper depends on cable
- Complied with IEC 60141-1 specification
- Available to Spare, Diversion and Transition to XLPE
- All kinds of devices for oil feeding system
  - Pressure tank, oil gauge & alarm system, valve & connectors



Type	Outer casing Type	Max Operating voltage	Cable size	Special Add-on
LSRO01	Outdoor Termination	72.5 ~ 100kV	200SQ ~ 2500SQ	*PT : Pressure tank for oil reservoir
LSRO02		123 ~ 170kV		
LSRO03		245 ~ 300kV	400SQ ~ 2500SQ	
LSRO04		362 ~ 420kV		
LSRO05	GIS/TR Termination	72.5 ~ 100kV	200SQ ~ 2500SQ	*VP : Valve gauge panel
LSRO06		123 ~ 170kV		
LSRO07		245 ~ 300kV	400SQ ~ 2500SQ	
LSRO08		362 ~ 420kV		
LSRO09	Oil through Joint	72.5 ~ 100kV	200SQ ~ 2500SQ	*AR : Alarm monitoring device
LSRO10		123 ~ 170kV		
LSRO11		245 ~ 300kV	400SQ ~ 2500SQ	
LSRO12		362 ~ 420kV		
LSRO13	Oil stop Joint	72.5 ~ 100kV	200SQ ~ 2500SQ	
LSRO14		123 ~ 170kV		
LSRO15		245 ~ 300kV	400SQ ~ 2500SQ	
LSRO16		362 ~ 420kV		

\* Oil feeding devices are order made designed upon request of installation conditions

## HV Cable Accessory for 66 ~ 550kV

### LS Fit Special accessories

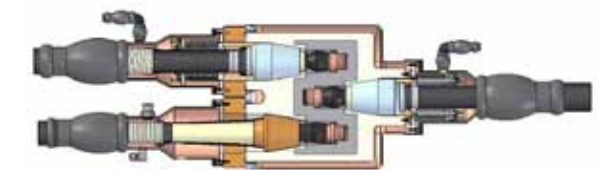
#### Application Business

For maintenance of existing oil filled cable system, LS can provide all type of adjustable oil filled accessories, If required with spare oil filled cable. Diversion case and transition case to XLPE system, LS oil filled accessories can be customized by means of special design with various of devices for oil feeding system. Design and scope of supply are fully complying with IEC 60141-1 and possibly adjusted needs of customers.

Moreover LS have a capability to be optimized system engineering service and diagnosis solutions for remaining Life expectancy of existing oil filled cable system.



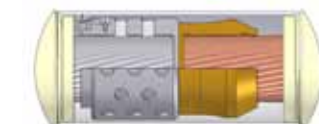
[Transition Joint for Oil filled to XLPE Cable]



[Y-brunch Joint for Oil filled to XLPE Cable]



[Core differential Pre-molded]



[AL-CU connector]

#### [Product Specification]

- For all types of transition, diversion, brunch case
- Various type of Line-up depends on cable size
- Most of dimensions can be customized for existing
- Core differential Pre-molded makes slim fit size
- Shear bolt technology regardless of conductor material
- Very Easy and convenient installation method

Type	Outer casing Type	Max Operating voltage	Cable size	Special Add-on
LSFS-01	OF-XLPE Transition	72.5 ~ 100kV	200SQ ~ 2500SQ	*OP : Embedded Fiber optic Joint box
LSFS-02		123 ~ 170kV		
LSFS-03		245 ~ 300kV		
LSFS-04		362 ~ 420kV		
LSFS-05	Y-brunch	72.5 ~ 100kV	400SQ ~ 2500SQ	*SH : Connection by shear bolt
LSFS-06		123 ~ 170kV		
LSFS-07		245 ~ 300kV		
LSFS-08		362 ~ 420kV		
LSFS-09	3Core Application	72.5 ~ 100kV	200SQ ~ 1200SQ	*SC : Connection AL-CU
LSFS-10		123 ~ 170kV		
LSFS-11		245 ~ 300kV		
LSFS-12		362 ~ 420kV		
LSFS-13	Core Differential	72.5 ~ 100kV	400SQ ~ 2500SQ	
LSFS-14		123 ~ 170kV		
LSFS-15		245 ~ 300kV		
LSFS-16		362 ~ 420kV		

\* All of the Fit special Joint are order made designed upon request of installation conditions



## HV Cable Accessory for 66 ~ 550kV

### LS Various types of Link box

#### Application Business

Link Boxes are used at the end of cable termination to gain easy access to the cable metallic sheath and to limit the transient over-voltage induced on the metallic sheath by the lightning, switching operations and fault currents. Cross bonding link boxes allow metallic sheath to be transposed at cable joints with surge voltage suppression and reduction of circulation currents. Sheath voltage limiters(SVLs) in link box are the gapless ZnO arresters, which have the insulation resistance above 100MΩ at test voltage so that the sheath insulation can be checked without disconnection of SVL. The type of SVL would be designed depends on cable system requirements.



[Buried Type]



[Gantry Mounted Type]

Type	Purpose for	Branch off	Box Type depend on Site		Applied SVL (Uc)	Bonding Lead
LSRO01	Link Box for Earthing	1-1WAY	Gantry Mounted/ Buried	Termination	3kV~21kV	Single Core
LSRO02	Link Box with SVL	1-1WAY				
LSRO03	Link Box for Earthing	3-1WAY				
LSRO04	Link Box with SVL	3-1WAY				
LSRO05	Link Box for Cross-Bonding	3-1WAY				
LSRO06	Link Box for Bonding & Earthing	3-1WAY	Buried	Joint		Concentric Core
LSRO07	Link Box for Bonding with SVL	3-1WAY				

\* Include Surge voltage limiter in the link box of the is order made designed upon request of bonding cable system

## HV Cable Accessory for 66 ~ 550kV

### LS Cable System Test termination

#### Application Business

It is required test terminations for high voltage test on XLPE cables and accessories. LS can provide the most convincing solution for the test termination. L-series terminations are test terminations for heating cycle voltage test. Two GIS terminations assembled to both of the test termination and the test termination is filled by SF<sub>6</sub> gas. The advantage of this termination type is that it is easier to make a closed test circuit compared with two outdoor terminations and enables applying test voltage under flowing current induced from current transformer. V-series terminations are test terminations only to apply test voltage to XLPE cable and accessories and consist of one set of voltage part and end part. The advantage of this termination type is that user can easily assemble between the test termination and XLPE cable by inserting the stress relief cone to the XLPE cable. Generally, the stress relief cone is rubber sleeve and SF<sub>6</sub> gas is filled in the terminations after assembling. Specially the V-1200 test termination is for breakdown voltage test which is used to check of performance of the test object by raising voltage up to 1200kV. It is required to assemble with epoxy condenser and insulation paper, aluminum foil to reinforce the insulating performance. LS supply the assembly manual for using the test terminations.



[V-series test termination]



[L-series test termination]

#### [Product Specification]

- Customized design of test voltage, interface construction
- L-series: Making closed circuit to enable heating cycle voltage test  
(Applying voltage to test loop under flowing current)
- V-series: Convenient preparation for impulse / AC voltage test
- V-1200: Enabling electrical performance test for breakdown test

Type	Purpose for	Test object	Max. AC voltage	Max. lightning impulse voltage	Components
L-300	Heating cycle voltage test (Type test / EQ test)	66 ~ 132kV	300kV	650kVp	Test termination
L-700		220 ~ 500kV	600kV	1,550kVp	Adapters
V-200	Electrical sample test (AC voltage / PD test / Impulse test)	66 ~ 132kV	200kV	650kVp	Two terminations (Voltage part, End part)
V-300		220 ~ 275kV	300kV	1,050kVp	
V-700		345 ~ 500kV	600kV	1,550kVp	Adapters
V-1200		~ 500kV	1200kV	2,000kVp	

HV Cable Accessory for 66 ~ 550kV  
 LS Learning Academy for Training

To provide stable & reliable transmission system to customer, it is essential that providing best product with installation solution. LS Learning Academy have been providing the training service through optimized training course to satisfy for trainee's requirements.

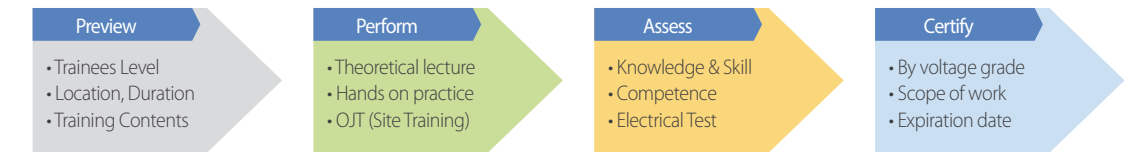
Training Course

Whatever trainee's level, LS can do the planning for the graded training course as per participant's group, level and experience.

Trainee		Course	Duration
Group	Level		
Jointers	Assistant Jointer	Jointer course III	4 weeks
	Jointer	Jointer course II	3 weeks
	Chief Jointer	Jointer course I	2 weeks
Engineers	Site Engineer	Basic engineer course	1 week
	Project Manager	Advanced engineer course	2 weeks



[Training facility of LS Learning Academy]



[Training Course Preview]

Training Facility

The new-built training facility specialized for the practical training course enables the realization of key performance on site.



[Cable Accessory Show Room]



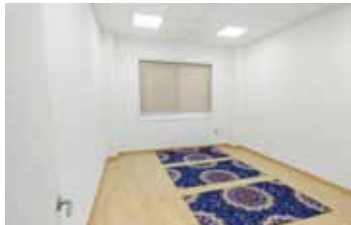
[Practice Room for the Splice]



[Pit for the Termination]



[Lecture Class room]



[Prayer Room]



[Vertical tower for Outdoors]

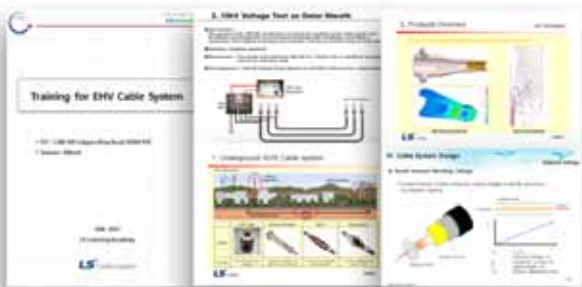
The Curriculum of training is provided for customizing of jointer and engineer course with proper education materials. After completions of training course successfully, certification could be awarded as well.

Training Curriculum

Training plan for Jointer course		Training plan for Engineer course	
<b>To improve technician's skill &amp; knowledge for EHV System</b> <ul style="list-style-type: none"> <li>- Understand general theory of Extra High Voltage cable system</li> <li>- Be familiar with the Drawing, Manual and Check List</li> <li>- Have the skill for treatment Cable and Accessories</li> <li>- Fool proof through hands on practice</li> </ul>		Purpose	<b>To improve engineer's knowledge &amp; project management</b> <ul style="list-style-type: none"> <li>- Understand intensive theory of extra EHV cable system</li> <li>- Be familiar with the Drawing, Manual and Check List</li> <li>- Have the capability for risk &amp; quality management</li> </ul>
<b>[EPC Partners]</b> The local jointers who will install LS cable accessory <b>[Client &amp; End users]</b> The Maintenance & Operation technicians who employ Power electric utilities & company		Target Group	<b>[EPC Partners]</b> The local engineers who will manage PIT using LS Product <b>[Client &amp; End users]</b> The design engineers, project managers, consultants who employ Power electric utilities & company
<b>[EPC Partners]</b> Be a certified jointer by LS to perform jointing work at site <b>[Client]</b> Be a skillful technician to perform jointing work by themselves in case of emergency or repairing works.		Expected Result	<b>[EPC Partners]</b> Be a LS local partners as distributor or installer. <b>[Client]</b> To be an expert for the extra high voltage cable system
<ul style="list-style-type: none"> <li>• Understanding for the EHV Products and Installation</li> <li>• Hands on practice for splicing &amp; terminating work</li> <li>• How to do on site test</li> <li>• On the job training at actual installation site</li> <li>• Cable &amp; Accessory manufacture line tour</li> </ul>		Training Subject	<ul style="list-style-type: none"> <li>• Understanding for EHV Products, Engineering and Installation</li> <li>• Watching on splicing &amp; terminating work</li> <li>• Maintenance work</li> <li>• On the job training at actual installation site</li> <li>• Cable &amp; Accessory manufacture line tour</li> </ul>



Educational Material



Certification





# HV Cable Accessory for 66 ~ 550kV

## LS Tools for Jointing installation

For most convenience and easy installation, LS can provide suitable various tools classified by special & general.

### Special Tools

The special tool would be required to ensure best performance of LS cable accessories.

ALL		
	[Pump]                      [Head & Dies]	
JOINT		
	Sleeve Inserting tool (Manual with chain block)	Grooving Tool

### General Tools

The general tool would be used conventional however If required, LS can provide advanced one as below.

ALL				
	Insulation stripper	AL Sheath Cutter	Belt Sander	Edge Beveling Tool

### Tools Operation

During training course LS trainers would guide the using method of various tools for smart installation.

			
[Hydraulic Pressure Pump set]	[Electric torque wrench]	[Sleeve Inserting tool]	[Belt Sander]
			
[Insulation stripper]	[Grooving Tool]	[Edge Beveling Tool]	[AL Sheath Cutter]

### Tools Specification

Item	Specification	Applied for
Hydraulic Pressure Pump	700 kgf pump 100/150 Ton Head	Apply 100 ~ 150Ton Head depend on conductor & Insulation
Electric torque wrench	150 ~ 3 00 Nm torque	For all kinds of termination and joint
Sleeve Inserting tool	70 kg, manual type	For all kinds of joint
Grooving Tool	4.2 kg	S size : Φ50 ~ 90 diameter L size : Φ90 ~ 130 diameter
Edge Beveling Tool	0.1 kg	For Φ50 ~ 130 diameter
Insulation stripper	3.2 kg	S size : Φ60 ~ 90 diameter L size : Φ90 ~ 130 diameter
AL Sheath Cutter	3.1 kg	S size : Φ85 ~ 125 diameter L size : Φ130 ~ 170 diameter
Belt Sander	2.8 kg	Sand paper : 50W * 650L, #220 ~ 320



# RESEARCH & DEVELOPMENT



## Conducting research for sustainable growth and customer's future

The electrical power and ICT industries will play key roles in the future of the energy industry. In order to take the lead, these industries will require state-of-the-art technology to transmit large quantities of electric power over long distances without loss and innovative solutions for transmitting large amounts of data faster and reliably.

LS Cable & System focuses on R&D for securing core technologies for the future and continuously implements them. With increasing consumer demand to supply power to households and business that are integral to growth and production across the world, LS Cable & System is at the forefront of research and development on the future of the cable industry continuing its customer focus and manufacturing products.



## Developing next-generation cable systems for the tomorrow of the energy industry

LS Cable & System has secured advanced next-generation cable system technologies by investing R&D in telecommunication and industrial cables with a focus on the energy sector including extra high voltage and submarine cables. In particular, we are looking towards the future by primarily focusing on developing superconducting cable systems that can transmit large quantities of electricity without any power loss, world-best HVDC/HVAC submarine cable systems, environmentally-friendly DC distribution networks, and core components for electric vehicles as next-generation growth engines.





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## MEMO

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