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## Application Note Number ...106.....

**Product :** MVP series  
**Application Overview:** Low Noise Fan Option and Standard Fan Specifications

### Description

The fan fitted to the MVP series of power supply is the NMB 2410ML-04W-B60

The specification of this fan is as follows: (also see attached NMB datasheet )

Minebea (NMB) 2410ML-04W-B60 12V 0.4A 25CFM

Life expectancy 50,000 hrs @ 25degC +/-15degC, 65%+/-20% relative humidity - continuous operation

Fan noise 36dBA

speed 5300rpm

The alternative low noise fan approved for use in the MP6 chassis is from Papst

The specification of this fan is as follows: (also see attached Papst datasheet)

Papst 612NGN 12V 2.1W 24CFM

service life 70,000 hrs at 40degC / 35,000 hrs at 70degC - - continuous operation

Fan noise 35dBA

speed 5100rpm

The differences in fan noise have been measured by Papst the summary of the results are:-

NMB 47dB std air flow; 46dB reverse air flow

Papst 41dB std air flow; 43dB reverse air flow

The details of the noise measurements at different frequencies are attached

PAPST plc

ENGINEERING DEPARTMENT

NOISE TEST RECORD SHEET

MP6 SERIES PSU  
NORMAL AIRFLOW

DATE	19/11/97	FAN MANUFACTURER	NMB
TESTED BY	PJY	FAN PART NUMBER	2410ML-04W-B60
SET	1	PAGES	1

FREQUENCY	READING
125Hz	33
250Hz	35
500Hz	36
1KHz	40
2KHz	44
4KHz	37
8KHz	30
16KHz	23
MEASURD TOTAL dB(A)	47

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NOISE TEST RECORD SHEET

MP6 SERIES PSU  
REVERSE AIRFLOW

DATE	19/11/97	FAN MANUFACTURER	NMB
TESTED BY	PJY	FAN PART NUMBER	2410ML-04W-B60
SET	2	PAGES	1

FREQUENCY	READING
125Hz	36
250Hz	33
500Hz	33
1KHz	32
2KHz	42
4KHz	35
8KHz	30
16KHz	22
MEASURD TOTAL dB(A)	46

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NOISE TEST RECORD SHEET

MP6 SERIES PSU  
NORMAL AIRFLOW

DATE	19/11/97	FAN MANUFACTURER	PAPST
TESTED BY	PJY	FAN PART NUMBER	612NGN
SET	3	PAGES	1

FREQUENCY	READING
125Hz	30
250Hz	25
500Hz	40
1KHz	35
2KHz	37
4KHz	27
8KHz	27
16KHz	12
MEASURD TOTAL dB(A)	41

PAPST plc

ENGINEERING DEPARTMENT

NOISE TEST RECORD SHEET

MP6 SERIES PSU  
REVERSE AIRFLOW

DATE	19/11/97	FAN MANUFACTURER	PAPST
TESTED BY	PJY	FAN PART NUMBER	612NGN
SET	4	PAGES	1

FREQUENCY	READING
125Hz	35
250Hz	34
500Hz	40
1KHz	40
2KHz	29
4KHz	31
8KHz	26
16KHz	14
MEASURD TOTAL dB(A)	43

# DC 2410ML SERIES FAN

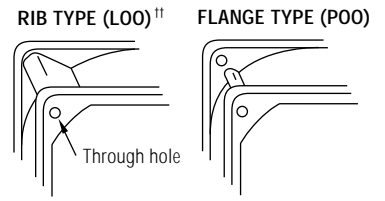
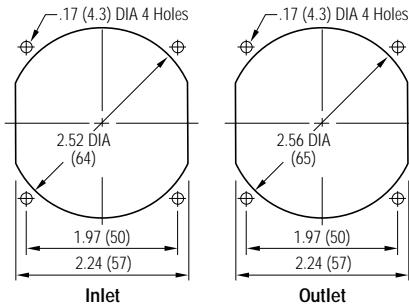
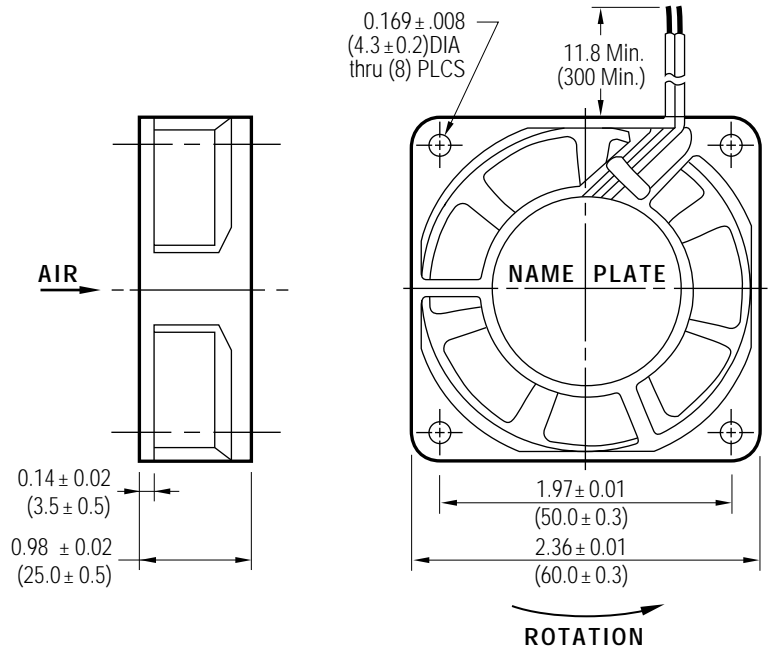


## FEATURES:

- Size 2.36 in sq. X 0.98 in (60mm sq. X 25mm)
- Airflow 14 - 22 CFM
- Weight 2.2 oz (63g)
- Noise 23 - 34 dBA
- Lead Wire AWG 24, Red/Black, UL1007, CSA TR-64

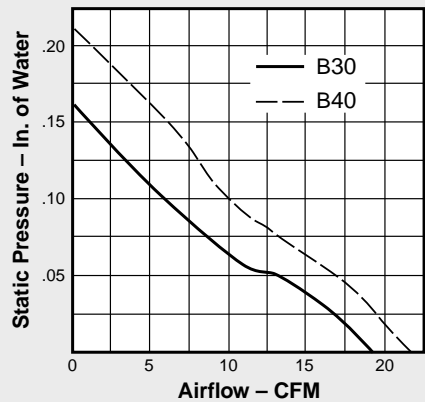
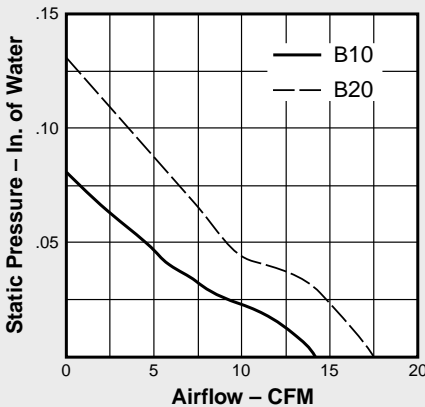
Impeller and Venturi UL94V-0 Reinforced plastic

- † Non-stock item, may be subject to lead time
- †† Rib-type is a non-stock item, may be subject to lead time



Dimensions are in inches. ( ) are in millimeters

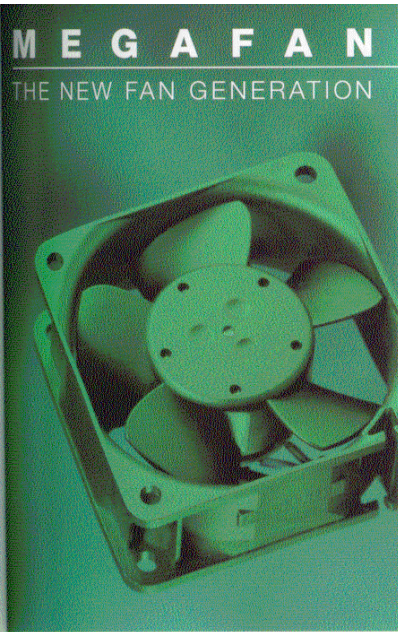
MODEL	VOLTAGE (V)	RANGE (V)	POWER (W)	CURRENT (mA)	SPEED (RPM)	NOISE (dBA)	NOISE NPEL (BELS)				PRESSURE (in H <sub>2</sub> O)	AIRFLOW (CFM)	MODEL	VOLTAGE (V)	RANGE (V)	POWER (W max)	CURRENT (mA max)	SPEED (RPM)	NOISE (dBA)	NOISE NPEL (BELS)				PRESSURE (in H <sub>2</sub> O)	AIRFLOW (CFM)
							100%	80%	60%	20%										100%	80%	60%	20%		
2410ML-04W-B10-P00	12	6-13.8	0.9	75	2950	23	4.05	4.46	4.25	4.22	0.08	14	2410ML-05W-B10-P00	24	10-27.6	1.4	60	2950	23	4.05	4.46	4.25	4.22	0.08	14
B20-P00†	12	6-13.8	1.4	120	3600	28	4.55	4.89	4.91	4.66	0.13	17	B20-P00†	24	10-27.6	1.7	70	3600	28	4.55	4.89	4.91	4.66	0.13	17
B30-P00	12	6-13.8	1.4	120	4000	31	4.70	5.06	4.92	4.83	0.16	19	B30-P00	24	10-27.6	1.9	60	4000	31	4.70	5.06	4.92	4.83	0.16	19
B40-P00†	12	6-13.8	2.0	170	4550	34	4.77	5.31	5.24	5.31	0.21	22	B40-P00†	24	10-27.6	2.2	90	4550	34	4.77	5.31	5.24	5.31	0.21	22



# MEGAFAN

THE NEW FAN GENERATION

**PAPST**



- DC fans with electronically commutated external rotor motors. Fully integrated commutation electronics.
- With electronic protection against reverse polarity, blocking and overloading.
- Fan of fibreglass reinforced plastic. PBTP housing, PA impeller.
- Air exhaust over struts. Rotational direction CW looking at rotor.
- Electrical connection via 2 leads AWG 24, TR 64. Stripped and tinned ends.
- Mass 85 g.

## SERIES 600N

60x60x25mm

Air flow		Nominal Voltage	Voltage Range	Noise		Sinter-Sleeve Bearings Ball Bearings	Power Input	Nominal Speed	Temperature Range	Service Life L <sub>10</sub>		Curve	Type
m <sup>3</sup> /h	CFM			V DC	V DC					dB(A)	bels		
21	12.4	12	8...15	16	3.6	●	0.8	2500	-20...+70	80000 / 40000		1	612NGL
25	14.7	12	8...15	19	3.9	●	1.0	3000	-20...+70	80000 / 40000		2	612NGML
35	20.6	12	8...15	28	4.6	●	1.6	4100	-20...+70	80000 / 40000		3	612NGM
41	24.1	12	8...15	35	5.2	●	2.1	5100	-20...+70	70000 / 35000		4	612NGN
46	27.1	12	8...15	38	5.5	●	2.6	5600	-20...+70	70000 / 35000		5	612NGH
56	33.0	12	8...15	43	6.3	●	3.8	6850	-20...+70	60000 / 30000		6	612NGHH
21	12.4	24	18...28	16	3.6	●	0.8	2500	-20...+70	80000 / 40000		1	614NGL
25	14.7	24	18...28	19	3.9	●	1.0	3000	-20...+70	80000 / 40000		2	614NGML
35	20.6	24	18...28	28	4.6	●	1.6	4100	-20...+70	80000 / 40000		3	614NGM
41	24.1	24	18...28	35	5.2	●	2.1	5100	-20...+70	70000 / 35000		4	614NGN
46	27.1	24	18...28	38	5.5	●	2.6	5600	-20...+70	70000 / 35000		5	614NGH
56	33.0	24	18...28	43	6.3	●	3.8	6850	-20...+70	60000 / 30000		6	614NGHH

Available shortly with alternative ball bearings.

