



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: PW4060  
UNIQUE ID NUMBER: 12PW101  
COMBUSTOR: Phase III  
ENGINE TYPE: TF  
BYPASS RATIO: 4.7  
PRESSURE RATIO ( $\pi_{00}$ ): 29.7  
RATED THRUST ( $F_{00}$ ) (kN): 266.9

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	18.4	63.3	54.9	9.3
AS % OF ORIGINAL LIMIT	93.9	53.6	55.3	52.2
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			69.1	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			82.6	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			93.9	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			110.6	

### DATA STATUS

- PRE-REGULATION  
x CERTIFICATION  
- REVISED (SEE REMARKS)

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
x DEDICATED ENGINES TO PRODUCTION STANDARD  
- OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
(ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
x OUT OF PRODUCTION (DATE: - )  
- OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
TAKE-OFF	100	0.7	2.567	0.08	0.58	31.74	8.0
CLIMB OUT	85	2.2	2.036	0.06	0.49	25.03	5.6
APPROACH	30	4.0	0.696	0.10	2.04	11.91	0.4
IDLE	7	26.0	0.206	11.63	44.46	3.72	0.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			865	3776	14815	13333	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				14.2	55.5	50.0	8.0
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW)  
STAGE BLEED 0 (% CORE FLOW)

AT - POWER SETTINGS  
AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	101.9-102.6
TEMPERATURE (K)	173.2-279.8
ABS HUMIDITY (kg/kg)	0.00219-0.0038

### FUEL

SPEC	Jet A
H/C	1.89
AROM (%)	18.6

MANUFACTURER: Pratt & Whitney  
TEST ORGANIZATION: Pratt & Whitney  
TEST LOCATION: P7 Production Test Cell, Middletown, CT  
TEST DATES: 11/03/2012-12/03/2012

### NO<sub>x</sub> REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
x	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

### REMARKS

1. Data from Report PWA-9720-20 with Phase 3 reduced pressure loss combustor
2. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
3. NO<sub>x</sub> levels in accordance with Part III, Chapter 2, 2.3.2 d) (CAEP/6)

Compliance with Fuel Venting requirements:

x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)