

## SUMMARY OF EXHAUST SYSTEM CONFIGURATION:

Engine Selection: G1      Manufacturer: Cummins  
Application: Gen-set      Model: KTA50-G1  
Brake horsepower: 0.0      Electrical power: 750.0  
Allowable backpressure: 41.0      Design backpressure: 0.0  
BEMP: 0.0      RPM: 1800      Exhaust Temp: 935.0  
Exhaust Flow: 9340.0      Outlet dia: 6.0      # of outlets: 2  
Outlet Configuration:

## Silex Silencer Selections:

- 1) JCT-12-ST S.C. LPD 低背壓超級寧靜型消音器  
2) GENYC-12-ST Combo 吸收式寧靜型消音器

## Piping System Details:

- 1) Elbow: [dia=6.0", angle=90 deg] 6英吋90°度彎頭一只  
2) Wye Fitting: [dia=6.0", dia2=12.0"] 雙6英吋入口轉12英吋出口Y接  
3) Piping Segment: [dia=12.0", len=147.0'] 12英吋管, 管長約45米  
4) Elbow: [dia=12.0", angle=90 deg] 12英吋90°度彎頭一只

## SYSTEM ACOUSTICS

Octave Band and dBA Engine Sound Pressure Levels  
[dB] @ 3.0' & 90 deg to exhaust axis:

Frequency [Hz]	63	125	250	500	1000	2000	4000	8000	dBA
G1:	122	128	124	115	111	104	94	86	<u>119</u> 引擎排氣原始噪音

## Octave Band Silencer Insertion Loss Data:

Frequency [Hz]	63	125	250	500	1000	2000	4000	8000
JCT-12-ST S.C. LPD:	7	19	32	30	24	17	16	15
GENYC-12-ST Combo:	13	28	36	37	38	34	30	20

Overall Silencer System Noise Reduction: 43 dBA 消音器可減去噪音

## Octave Band Piping System Noise Reduction Data [dB]:

Frequency [Hz]	63	125	250	500	1000	2000	4000	8000
Elbow:	0	0	0	0	1	2	3	3
Wye Fitting:	0	0	0	0	0	0	0	0
Piping Segment:	36	36	36	36	36	36	36	36
Elbow:	0	0	0	1	2	3	3	3

Overall Piping System Noise Reduction: 36 dBA 管路可減去噪音

## Octave Band and dBA Sound Data at Receiver [dB]:

Distance to acoustical receiver: 3.0'  
Angle between receiver and axis of exhaust outlet: 90.0 degrees

Frequency [Hz]	63	125	250	500	1000	2000	4000	8000
Distance Attenuation:	0	0	0	0	0	0	0	0
Air Absorption:	0	0	0	0	0	0	0	0
Directivity:	0	0	0	0	0	0	0	0

Overall Noise Reduction between Outlet and Receiver: 0 dBA

## Sound Pressure Levels at Receiver [dB]:

Frequency [Hz]	63	125	250	500	1000	2000	4000	8000	dBa
Receiver Level:	66	45	20	11	10	12	6	9	40 排氣尾端一米處所測得噪音

SYSTEM PRESSURE DATA:

Pressure Data Through Silencers

	Flow Rate [CFM]	Face Velocity [FPM]	Presssure Drop [inches WG]
JCT-12-ST S.C. LPD:	9340.0	11892.1	1.0
GENYC-12-ST Combo:	9340.0	11892.1	5.0
Total pressure drop through all silencers:	6.0 inches WG. 消音器所產生壓損		

Pressure Data Through Piping Systems

	Flow Rate [CFM]	Face Velocity [FPM]	Presssure Drop [inches WG]
Elbow:	4670.0	23784.1	2.9
Wye Fitting:	4670.0	23784.1	0.2
Piping Segment:	9340.0	11892.1	8.2
Elbow:	9340.0	11892.1	0.7
Total pressure drop through piping system:	12.1 inches WG. 管路壓損		

Total Back-pressure on Engine = 18.1 inches WG. 系統總壓損