

# Zinc Oxide Surge Arrester PEXLIM P-Y

Protection of switchgear, transformers and other equipment in high voltage systems against atmospheric and switching overvoltages.

- in areas with very high lightning intensity
- where grounding or shielding conditions are poor or incomplete
- for important installations
- where energy requirements are very high (e.g. very long lines, capacitor protection).

Superior where low weight, reduced clearances, flexible mounting, non-fragility and additional personnel safety is required.



Other data can be ordered on request. Please contact your local sales representative.

## Brief performance data

Arrester classification as per IEC 60099-4 Ed 3.0	Station; SH
Arrester classification as per IEEE Std C62.11-2012	Station
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System voltages ( $U_s$ )	300 - 550 kV
Rated voltages ( $U_r$ )	228 - 444 kV
Nominal discharge current (IEC)	20 kA <sub>peak</sub>
Lightning impulse classifying current (ANSI/IEEE)	10/15 kA <sub>peak</sub>
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<b>Charge, energy and current withstand:</b>	
Repetitive charge transfer rating, $Q_{rs}$ (IEC)	3.2 C
Thermal energy rating, $W_{th}$ (IEC)	11 kJ/kV ( $U_r$ )
Single impulse energy capability (2 ms to 4 ms impulse)	7.0 kJ/kV ( $U_r$ )
Discharge current withstand strength:	
High current 4/10 $\mu$ s	100 kA <sub>peak</sub>
Low current 2000 $\mu$ s, (based on $Q_{rs}$ )	1 600 A <sub>peak</sub>
Energy class as per IEEE standard (switching surge energy rating)	G
Single-impulse withstand rating as per IEEE standard	3.2 C
Repetitive charge transfer test value - sample tests on all manufactured block batches	4.0 C
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<b>Short-circuit/Pressure relief capability</b>	65 kA <sub>rms(sym)</sub>
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<b>Mechanical strength:</b>	
Specified long-term load (SLL)	6000 Nm
Specified short-term load (SSL)	9000 Nm
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<b>Service conditions:</b>	
Ambient temperature	-50 °C to +45 °C
Design altitude	max. 1 000 m
Frequency	15 - 62 Hz
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<b>Line discharge class (as per IEC60099-4, Ed. 2.2)</b>	Class 4

Further data according to the IEEE standard can be supplied on request



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## Guranteed protective data

Max. system voltage $U_s$	Rated voltage $U_r$	Max. continuous operating voltage <sup>1)</sup>		TOV capability <sup>2)</sup>		Max. residual voltage with current wave						
		as per IEC	as per ANSI/IEEE	1 s	10 s	30/60 $\mu$ s			8/20 $\mu$ s			
		$U_c$	MCOV			1 kA	2 kA	3 kA	5 kA	10 kA	20 kA	40 kA
kV <sub>rms</sub>	kV <sub>rms</sub>	kV <sub>rms</sub>	kV <sub>rms</sub>	kV <sub>rms</sub>	kV <sub>rms</sub>	kV <sub>peak</sub>	kV <sub>peak</sub>	kV <sub>peak</sub>	kV <sub>peak</sub>	kV <sub>peak</sub>	kV <sub>peak</sub>	kV <sub>peak</sub>
<b>300</b>	228	182	182	251	239	445	461	473	493	519	568	623
	240	191	191	265	252	468	485	497	519	546	598	656
	258	191	209	285	270	504	522	535	558	587	643	705
	264	191	212	291	277	515	534	547	571	601	658	721
	276	191	220	304	289	539	558	572	597	628	688	754
<b>362</b>	258	206	209	285	270	504	522	535	558	587	643	705
	264	211	212	291	277	515	534	547	571	601	658	721
	276	221	221	304	289	539	558	572	597	628	688	754
	288	230	230	318	302	562	582	597	623	656	718	787
<b>420</b>	330	264	267	364	346	644	667	684	714	751	823	901
	336	267	272	371	352	656	679	696	727	765	838	918
	342	267	277	377	359	667	691	709	740	779	852	934
	360	267	291	397	378	702	728	746	779	819	897	983
	378	267	306	417	396	737	764	783	817	860	942	1037
	390	267	315	430	409	761	788	808	843	888	972	1070
	396	267	318	437	415	773	800	820	856	901	987	1086
<b>550</b>	396	317	318	437	415	773	800	820	856	901	987	1086
	420	336	336	464	441	819	849	870	908	956	1051	1152
	444	349	353	490	466	866	897	920	960	1015	1111	1217

1) The continuous operating voltages  $U_c$  (as per IEC) and MCOV (as per IEEE) differ only due to deviations in type test procedures.

$U_c$  has to be considered only when the actual system voltage is higher than the tabulated.

Any arrester with  $U_c$  higher than or equal to the actual system voltage divided by  $\sqrt{3}$  can be selected.

2) With prior duty equal to the thermal energy rating of 11 kJ/kV ( $U_r$ )

Arresters with lower or higher rated voltages may be available on request for special applications.

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## Technical data for housings

Max. system voltage  $U_s$  $kV_{rms}$	Rated voltage  $U_r$  $kV_{rms}$	Housing	Creepage distance  mm	External insulation *)				Dimensions					
				1.2/50 $\mu s$ dry  $kV_{peak}$	50 Hz wet (60s)  $kV_{rms}$	60 Hz wet (10s)  $kV_{rms}$	250/2500 $\mu s$ wet  $kV_{peak}$	Mass  kg	$A_{max}$  mm	B  mm	C  mm	D  mm	Fig.
<b>300</b>	228-240	YH300	7500	1156	586	586	924	112	2220	800	-	400	1
	258-276	YH300	8863	1439	712	712	1159	126	2625	800	-	500	2
	228-276	YV300	9770	1556	773	773	1254	139	2880	800	-	500	2
<b>362</b>	258-276	YM362	8863	1439	712	712	1159	134	2625	1200	1000	600	3
	258-288	YH362	9770	1556	773	773	1254	145	2880	1200	1000	600	3
	258-288	YV362	11250	1734	879	879	1386	180	3330	1400	1000	700	4
<b>420</b>	330-360	YH420	11125	1734	879	879	1386	170	3225	1400	1000	700	3
	378-396	YH420	12613	2017	1005	1005	1621	188	3740	1400	1000	700	5
	330-396	YV420	13520	2134	1066	1066	1716	202	3995	1400	1000	700	5
<b>550</b>	396-444	YH550	14875	2312	1172	1172	1848	226	4335	2000	1000	1000	6

\*) Sum of withstand voltages for empty units of arrester.

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## Technical data for housings

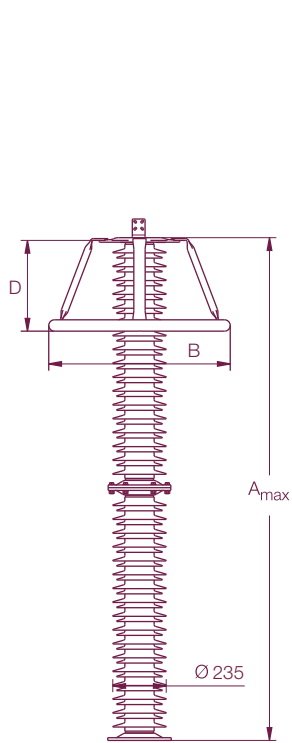


Figure 1

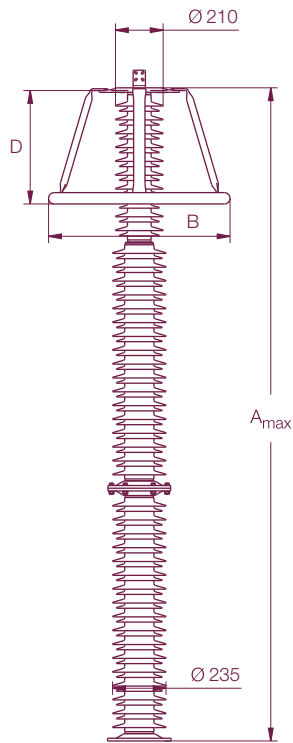


Figure 2

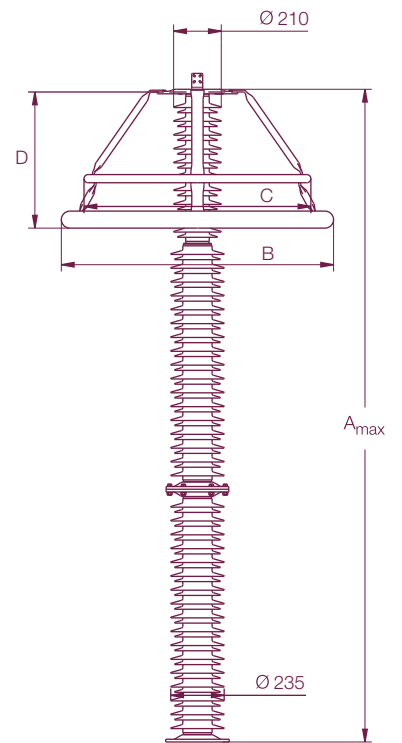


Figure 3

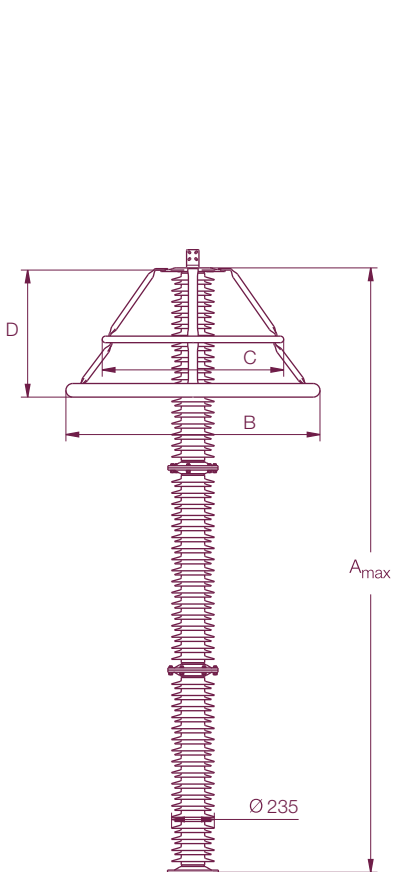


Figure 4

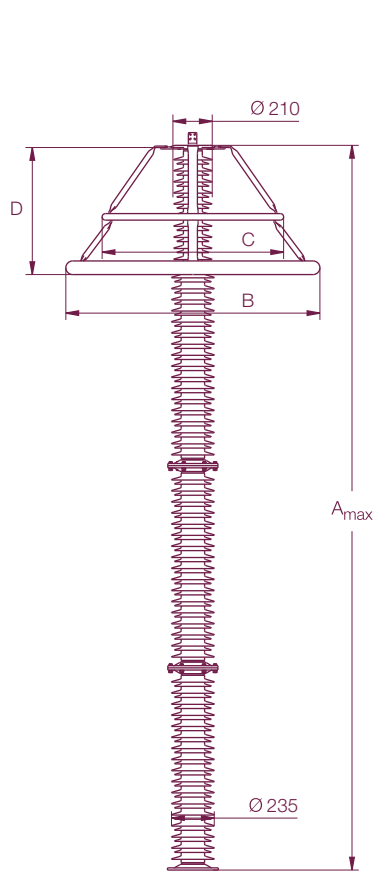


Figure 5

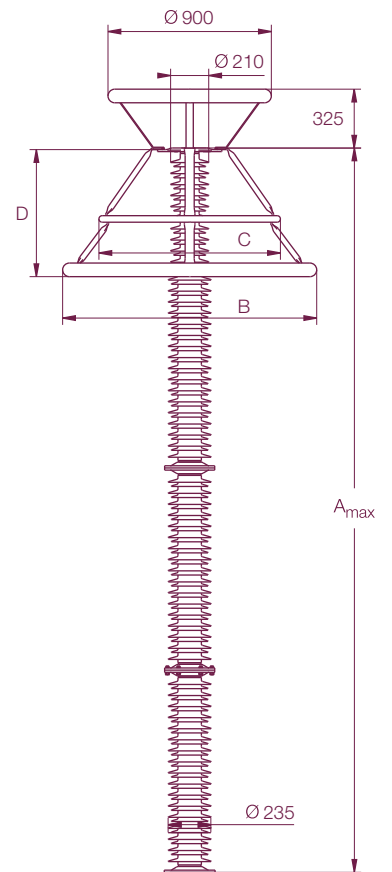
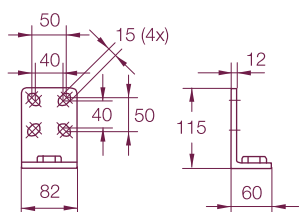


Figure 6

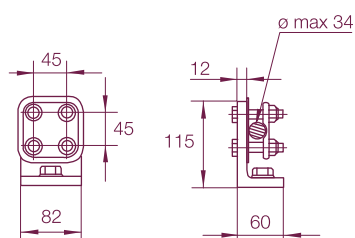
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## Accessories

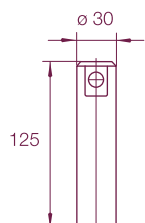
### Line terminals



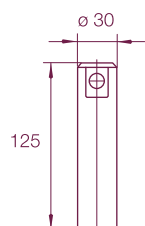
**1HSA410 000-L**  
Aluminium



**1HSA410 000-M**  
Aluminium flag with other  
items in stainless steel

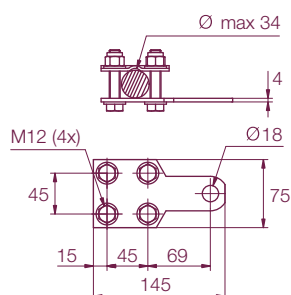


**1HSA410 000-N**  
Aluminium

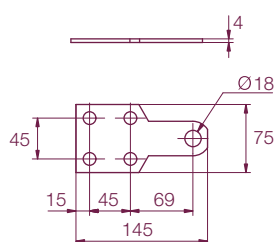


**1HSA410 000-P**  
Stainless steel

### Earth terminals

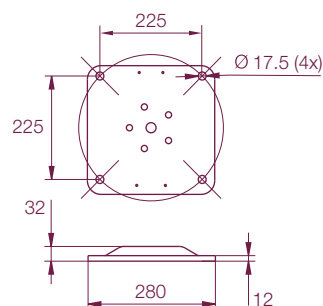


**1HSA420 000-U**  
Stainless steel

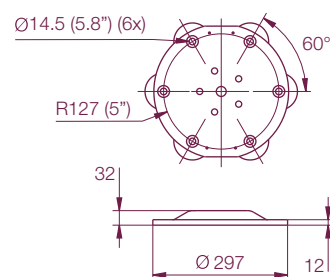


**1HSA420 000-V**  
Stainless steel

### Drilling plans without insulating base

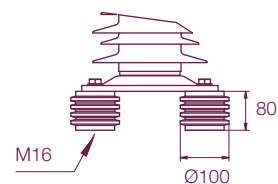
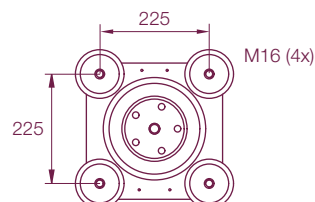


**Standard**



**Optional**

### Drilling plan with insulating base



**Insulating base**  
**1HSA430 000-C**  
Epoxy resin

M16 bolts for connection to structure are not supplied by ABB. Required threaded grip length is 15-20 mm.

# PEXLIM P-Y

## Shipping data

Rated voltage $U_r$  $kV_{rms}$	Housing	Number of arresters per crate			
		One Volume  $m^3$	Gross  $kg$	Three Volume  $m^3$	Gross  $kg$
288-240	YH300	1.18	162	1.18	386
258-276	YH300	1.18	176	1.18	429
228-276	YV300	1.18	189	1.18	467
258-276	YM362	1.69	230	1.94	499
258-288	YH362	1.69	240	1.94	531
330-360	YH420	1.85	280	2.19	621
258-288	YV362	1.85	290	2.19	652
378-396	YH420	1.85	298	2.19	675
330-396	YV420	1.85	312	2.19	716
396-444	YH550	3.38	426	3.38	879

Each crate contains a certain number of arrester units and accessories for assembly and erection. A packing list is attached externally on each crate.

Each separate crate is numbered and the numbers of all crates and their contents are listed in the shipping specification. ABB reserves

the right to pack arresters in the most effective/economic combination. Alternate or non-standard crates may involve additional charges.



The table above is to be seen as an approximation and specific data for deliveries may differ from the values given.