

Manufactured by:

**HAPAM**

**BH-DPG/3**

# **Pantograph Disconnectors**

## **Type GSSB**



- More than 75 years of experience
- Durable and reliable design
- Over 30, 000 disconnectors and earthing switches are in service more than 80 countries throughout the world
- Virtually maintenance free

**20** 1995 - 2015  
*Years*  
efficient electricity solutions

**pazifik  
power**

[www.ppi.ph](http://www.ppi.ph)

## General

The pantograph disconnecter consists of three poles. Each pole consists of one support insulator, one rotating insulator, the pantograph mechanism and a counter contact.

## Insulators

The disconnectors can be equipped with insulators in accordance with IEC, ANSI or DIN specifications.

## Pantograph mechanism

The pantograph mechanism is installed on the support insulator and transfers the movement of the rotating insulator to the arms of the pantograph disconnecter. The mechanism is housed in an aluminium enclosure, protecting it against pollution and ice. The springs that compensate the weight of the pantograph arms are also installed in this housing. Each pantograph is equipped with four aluminium arms to ensure a rigid construction with a very high short circuit rating. The main contacts are made of copper, with a silver plated surface. The counter contact is a horizontal copper bar, silver-plated, which has to be connected to the busbar system.

## Earthing switch

HAPAM disconnectors may be equipped with earthing switches, which can be built-on to the pantograph disconnecter. The earthing switch consists of an aluminium tube, provided with silver-plated contacts at both ends.

## Drive mechanism

The disconnectors and/or earthing switches can be single-pole or three-pole operated by means of a motor-operated drive mechanism or a manual-operated drive mechanism. In case only one drive mechanism is used for three-pole operation, the poles are interconnected by means of adjustable coupling rods. The drive mechanism also houses the auxiliary contacts for position indication.

## Testing

The disconnectors and earthing switches are designed and tested in accordance with latest IEC specifications. HAPAM maintains a quality assurance system according to ISO 9001, certified by KEMA.

## Installation

The disconnectors and earthing switches are pre-assembled and adjusted in our works as complete as possible. The construction is designed so that all disconnectors can be installed and adjusted at site very easily, without the need of any special tools. HAPAM provides clear installation instructions and assembly drawings.

## Maintenance

The disconnectors and earthing switches supplied by HAPAM are designed so as to ensure that they are virtually maintenance free. However, to warrant a long and trouble-free service period, we advise that a visual inspection of the contacts and bearing points be carried out at regular intervals.

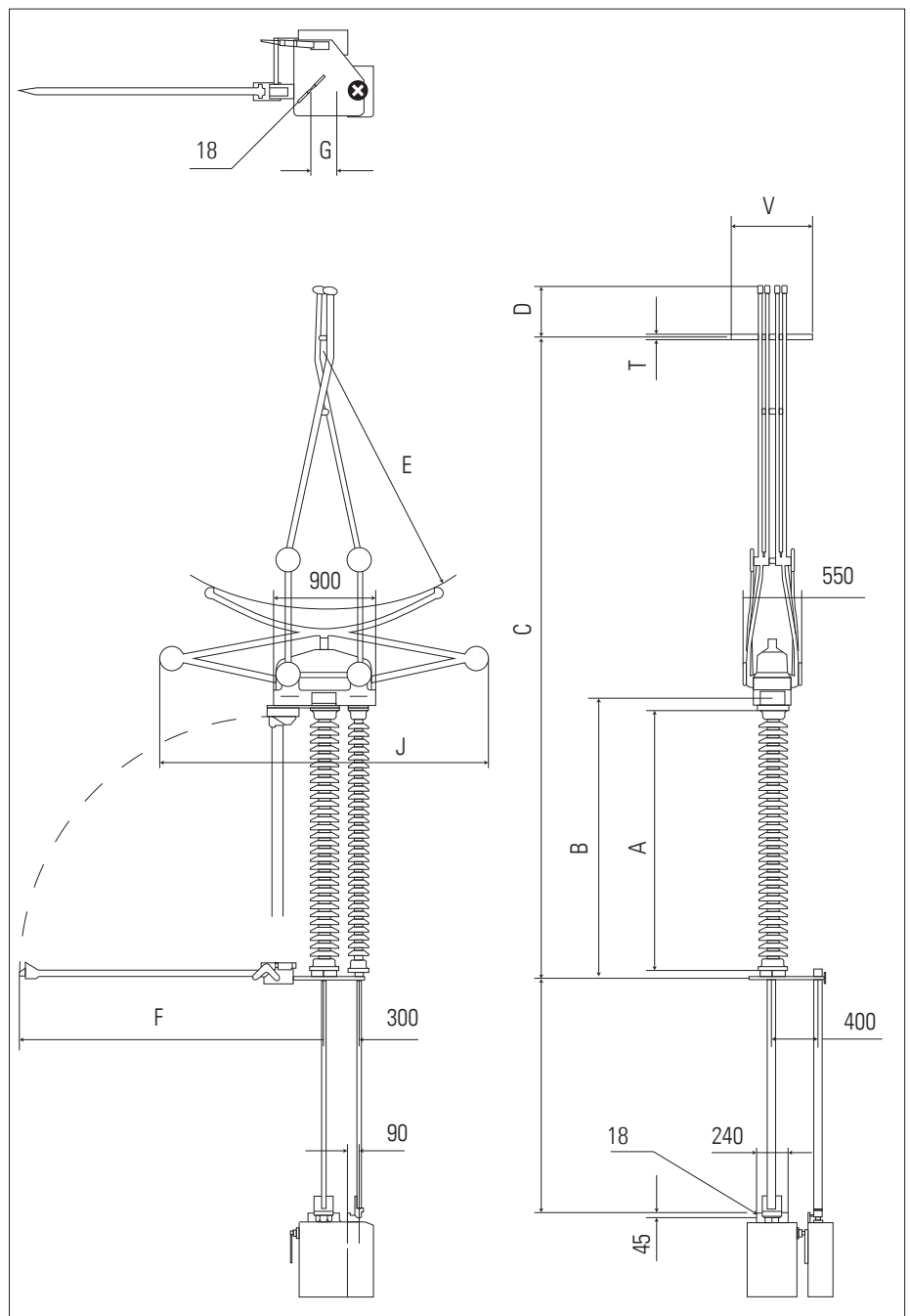
Technical Data:	Pantograph Disconnecter Type GSSB				
Rated Voltage		123	145	245	550
Lightning Impulse Withstand Voltage					
- to earth	kV	550	650	1050	1550
- across the isolating distance	kV	630	750	1200	1550
					+315
Power frequency withstand Voltage					
- to earth	kV	230	275	460	620
- across the isolating distance	kV	265	315	530	800
Switching Impulse Withstand Voltage					
- to earth	kV	-	-	-	1175
- across the isolating distance	kV	-	-	-	900
					+450
Current and Short circuit ratings	· 3150 A - 125 kA peak - 50 kA/3sec.				
	· 4000 A - 160 kA peak - 63 kA/3sec.				

Dimensions (mm)

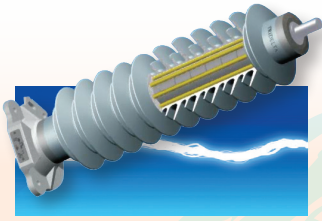
Voltage kV	123	145	245	550
A	1220	1500	2300	4400
B	1370	1650	2360	4460
C	3480	4010	5545	9455
D	340	360	4Y50	600
E	1250	1500	2300	3800
F	1595	1875	2665	4780
G	127	127	225	300
J	1890	2150	2820	4350
T	40	40	40	60
V	700	700	700	1200
P & H	defined by substation layout			

### Drawing:

Pantograph Disconnectors  
Type GSSB



# TRANSMISSION EQUIPMENT



## Surge Arrester

Silicon arrester in cage design  
Substation Type Arrester Protection  
against atmospheric overloads  
rated up to 800kV



## Medium Voltage Switchgears

Switchgear contributes to improving  
electrical distribution in Medium Voltage  
networks up to 36 kV with rated current  
up to 2,500 A



## Smart Navigator Fault Indicator with Communication

Designed and engineered for Smart Grid  
Distribution, Automation, Application



## High Voltage Disconnectors

Rated 69kV up to 800kV



## Power Voltage Transformer

72,5 to 550 kV  
Unique design with an open magnetic  
core – ensuring ferroresonance  
immunity, rated output capacity of  
10-100kVA per phase



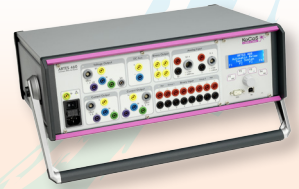
## Lione

Automatic online PD detection and  
localization on XLPE cables



## Combined Instrument Transformers

Type VAU - 72,5 to 550 kV  
High-precision measurement accuracy  
and protection classes with superior  
transient response



## Circuit Breaker Testing

Guaranteed high level of accuracy

## Efficient Electricity Solutions

PPI Pazifik Power, Inc. (PPI) is a company with more than twenty (20) years of successful operation in the Philippines.

Over the years, PPI has developed and actively supplied an extensive and full power line of products and services from the best manufacturers in Europe. Among its most sought top-of-the-line products are: Turnkey projects in the supply of substations with rated voltage of up to 230kV, electricity meters, meter test equipment, instrument transformers, power transformers, disconnectors, fault indicators, surge arresters, switchgears, oil testers, cable diagnostics, batteries, harmonic filters, and automation systems, among others.

PPI's commitment is to establish closer customer relationship to be able to provide most efficient power solution requirements. More importantly, PPI's cutting edge is its high quality, durable and innovative power solution equipment coupled with its unparalleled delivery of reliable on-time serve performance by its seasoned professional Electrical Engineers.



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