San Ace 40

Low power consumption fan

Features

Energy-saving

Power consumption is reduced by approx. 30 % compared with our conventional fan*.

Low noise

Sound pressure level is reduced by 6dB(A) compared with our conventional fan*.

* Our conventional product is the DC cooling fan : 40 × 40 × 28 mm fan "San Ace 40" (9GV0412P3K03)

40×40×28mm GA type

Specifications

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	PWM duty cycle Note1) [%]	Rated Current [A]	Rated Input [W]	Rated Speed [min⁻¹]	Max. Air Flow [m³/min]	Max. Air Flow [CFM]	Max. Static Pressure [Pa]	Max. Static Pressure [inchH₂O]	SPL [dB(A)]	Operating Temperature [℃]	Expected Life [h]
9GA0412P3K01(011)	12	10.8 to 13.2	100	0.92	11.04	22,000	0.81	28.6	799	3.21	61	−10 to +60	30,000
			0	0.10	1.2	6,500	0.23	8.12	68	0.27	32		
9GA0412P3J01(011)			100	0.49	5.88	18,000	0.67	23.7	535	2.15	54	−10 to +70	40,000
			0	0.05	0.6	4,500	0.16	5.7	33	0.13	22		
9GA0412P3G01(011)			100	0.39	4.68	16,500	0.61	21.5	450	1.81	53		
			0	0.05	0.6	4,500	0.16	5.7	33	0.13	22		
9GA0412P3H01(011)			100	0.28	3.36	14,500	0.54	19.1	347	1.39	50		
			0	0.04	0.48	3,500	0.13	4.6	20	0.08	17		
9GA0412P3M01(011)			100	0.21	2.52	12,500	0.46	16.2	258	1.04	47		
			0	0.04	0.48	3,500	0.13	4.6	20	0.08	17		
9GA0424P3J001(0011) note2)	24	21.6 to 26.4	100	0.27	6.48	18,000	0.67	23.7	535	2.15	54		
9GA0424P3G001(0011) note2)			100	0.22	5.28	16,500	0.61	21.5	450	1.81	53		
9GA0424P3H001(0011) note2)			100	0.16	3.84	14,500	0.54	19.1	347	1.39	50		
9GA0424P3M001(0011) note2)			100	0.11	2.64	12,500	0.46	16.2	258	1.04	47		

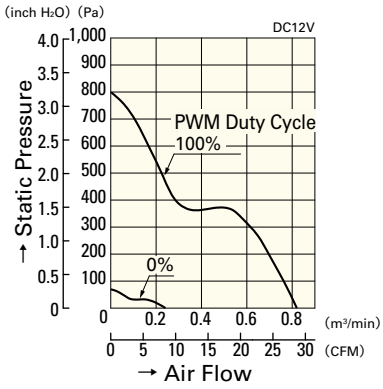
Note1: PWM Frequency : 25kHz
Note2: Rated voltage 24V fans do not rotate when PWM duty cycle is 0% .

Common Specifications

- ☐ Material ····· Frame, Impeller: Plastics (Flammability: UL94V-0)
- ☐ Life Expectancy ····· Varies for each model
  (L10: Survival rate: 90% at 60℃, rated voltage, and continuously run in a free air state)
- ☐ Motor Protection System ····· Current blocking function and Reverse polarity protection
- ☐ Dielectric Strength ····· 50/60 Hz, 500VAC, 1 minute (between lead conductor and frame)
- ☐ Sound Pressure Level (SPL) ····· Expressed as the value at 1m from air inlet side
- ☐ Operating Temperature ····· Varies for each model (Non-condensing)
- ☐ Storage Temperature ····· −30℃ to +70℃ (Non-Condensing)
- ☐ Lead Wire ····· ⊕red ⊖black Sensor: yellow Control: brown
- ☐ Mass ····· Approx. 53 g

Air Flow - Static Pressure Characteristics

PWM Duty Cycle



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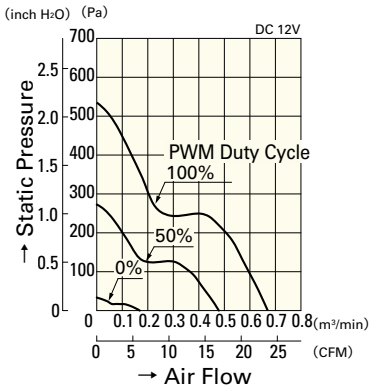

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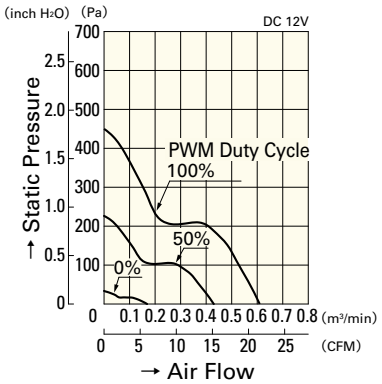
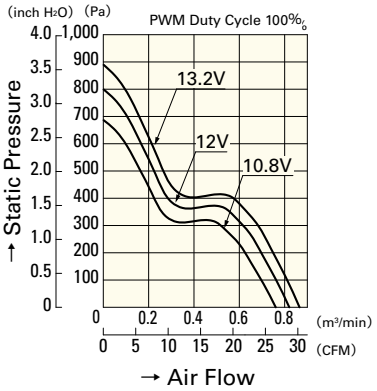


9GA0412P3G01(011)

Operating Voltage Range



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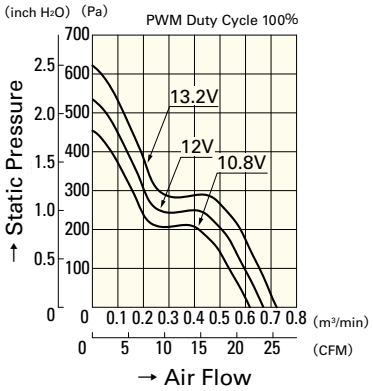

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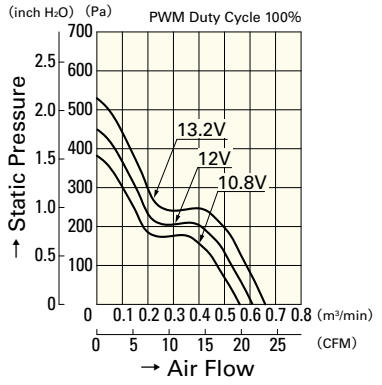
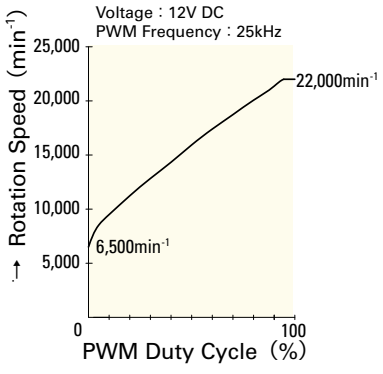


9GA0412P3G01(011)

PWM Duty - Speed Characteristics Example



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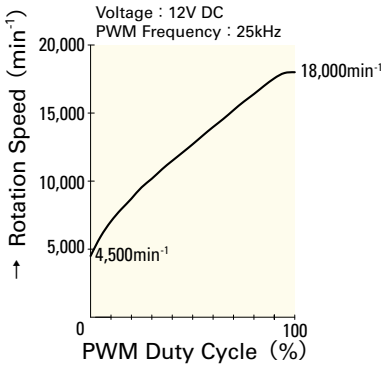

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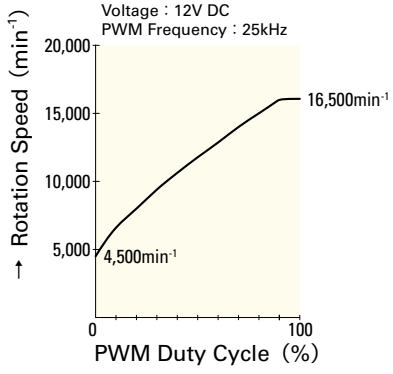

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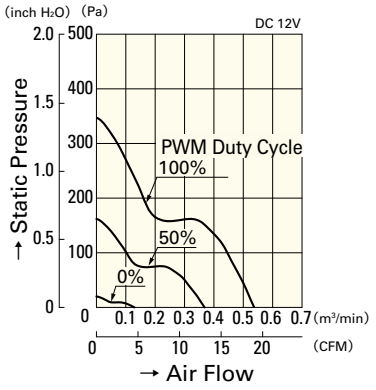

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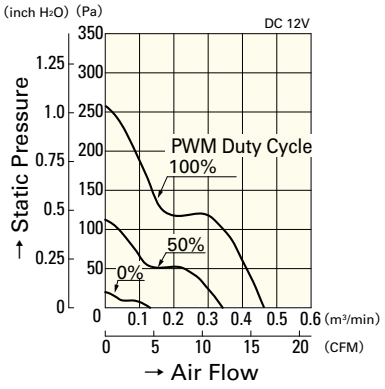

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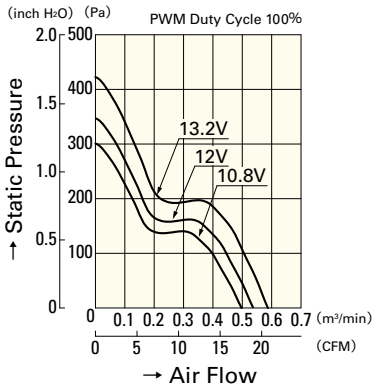

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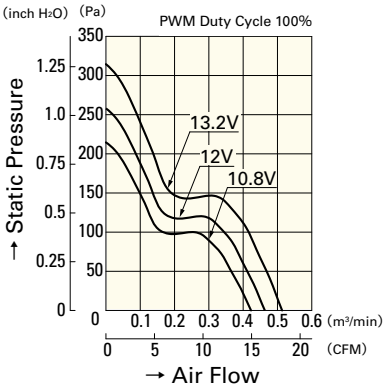

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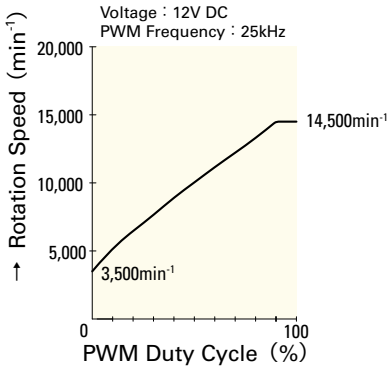

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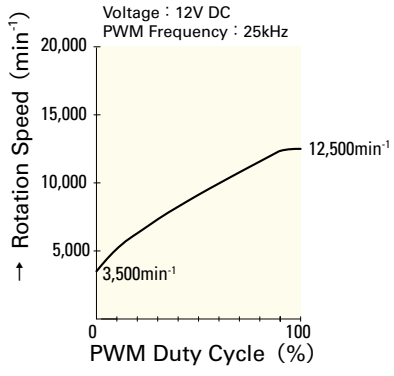
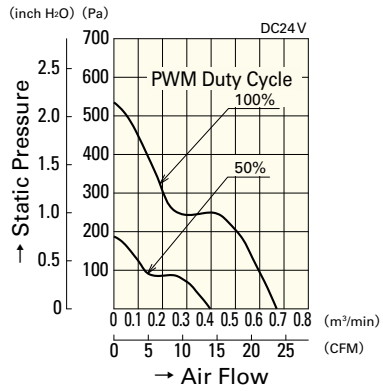


9GA0412P3M01(011)

Air Flow - Static Pressure Characteristics

PWM Duty Cycle



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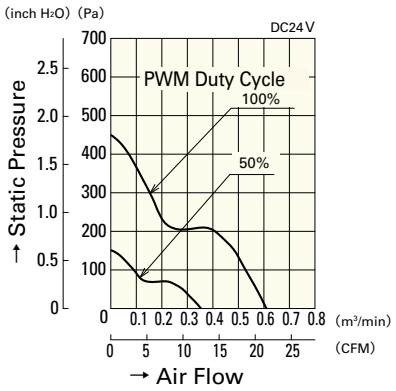

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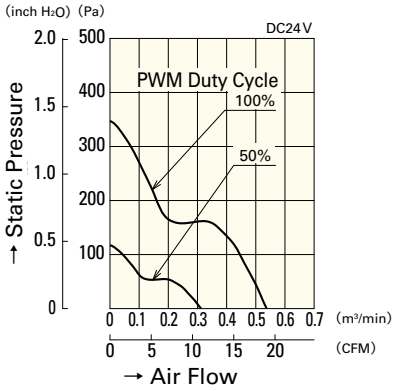

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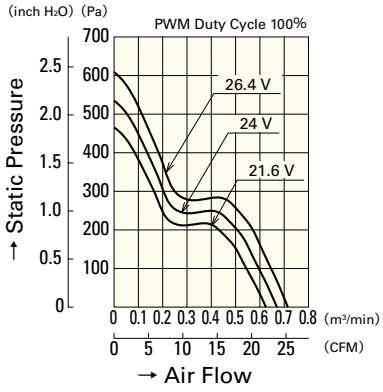
Operating Voltage Range



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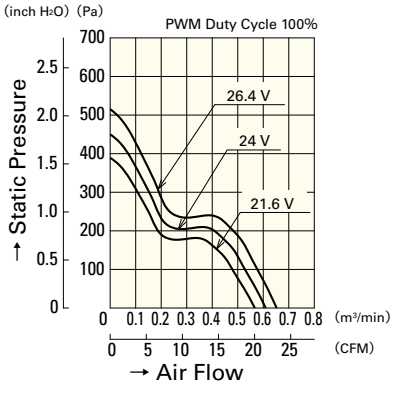

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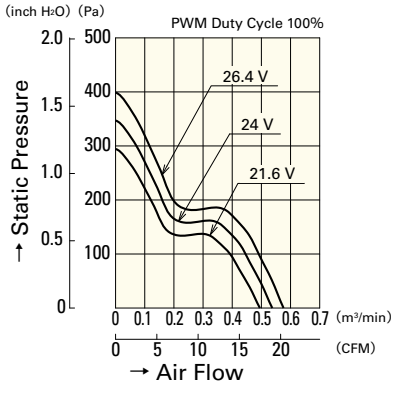
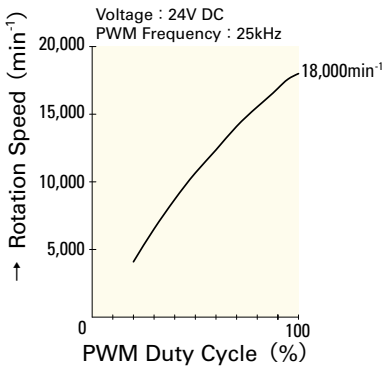


9GA0424P3H001(0011)

PWM Duty - Speed Characteristics Example



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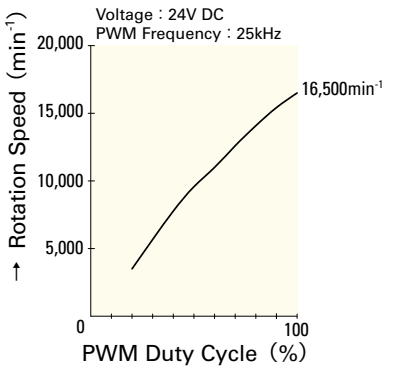

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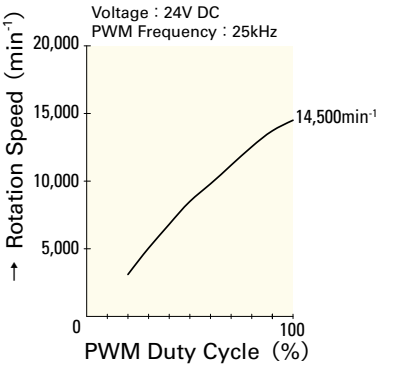

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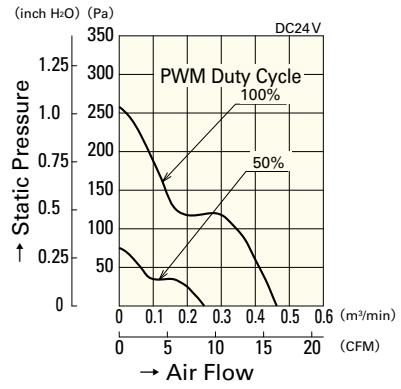

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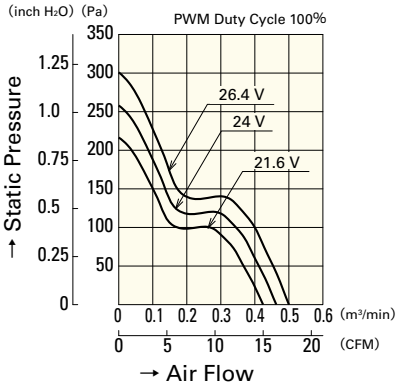

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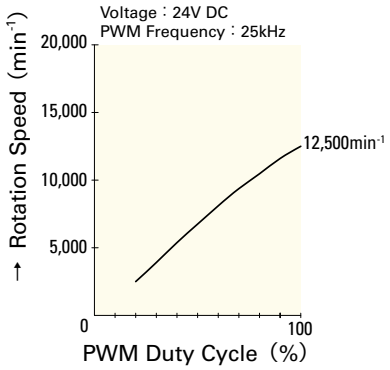
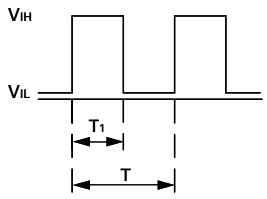


9GA0424P3M001(0011)

PWM Input Signal Example

Input Signal Wave Form



PWM Duty Cycle (%) = $\frac{T1}{T} \times 100$

PWM Frequency 25 (kHz) = $\frac{1}{T}$

Rated Voltage 12V fan

V_{IH}=2.8V to 3.8V

V_{IL}=0V to 0.4V

Source Current : 3mA Max. at control voltage 0V

Sink Current : 1mA Max. at control voltage 3.8V

Control Terminal Voltage : 3.8V Max. (Open Circuit)

Rated Voltage 24V fan

V_{IH}=4.75V to 5.25V

V_{IL}=0V to 0.4V

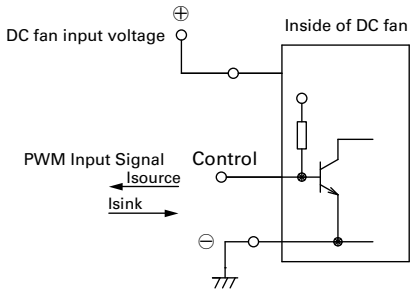
Source Current : 1mA Max. at control voltage 0V

Sink Current : 1mA Max. at control voltage 5.25V

Control Terminal Voltage : 5.25V Max. (Open Circuit)

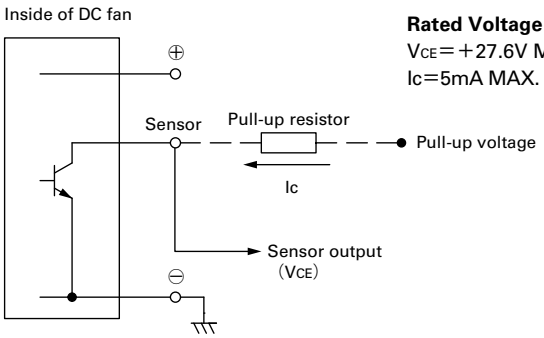
When the control lead wire is open,
the fan speed is the same as the one at a PWM duty cycle of 100% .
Either TTL input, open collector or open drain can be used for PWM control input signal.

Connection Schematic



Specifications for Pulse Sensors

Output circuit : Open collector



Rated Voltage 12V fan

V_{CE}=+13.8V MAX.

Ic=5mA MAX. [V_{OL}=V_{CE} (SAT) =0.6V MAX.]

Rated Voltage 24V fan

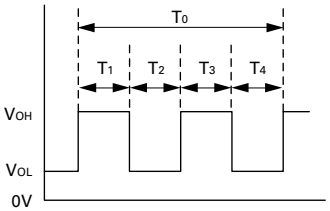
V_{CE}=+27.6V MAX.

Ic=5mA MAX. [V_{OL}=V_{CE} (SAT) =0.8V MAX.]

Output waveform (Need pull-up resistor)

In case of steady running

(One revolution)

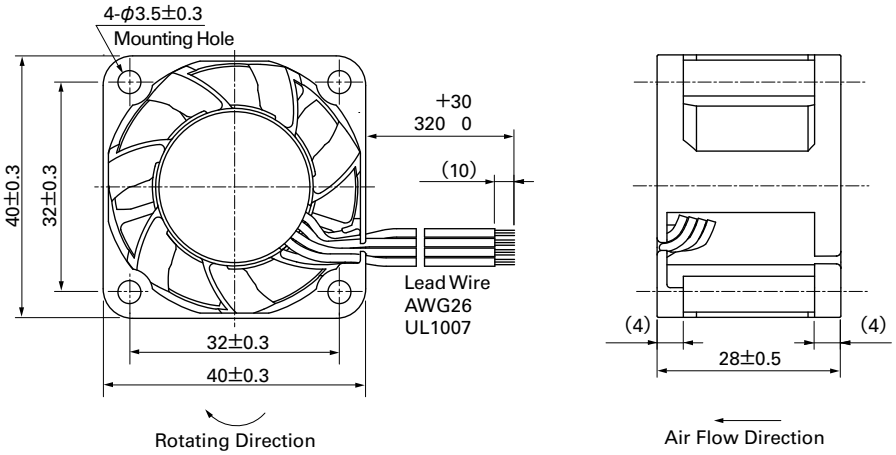


$T_{1\sim4} \fallingdotseq (1/4)\ T_0$

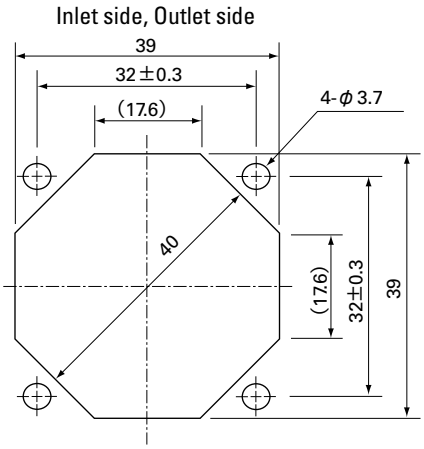
$T_{1\sim4} \fallingdotseq (1/4)\ T_0 = 60/4N$ (sec)

N=Fan speed (min^{-1})

Dimensions (Unit : mm) (with ribs)



Reference dimension of mounting holes and vent opening (Unit : mm)



Notice

●The products shown in the catalog are subject to Japanese Export Control Law. Diversion contrary to the law of exporting country is prohibited.
●To protect against electrolytic corrosion that may occur in locations with strong electromagnetic noise, we provide fans that are unaffected by electrolytic corrosion.

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CATALOG NO. C0883B002 '12.11