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## Introduction

NUINTEK is a company who pursues human's convenience through the parts industry. It is our thought that to make richness for people through that to make richness for people through technical development, the parts industry should be developed.

NUINTEK is, manufacturing the core parts with basic materials technologies that is a source of the parts industry, thinking only about parts, a stucked company.

To cover the parts for home appliances, advanced communications and the parts which can adopt to the environment, NUINTEK will be a company who pursues human's convenience with an endless technical development.

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# History

1968. 01 Established "KUKKWANG Electric Factory" in Seoul.
1977. 07 Incorporate the Registered Company as "KUKKWANG Electric Co., Ltd."
1979. 04 Started Manufacturing Low-Voltage Power Factor Correction Capacitors.
1981. 10 Started Manufacturing Metallized Film for Capacitors.
1990. 02 Started Manufacturing Metallized film for AC Capacitors .
1995. 01 Acquired ISO:9002 Certifications for Metallized Film, AC Capacitors.
1996. 10 Incorporated the China Facility to the Registered Company,  
"KUKKWANG Suzhou Electric Co.,Ltd."
1997. 02 Listed in KOSDAQ Stock Exchange Market.
2000. 01 Established a Joint Venture Company ("Nuintek VRK") in Thailand
2000. 03 Change Company's Registered Name to "NUINTEK Co., Ltd."
2006. 06 Acquired ISO 14001:2004 Environmental Management Certification from KSA
2008. 02 Selected as an Exclusive Collaborating Partner for Hyundai-Kia Motors' Eco-friendly Automobiles.
2013. 01 Won the "Green Car Award of the Venture Companies"  
from Korea Automotive Technology Institute (KATECH)
2015. 01 Established Company ("NUINTEK DONGGUAN CO.,LTD") in China
2015. 12 Acquired SQ Certifications for Metallized Film(SPV232), Assembly of electricity(EA65)

## SH Power Dry Capacitors

### SH Power Dry Capacitors Feature.

- ◆ Using the polypropylene film which has excellent electronic properties as dielectric and using soft resin for insulator.
- ◆ Specialized in preventing for Heat losing, Leaking, Damage.
- ◆ Self-healing function under failure by the heat and electronic impact for durability of product.
- ◆ Exclusion of using the impregnated liquid to apply any production process where is required such safety working environment.
- ◆ Installing the circuit breaker inside of product against any internal failure of product. with dielectric to help natural part.

### Capacity Range

Phase	3
Rated current range.	1 ~ 50kvar
	30 ~ 924uF
Rated voltage range	220 ~ 800V
Frequency	50Hz / 60Hz

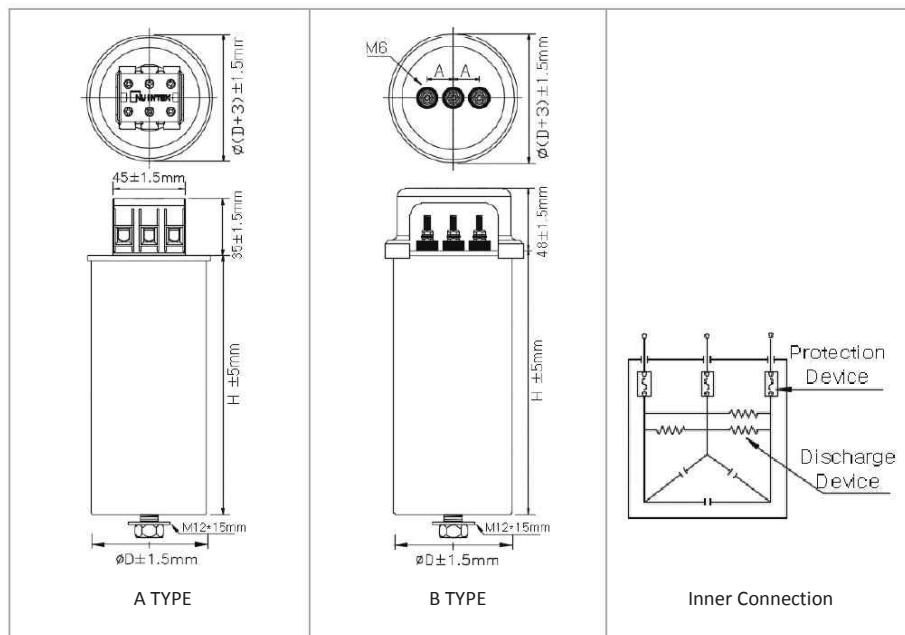
### Standard and Performance

Location	· Indoor
Ambient temperature	· -25°C ~ +55°C(Average Less then 45°C a day).
Max. Permissible Overcurrent	· 150% of rated current
Withstand voltage	· Between terminals : Rated voltage × 2.15(10sec) · Terminals to case: 3000Vac(10sec) or 3600Vac(2sec)
Safety Device	· Inner pressure Security devices
Discharge Device	· Device Voltage decreases to Less than 50V in 1minute when disconnected from power source.
Impregnant	· Polyurethane Soft Resin (Non PCB'S)
Reference Standard	· KS C 4801, KS C IEC 60831-1, IEC 60831-1
Max. Permissible Voltage	· Rated voltage x 110% (8hours in every 24hours) · Rated voltage x 115% (30minute in every 24hours) · Rated voltage x 120% (5minutes) · Rated voltage x 130% (1minute)

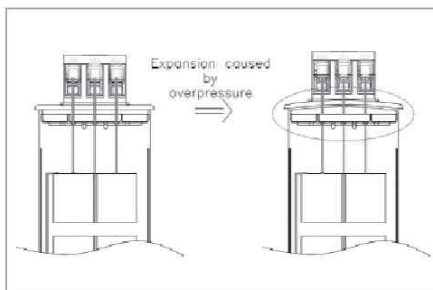


## SH Power Dry Capacitors

### ■ Drawing

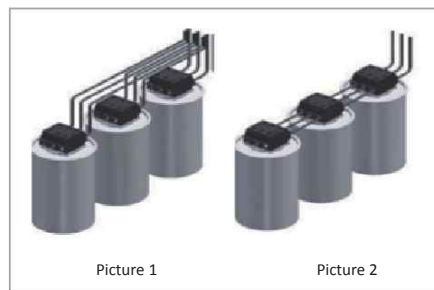


### ■ Inner type of security device



It makes a safety to shut out power supply,  
When have high internal pressure for end of life

### ■ Parallel connection method



Parallel capacitor exceed 50A same as picture 1, below  
50A same as picture 2.

ex) 440V 3P 60Hz 120kvar 3 of parallel b connection.  
: Rated current 26.2A x 3 parallel = 78.6A  
: connect with picture

## SH Power Dry Capacitors

### ■ SPECS & SIZE : 220V 50Hz

Rated Voltage [Vac]	Rated capacity		Part No	Rated Current [A]	Dimension [mm]				TYPE
	kvar	uF			D	H	A	M	
220	2.5	164	KNE-2231646S	6.6	76	165	-	45	A
	5	329	KNE-2233296S	13.1	76	195	-	45	A
	7.5	492	KNE-2234926S	19.6	86	225	-	45	A
	10	657	KNE-2236576S	26.2	86	265	-	45	A
	12.5	822	KNE-2238226S	32.8	116	215	-/23	62/-	A/B

### ■ SPECS & SIZE : 400V 50Hz

Rated Voltage [Vac]	Rated capacity		Part No	Rated Current [A]	Dimension [mm]				TYPE
	kvar	uF			D	H	A	M	
400	5	100	KNE-4039965S	7.2	76	165	-	45	A
	7.5	149	KNE-4031496S	10.8	76	195	-	45	A
	10	199	KNE-4031996S	14.4	76	225	-	45	A
	12.5	249	KNE-4032496S	18.0	86	225	-	45	A
	15	299	KNE-4032996S	21.7	86	255	-	45	A
	20	398	KNE-4033986S	28.9	116	215	-/23	62/-	A/B
	25	497	KNE-4034976S	36.1	116	245	-/23	62/-	A/B
	30	597	KNE-4035976S	43.3	116	275	-/23	62/-	A/B
	40	795	KNE-4037956S	57.7	136	275	-	62	A

Notice) The above information subject to change, so please contact us before purchasing.

## SH Power Dry Capacitors

### ■ SPECS & SIZE : 415V 50Hz

Rated Voltage [Vac]	Rated capacity		Part No	Rated Current [A]	Dimension [mm]				TYPE
	kvar	μF			D	H	A	M	
415	5	92	KNE-4139205S	7.0	76	165	-	45	A
	7.5	139	KNE-4131396S	10.4	76	195	-	45	A
	10	185	KNE-4131856S	13.9	76	225	-	45	A
	12.5	231	KNE-4132316S	17.4	86	225	-	45	A
	15	277	KNE-4132776S	20.9	86	225	-	45	A
	20	370	KNE-4133706S	26.8	86	295	-	45	A
	25	462	KNE-4134626S	34.8	116	215	-/23	62/-	A/B
	30	554	KNE-4135546S	41.7	116	245	-/23	62/-	A/B
	40	740	KNE-4137406S	55.7	136	275	-/23	62/-	A/B
	50	924	KNE-4139246S	69.6	136	275	-/23	62/-	A/B

### ■ SPECS & SIZE : 440V 50Hz

Rated Voltage [Vac]	Rated capacity		Part No	Rated Current [A]	Dimension [mm]				TYPE
	kvar	μF			D	H	A	M	
440	5	82	KNE-4438205S	6.6	76	165	-	45	A
	7.5	123	KNE-4431236S	9.8	76	165	-	45	A
	10	164	KNE-4431646S	12.4	76	195	-	45	A
	12.5	206	KNE-4432066S	16.4	86	195	-	45	A
	15	247	KNE-4432476S	19.7	86	225	-	45	A
	20	329	KNE-4433296S	26.2	86	265	-	45	A
	25	411	KNE-4434116S	32.8	116	215	-/23	62/-	A/B
	30	493	KNE-4434936S	39.4	116	245	-/23	62/-	A/B
	40	658	KNE-4436586S	52.5	116	275	-/23	62/-	A/B
	50	822	KNE-4438226S	65.6	136	275	-/23	62/-	A/B

Notice) The above information subject to change, so please contact us before purchasing.

## SH Power Wet Capacitors

### ■ SH Power Wet Capacitors Feature

- ◆ Using the polypropylene film which has excellent electronic properties as dielectric and using soft resin for insulator.
- ◆ Specialized in preventing for Heat losing, Leaking, Damage.
- ◆ Self-healing function under failure by the heat and electronic impact for durability of product.
- ◆ Exclusion of using the impregnated liquid to apply any production process where is required such safety working environment.
- ◆ Installing the circuit breaker inside of product against any internal failure of product.
- ◆ Environment-friendly electronic product by using NON-PCB'S.

### ■ Capacity Range

Phase	3
Rated capacity range.	1 ~ 100kvar
	10 ~ 2000uF
Rated voltage range	220 ~ 1000V
Frequency	50Hz / 60Hz

### ■ Standard and Performance

Location	· Indoor
Ambient Temperature	· -25°C ~ +55°C(Average Less than 45°C a day).
Max. Permissible Over current	· 150% of rated current
Withstand voltage	· Between terminals : Rated voltage × 2.15(10sec)
	· Terminals to case: 3000Vac(10sec) or 3600Vac(2sec)
Safety Device	· Pressure built security devices
Discharge Device	· Device Voltage decreases to Less than 50V in 1minutes when disconnected from power source.
Impregnant	· Po Oil (Non PCB'S)
Reference Standard	· KS C 4801, KS C IEC 60831-1, IEC 60831-1
Max. Permissible Voltage	· Rated voltage x 110% (8hours in every 24hours)
	· Rated voltage x 115% (30minutes in every 24hours)
	· Rated voltage x 120% (5minutes)
	· Rated voltage x 130% (1minute)





## SH Power Wet Capacitors

### ■ Drawing

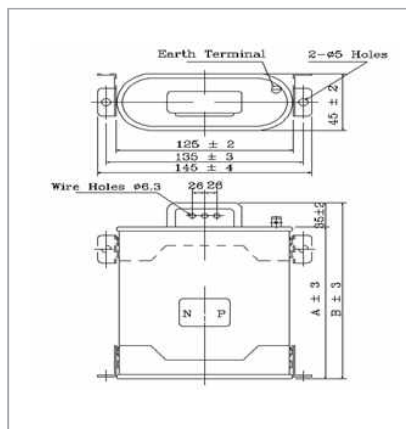


FIG-1

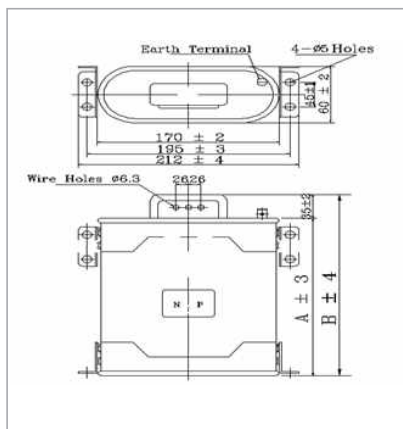


FIG-2

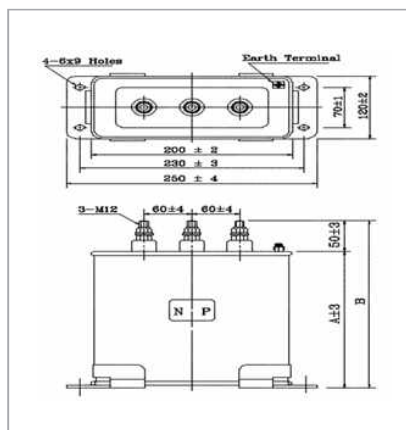


FIG-3

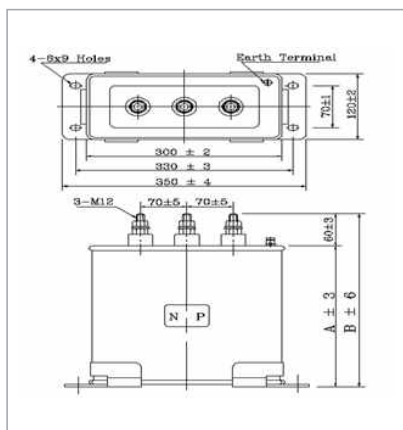
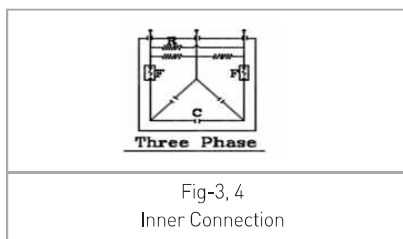
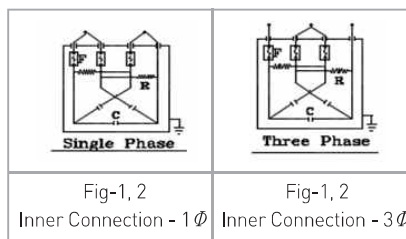


FIG-4



## SH Power Wet Capacitors

### ■ SPECS & SIZE : 220V 50Hz

Rated Voltage [Vac]	Rated capacity		Part No	Rated Current [A]	Dimension [mm]		FIG
	kvar	$\mu$ F			A	B	
220	5	329	ENU-2225KS	13.1	152	187	1
	10	658	ANU-22210KS	26.2	170	220	3
	15	987	ANU-22215KS	39.4	190	240	3
	20	1315	ANU-22220KS	52.5	240	290	3
	25	1644	ANU-22225KS	65.6	280	330	3
	30	1973	ANU-22230KS	78.7	250	310	4
	35	2302	ANU-22235KS	91.9	260	320	4
	40	2631	ANU-22240KS	105.0	300	360	4
	45	2960	ANU-22245KS	118.1	320	380	4
	50	3288	ANU-22250KS	131.2	340	400	4

### ■ SPECS & SIZE : 400V 50Hz

Rated Voltage [Vac]	Rated capacity		Part No	Rated Current [A]	Dimension [mm]		FIG
	kvar	$\mu$ F			A	B	
400	5	100	ENU-4025KS	7.2	132	167	1
	10	199	ENU-40210KS	14.4	152	187	2
	15	299	ENU-40215KS	21.7	202	237	2
	20	398	ANU-40220KS	28.9	180	230	3
	25	497	ANU-40225KS	36.1	190	240	3
	30	597	ANU-40230KS	43.3	230	280	3
	35	696	ANU-40235KS	50.5	240	290	3
	40	796	ANU-40240KS	57.7	280	330	3
	45	895	ANU-40245KS	65.0	290	340	3
	50	995	ANU-40250KS	72.2	300	350	3
	75	1492	ANU-40275KS	108.3	320	380	4
	100	1989	ANU-402100KS	144.3	380	440	4

Notice) The above information subject to change, so please contact us before purchasing.

## SH Power Wet Capacitors

### ■ SPECS & SIZE : 415V 50Hz

Rated Voltage [Vac]	Rated capacity		Part No	Rated Current [A]	Dimension [mm]		FIG
	kvar	$\mu F$			A	B	
415	5	92	ENU-4125KS	7.0	132	167	1
	10	185	ENU-41210KS	13.9	152	187	2
	15	277	ENU-41215KS	20.9	202	237	2
	20	370	ENU-41220KS	27.8	252	287	2
	25	462	ANU-41225KS	34.8	180	230	3
	30	554	ANU-41230KS	41.7	220	270	3
	35	647	ANU-41235KS	48.7	230	280	3
	40	739	ANU-41240KS	55.7	240	290	3
	45	832	ANU-41245KS	62.6	280	330	3
	50	924	ANU-41250KS	69.6	290	340	3
	75	1386	ANU-41275KS	104.3	300	360	4
	100	1848	ANU-412100KS	139.1	350	410	4

### ■ SPECS & SIZE : 440V 50Hz

Rated Voltage [Vac]	Rated capacity		Part No	Rated Current [A]	Dimension [mm]		FIG
	kvar	$\mu F$			A	B	
440	5	82	ENU-4425KS	6.6	132	167	1
	10	164	ENU-44210KS	13.1	202	237	2
	15	246	ENU-44215KS	19.7	252	287	2
	20	329	ENU-44220KS	26.2	180	230	3
	25	411	ANU-44225KS	32.8	190	240	3
	30	493	ANU-44230KS	39.4	230	280	3
	35	575	ANU-44235KS	45.9	240	290	3
	40	658	ANU-44240KS	52.5	280	330	3
	45	740	ANU-44245KS	59.1	290	340	3
	50	822	ANU-44250KS	65.6	300	350	3
	75	1233	ANU-44275KS	98.4	340	400	4
	100	1644	ANU-442100KS	131.2	390	450	4

Notice) The above information subject to change, so please contact us before purchasing.

## High Voltage Power Capacitors

### ■ High Voltage Power Capacitors Feature

- ◆ It is very excellent product to have a polypropylene film with dielectric insulator.  
And They have very excellent ability that low loss, coalescence reduction, prevention of oil leak, prevention of disasters.
- ◆ The use of high quality materials ensure reliability and longevity.

### ■ Specification

Location	· Indoor or outdoor
Ambient temperature	· -20℃ ~ +55℃ (24hours average Less than 45℃ , Less than 35℃ a year)
Max. Permissible Over current	· 150% of rated current
Withstand voltage (Between Terminals)	· Rated voltage x 2.15, 10sec
Withstand voltage (Terminals to Case)	· (Insulating level 3A) 16kv, 1minute
	· (Insulating level 6A) 22kv, 1minute
	· (Insulating level 10A) 28kv, 1minute
	· (Insulating level 20A) 50kv, 1minute
Discharge Device	· Device Voltage decreases to Less than 50V in 5minutes when disconnected from power source.
Temperature rise	· Less than 30deg (at rated voltage, 35℃)
Reference Standard	· KS C 4802, KS C IEC 60871-1, IEC 60871-1
Max. Permissible Overvoltage	· Rated voltage x 110% (12hours in every 24hours)
	· Rated voltage x 115% (30min in every 24hours)
	· Rated voltage x 120% (5minutes)
	· Rated voltage x 130% (1minute)
Color	· Munsell No. 5Y 7/1



## High Voltage Power Capacitors

■ SPECS & SIZE : 6.6KV, 3.8KV, 1-Phase, 50Hz



■ SPECS & SIZE : 22.9KV, 13.2KV, 1-Phase, 50Hz

Line Voltage [kV]	Rated Voltage [kV]	Rated capacity [kvar]	Rated Current [A]	Part No.	Dimension [mm]								Weight [kg]
					A	B	C	D	E	F	G	H	
22.9	13.2	50	7.6	APJ-P2266250D	430	210	305	515	90	145	495	530	29
		100	15.2	APJ-P22662100D	430	310	305	615	180	145	495	530	36
		150	22.7	APJ-P22662150D	430	400	305	705	270	145	495	530	41
		200	30.3	APJ-P22662200D	430	490	305	795	360	145	495	530	47
		250	37.9	APJ-P22662250D	430	590	305	895	410	145	495	530	54
		300	45.5	APJ-P22662300D	430	680	305	985	470	145	495	530	60
		400	60.6	APJ-P22662400D	430	880	305	1185	600	145	495	530	73

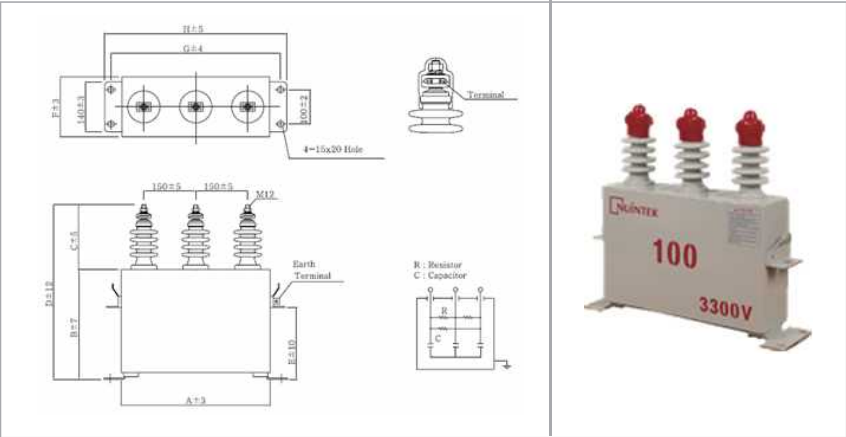
Line Voltage [kV]	Rated Voltage [kV]	Rated capacity [kvar]	Rated Current [A]	Part No.	Dimension [mm]								Weight [kg]
					A	B	C	D	E	F	G	H	
35	23	50	2.2	APJ-P3523250D	430	280	305	585	150	145	495	530	31
		100	4.4	APJ-P35232100D	430	330	305	635	200	145	495	530	34
		150	6.5	APJ-P35232150D	430	420	305	725	290	145	495	530	40
		200	8.7	APJ-P35232200D	430	520	305	825	340	145	495	530	46
		250	10.9	APJ-P35232250D	430	590	305	895	410	145	495	530	51
		300	13.0	APJ-P35232300D	430	670	305	975	490	145	495	530	56
		400	17.4	APJ-P35232400D	430	850	305	1155	630	145	495	530	67

Notice) The above information subject to change, so please contact us before purchasing.



High Voltage Power Capacitors

High voltage power capacitors (3-phase)



Drawing

SPECS & SIZE : 3.3KV, 3.3KV, 3-Phase, 50Hz

Line Voltage [KV]	Rated Voltage [KV]	Rated capacity [kvar]	Rated Current [A]	Part No.	Dimension[mm]								Weight [kg]
					A	B	C	D	E	F	G	H	
3.3	3.3	50	8.8	APJ-P3333250S	430	220	185	405	90	115	495	530	21
		75	13.1	APJ-P3333275S	430	280	185	465	150	115	495	530	24
		100	17.5	APJ-P33332100S	430	280	185	465	150	145	495	530	29

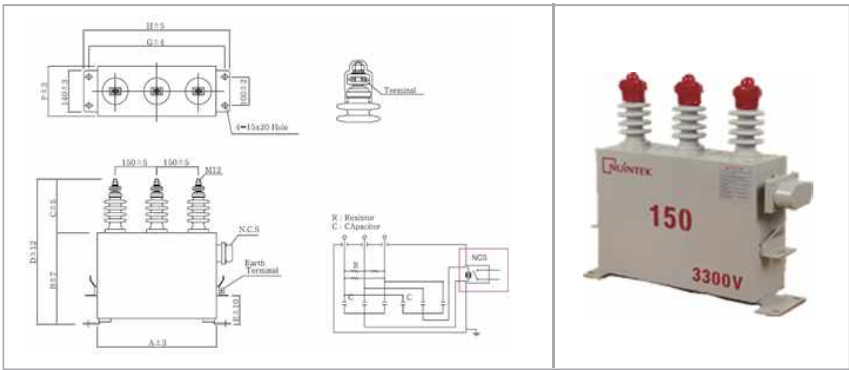
SPECS & SIZE : 6.6KV, 6.6KV, 3-Phase, 50Hz

Line Voltage [KV]	Rated Voltage [KV]	Rated capacity [kvar]	Rated Current [A]	Part No.	Dimension[mm]								Weight [kg]
					A	B	C	D	E	F	G	H	
6.6	6.6	50	4.4	APJ-P6666250S	430	220	185	405	90	115	495	530	21
		75	6.6	APJ-P6666275S	430	280	185	465	150	115	495	530	24
		100	8.8	APJ-P66662100S	430	280	185	465	150	145	495	530	29

Notice) The above information subject to change, so please contact us before purchasing.

High Voltage Power Capacitors

High voltage power capacitors (3-phase) - with NCS (Natural Current Sensor)



Drawing

SPECS & SIZE : 3.3KV, 3.3KV, 3-Phase, 50Hz

Line Voltage [KV]	Rated Voltage [KV]	Rated capacity [kvar]	Rated Current [A]	Part No.	Dimension[mm]								Weight [kg]
					A	B	C	D	E	F	G	H	
3.3	3.3	150	26.2	APJ-P33332150S	430	400	185	585	180	145	495	530	40
		200	35.0	APJ-P33332200S	430	480	185	665	260	145	495	530	47
		250	43.7	APJ-P33332250S	430	580	185	765	360	145	495	530	55
		300	52.5	APJ-P33332300S	430	680	185	865	460	145	495	530	63
		400	70.0	APJ-P33332400S	430	700	185	885	480	145	495	530	74
		500	87.5	APJ-P33332500S	430	830	185	1015	610	145	495	530	86

SPECS & SIZE : 6.6KV, 6.6KV, 3-Phase, 50Hz

Line Voltage [KV]	Rated Voltage [KV]	Rated capacity [kvar]	Rated Current [A]	Part No.	Dimension[mm]								Weight [kg]
					A	B	C	D	E	F	G	H	
6.6	6.6	150	13.1	APJ-P66662150S	430	420	185	605	200	145	495	530	41
		200	17.5	APJ-P66662200S	430	480	185	665	260	145	495	530	47
		250	21.9	APJ-P66662250S	430	580	185	765	360	145	495	530	55
		300	26.2	APJ-P66662300S	430	680	185	865	460	145	495	530	63
		400	35.0	APJ-P66662400S	430	700	185	885	480	145	495	530	74
		500	43.7	APJ-P66662500S	430	830	185	1015	610	145	495	530	86

Notice) The above information subject to change, so please contact us before purchasing

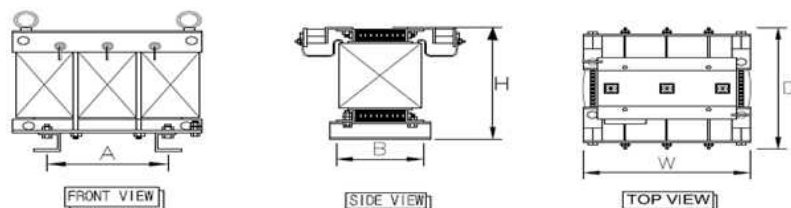
## Series Reactor & Discharge Coil

### Series Reactor & Discharge Coil Feature

- ◆ Series reactor reduces the problems occurring when the capacitor installed.
- ◆ Advantages during installation.
  - To Decrease the distortion of the voltage and current wave forms.
  - To suppress harmonic that flows into the capacitor.
  - It reduces inrush current during switching capacitors.

### Series Reactor of Specification

Location	· Indoor
Ambient temperature	· -20 °C ~ +40 °C
Max. Permissible Overcurrent	· 120% of rated current(harmonic including)
Max. Permissible Overvoltage	· 110% of rated voltage
Temperature rise	· 130 °C (H)
Reference Standard	· IEC 60076-6



### Low voltage

Line Voltage [KV]	Rated capacity [kva]	Part No.	Dimension[mm]					Weight [kg]
			W	D	H	A	B	
220~440	10	NSR-L6010	250	250	280	170	220	26
	15	NSR-L6015	250	260	280	170	220	29
	20	NSR-L6020	280	260	280	190	230	32
	25	NSR-L6025	280	270	280	190	240	34
	30	NSR-L6030	280	270	280	190	240	36
	40	NSR-L6040	280	300	280	190	250	40
	50	NSR-L6050	310	270	350	210	250	52
	60	NSR-L6060	310	280	350	210	250	57
	75	NSR-L6075	310	300	350	210	260	61
	100	NSR-L6100	340	310	370	240	260	75
	150	NSR-L6150	370	310	390	250	290	95
	200	NSR-L6200	370	330	390	250	290	107

Notice) The above information subject to change, so please contact us before purchasing.

### High voltage

Line Voltage [KV]	Rated capacity [kva]	Part No.	Dimension[mm]					Weight [kg]
			W	D	H	A	B	
3.3/6.6	30	NSR-H6030	360	440	370	250	260	45
	40	NSR-H6040	360	450	370	250	270	49
	50	NSR-H6050	360	460	370	250	280	53
	75	NSR-H6075	420	170	400	290	290	68
	100	NSR-H6100	450	490	420	310	310	87
	150	NSR-H6150	480	500	440	330	310	105
	200	NSR-H6200	510	520	490	350	330	135
	250	NSR-H6250	510	530	490	350	340	145
	300	NSR-H6300	510	540	490	350	350	154
	400	NSR-H6400	600	540	520	410	360	198
	500	NSR-H6500	600	560	520	410	380	220
	600	NSR-H6600	640	560	560	440	380	275
	750	NSR-H6750	640	570	560	440	390	289
	1000	NSR-H61000	640	600	750	440	390	448

### Discharge Coil of Specification

Location	· Indoor
Max. Permissible Overvoltage	· 110% of rated voltage
Discharge capacity	· Device Voltage decreases to Less then 50V in 5seconds when disconnected from power source.
Reference Standard	· KS C 4804

Rated capacity [kva]	Part No.	Dimension[mm]					Weight [kg]
		W	D	H	A	B	
220-440v	NSR-LDC	210	160	160	170	130	11
3.3/6.6kv	NSR-HDC	340	220	180	260	150	29



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