



## **mitsubishi S12H-PTA**

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**MITSUBISHI DIESEL ENGINE  
TECHNICAL INFORMATION**

ITEM NO.

T0219-0001E Rev.2 (1/4)

DATE

February, 2014

Specification Sheets of S12H-PTA Engine

Specification Sheets of S12H-PTA Engine are enclosed herein.

Revision	First Edition : September, 2007 (T13-0304-E Jun.99)	Engine Engineering Department High Speed Engine Designing Section		
	Rev.1 : Mar., 2013			
	Rev.2 : Feb., 2014	Approved by	Checked by	Drawn by

## GENERAL ENGINE DATA

Type	4-Cycle, Water Cooled	
Aspiration	Turbo-Charged, After Cooler (Jacket water to Cooler)	
Cylinder Arrangement	60°V	
No. of Cylinders	12	
Bore mm(in.)	150	(5.91)
Stroke mm(in.)	175	(6.89)
Displacement liter(in <sup>3</sup> )	37.11	(2265)
Compression Ratio	14.0:1	
Dry Weight - Engine only - kg(lb)	4450	(9812)
Wet Weight - Engine only - kg(lb)	4710	(10386)

## PERFORMANCE DATA

Steady State Speed Stability Band at any Constant Load		
Hydraulic (std.) or Electric Governor - %	±0.25 or better	
Maximum Overspeed Capacity - rpm	2000	
Moment of inertia of Rotating Components - kgf·m <sup>2</sup> (lbf·ft <sup>2</sup> )	55.6	(1320)
(Includes Std. Flywheel)		
Cyclic Speed Variation with Flywheel at 1800rpm	1/569	
1500rpm	1/335	

## ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Flywheel Housing - kgf·m(lbf·ft)	200	(1447)
-------------------------------------------------------------------------	-----	--------

## AIR INLET SYSTEM

Maximum Intake Air Restriction (Includes piping)		
With Clean Filter Element - mm H <sub>2</sub> O (in. H <sub>2</sub> O)	400	(15.7)
With Dirty Filter Element - mm H <sub>2</sub> O (in. H <sub>2</sub> O)	635	(25.0)

## EXHAUST SYSTEM

Maximum Allowable Back Pressure - mm H <sub>2</sub> O (in. H <sub>2</sub> O)	600	(23.6)
------------------------------------------------------------------------------	-----	--------

## LUBRICATION SYSTEM

Oil Pressure at Idle - kgf/cm <sup>2</sup> (psi)	2~3 (29~43)	
at Rate Speed - kgf/cm <sup>2</sup> (psi)	5~6 (71~86)	
Maximum Oil Temperature - °C(°F)	110	(230)
Oil Capacity of Standard Pan	High - liter (U.S. gal)	180 (47.6)
	Low - liter (U.S. gal)	150 (39.6)
Total System Capacity (Includes Oil Filter) - liter (U.S. gal)	200 (52.8)	
Maximum Angle of Installation (Std. Pan)	Front Down	9.5°
(Engine Only)	Front Up	11°
	Side to Side	22.5°

## COOLING SYSTEM

Coolant Capacity (Engine only) - liter (U.S. gal)	100	(26.4)
Maximum External Friction Head at Engine Outlet - kgf/cm <sup>2</sup> (psi)	0.35	(5.0)
Maximum Static Head of Coolant above Crankshaft Center - m(ft)	10	(32.8)
Maximum Outlet Pressure of Engine Water Pump - kgf/cm <sup>2</sup> (psi)	2	(28.6)
Standard Thermostat (modulating) Range - °C(°F)	71~85	(160~185)
Maximum Coolant Temperature at Engine Outlet - °C(°F)	98	(208)
Minimum Coolant Expansion Space - % of System Capacity	10	
Maximum Coolant Temperature at Intercooler Inlet, TK type - °C(°F)	-	
Maximum Air Restriction on Discharge Side of Radiator and Fan - mm H <sub>2</sub> O(in. H <sub>2</sub> O)	10	(0.4)

The specifications are subject to change without notice.

APPLICATION : GENERATOR

Pub. No. T0219-0001E Rev.2 2/4

**FUEL SYSTEM**

Fuel Injector	_____	Mitsubishi Unit injector × 12
Maximum Suction Head of Feed Pump - mm Hg (in. Hg)	_____	75 (3.0)
Maximum Static Head of Return Pipe - mm Hg (in.Hg)	_____	220 (8.7)

**STARTING SYSTEM**

Battery Charging Alternator - V- Ah	_____	24-30
Starting Motor Capacity - V - kW	_____	24-7.5 × 2
Maximum Allowable Resistance of Cranking Circuit - m Ω	_____	1.5
Recommended Minimum Battery Capacity		
At 5°C (41°F) and above - Ah	_____	300
Below 5°C (41°F) through - 5°C (23°F)	_____	600

The specifications are subject to change without notice.

**APPLICATION : GENERATOR**

Pub. No. T0219-0001E Rev.2 3/4

**S12H-PTA**

**SPECIFICATION SHEET**

**ENGINE RATING**

All data represent net performance with standard accessories such as air cleaner, inlet /exhaust manifolds, fuel oil system, L.O. pump, etc. under the condition of 100kPa(29.6inHg) barometric pressure, 77°F(25°C) ambient temperature and 30% relative humidity.

ITEM	UNIT	STAND-BY POWER		PRIME POWER		CONTINUOUS C		CONTINUOUS D	
		60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz
Engine Speed	rpm	1800	1500	1800	1500	1800	1500	1800	1500
No. of Cylinders		12							
Bore	mm (in.)	150 (5.91)							
Stroke	mm (in.)	175 (6.89)							
Displacement	liter (in. <sup>3</sup> )	37.11 (2265)							
Brake Horse power without Fan	HP (kW)	1501 (1120)	1367 (1020)	1367 (1020)	1247 (930)	1233 (920)	1126 (840)	1099 (820)	1005 (750)
Brake Mean Effective Pressure without Fan	kgf/cm <sup>2</sup> (psi)	20.5 (292)	22.4 (319)	18.7 (266)	20.4 (290)	16.8 (239)	18.5 (263)	15.0 (213)	16.5 (235)
Mean Piston Speed	m/s (ft/min)	10.5 (2067)	8.8 (1732)	10.5 (2067)	8.8 (1732)	10.5 (2067)	8.8 (1732)	10.5 (2067)	8.8 (1732)
Maximum Regenerative Power Absorption Capacity without Fan	HP (kW)	145 (108)	105 (78)	145 (108)	105 (78)	145 (108)	105 (78)	145 (108)	105 (78)
Intake Air flow	m <sup>3</sup> /min (CFM)	93 (3284)	83 (2931)	84 (2966)	76 (2684)	76 (2684)	69 (2436)	68 (2401)	62 (2189)
Exhaust Gas Flow	m <sup>3</sup> /min (CFM)	245 (8651)	220 (7768)	223 (7874)	201 (7097)	201 (7097)	183 (6462)	180 (6356)	163 (5756)
Coolant Flow	liter/min (U.S. GPM)	1450 (383)	1200 (317)	1450 (383)	1200 (317)	1450 (383)	1200 (317)	1450 (383)	1200 (317)
Coolant Flow to Intercooler (TK only)	liter/min (U.S. GPM)	—	—	—	—	—	—	—	—
Cooling Air Flow (Std. Fan)	m <sup>3</sup> /min (CFM)	1800 (63558)	1800 (63558)	1800 (63558)	1800 (63558)	1800 (63558)	1800 (63558)	1800 (63558)	1800 (63558)
Fan Loss Horse Power (Std. Fan)	HP (kW)	53 (40)	53 (40)	53 (40)	53 (40)	53 (40)	53 (40)	53 (40)	53 (40)
Radiated Heat to Ambient	kcal/hr (BTU/min)	69815 (4617)	62745 (4150)	63582 (4205)	57237 (3786)	57349 (3793)	52028 (3441)	51117 (3381)	46437 (3071)
Heat Rejection to Coolant	kcal/hr (BTU/min)	581788 (38479)	522878 (34582)	529849 (35044)	476978 (31547)	477911 (31608)	433566 (28675)	425972 (28173)	386975 (25594)
Heat Rejection to Inter Cooler (TK Version)	kcal/hr (BTU/min)	—	—	—	—	—	—	—	—
Heat Rejection to Exhaust	kcal/hr (BTU/min)	712756 (47141)	629047 (41604)	649126 (42932)	573827 (37952)	585495 (38724)	526416 (34816)	521865 (34515)	469848 (31075)
Noise Level (1 m height & distance) (excludes, Intake,Exhaust & Fan)	dB(A)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

The specifications are subject to change without notice.

APPLICATION : GENERATOR

Pub. No. T0219-0001E Rev.2 4/4



**MITSUBISHI DIESEL ENGINE  
TECHNICAL INFORMATION**

ITEM NO.

T0307-0009E (1/2)

DATE

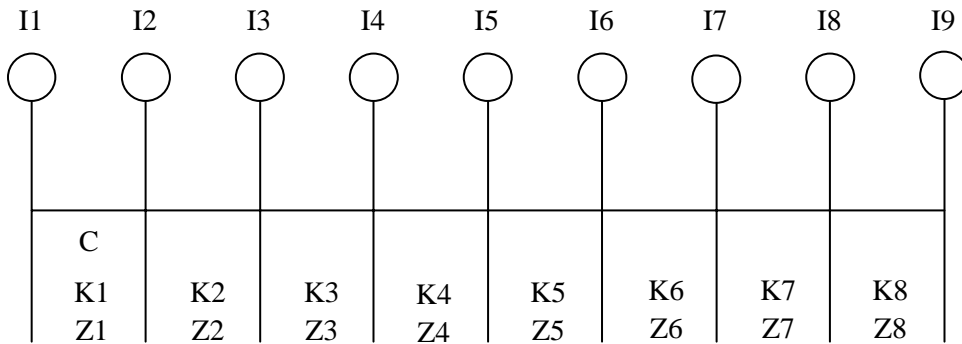
July, 2006

Elastic data of S12H Engine

Elastic data of S12H Engine are enclosed herein.

Revision	First Edition : July, 2006 (Refer to ELASTIC-S12H-PTA Oct.,2003, S12H.0)	Engine Engineering Department Large Engine Design Section		
		Approved by	Checked by	Drawn by



**S12H-PTA ELASTIC DATA**

	Moment of inertia J kg.m <sup>2</sup>	Damping coefficient Nm/rad/s	Spring const. x10 <sup>7</sup> Nm/rad	Tensile strength N/mm <sup>2</sup>	Section modulus cm <sup>3</sup>	
I1	DAMPER ×1pcs ×2Pcs	1.011 2.022	C=5990 C=11980	K1=0.0 K1=0.0	0.0 0.0	Z1 =0.0 Z1 =0.0
I2	PULLEY Damper 1pcs Damper 2pcs	1.269 1.893	—	K2=0.659 K2=0.659	834 834	Z2 =186.7 Z2 =186.7
I3	No.1 CRANK	0.564	—	K3=0.407	834	Z3 =186.7
I4	No.2 CRANK	0.564	—	K4=0.407	834	Z4 =186.7
I5	No.3 CRANK	0.564	—	K5=0.407	834	Z5 =186.7
I6	No.4 CRANK	0.564	—	K6=0.407	834	Z6 =186.7
I7	No.5 CRANK	0.564	—	K7=0.407	834	Z7 =186.7
I8	No.6 CRANK	0.564	—	K8=0.729	834	Z8 =186.7
I9	FLYWHEEL 18in	6.212	—			

Hysteresis constant:188 No. of Cylinder: 12 Bore:150mm Stroke:175mm

Length of Con-Rod: 290mm Weight of Reciprocating Parts: 8.586 kg

Firing order:1-12-5-8-3-10-6-7-2-11-4-9

Firing interval:0-60-120-180-240-300-360-420-480-540-600-660

APPLICATION : LAND USE

The data is subject to change without notice.



**MITSUBISHI HEAVY INDUSTRIES, LTD.**  
GENERAL MACHINERY & SPECIAL VEHICLE



**MITSUBISHI DIESEL ENGINE  
TECHNICAL INFORMATION**

ITEM NO.

T0402-0001E Rev.1 (1/2)

DATE

May, 2008

**Exhaust Gas Emission Data**

Exhaust Gas Emission Data is enclosed herein.

These data are subject to change without notice.

Revision	First Edition : May, 2008	Engine Engineering Department Engine System Designing Section		
	Rev.1: February, 2013			
		Approved by	Checked by	Drawn by



**EXHAUST GAS EMISSION DATA OF DIESEL ENGINE FOR GENERATOR**  
For Reference

MODEL	S6A3-P/A		S12A2-P/A		S12H-P/A		S6R-P/A		S12R-P/A		S12R-PTA2		S12R-PTAA2 (W/FAN)		S16R-P/A		S16R-PTA2		S16R-PTAA2 (W/FAN)		S16R2-PTAW	
	400/ 1500	890	679/ 1500	825	935/ 1500	877	515/ 1500	940	1110/ 1500	1190/ 1800	1195/ 1500	1340/ 1800	1277/ 1500	1387/ 1800	1480/ 1500	1590/ 1800	1630/ 1500	1775/ 1800	1684/ 1500	1895/ 1800		
Prime Rating kW/min <sup>-1</sup> (without fan)																						
NOx	g/Nm <sup>3</sup>	3.7	3.7	3.4	3.8	3.6	3.7	3.5	3.7	3.5	3.7	3.9	3.5	3.2	3.8	3.7	3.9	3.4	3.1	3.6		
	g/AW·h	8.6	8.6	7.7	8.8	8.2	8.4	8.4	7.7	8.4	8.8	7.7	8.4	7.3	8.7	7.7	8.8	7.7	7.1	5.8		
CO	PPM	(220)	(210)	(220)	(310)	(210)	310	210	(310)	(210)	(310)	(210)	(320)	(200)	(310)	(210)	(310)	(210)	(200)	119		
	g/Nm <sup>3</sup>	(0.44)	(0.45)	(0.44)	(0.59)	(0.43)	0.52	0.39	(0.59)	(0.43)	(0.59)	(0.43)	(0.55)	(0.42)	(0.56)	(0.43)	(0.59)	(0.43)	(0.42)	0.4		
	g/AW·h	(1.2)	1.4	(1.2)	1.4	(1.4)	1.5	1.2	(1.8)	(1.4)	(1.8)	(1.2)	(1.5)	(1.2)	(1.6)	(1.4)	(1.8)	(1.2)	(1.5)	0.5		
HC	PPM	(50)	(50)	(50)	(110)	(120)	110	120	(110)	(120)	(110)	(120)	(110)	(120)	(110)	(120)	(110)	(120)	(110)	35		
	g/Nm <sup>3</sup>	(0.05)	(0.06)	(0.05)	(0.11)	(0.13)	0.09	0.11	(0.11)	(0.13)	(0.11)	(0.13)	(0.10)	(0.13)	(0.10)	(0.13)	(0.11)	(0.13)	(0.10)	0.19		
	g/AW·h	(0.15)	(0.18)	(0.15)	(0.31)	(0.38)	0.27	0.34	(0.31)	(0.38)	(0.31)	(0.35)	(0.29)	(0.38)	(0.29)	(0.38)	(0.31)	(0.35)	(0.29)	0.10		
CO <sub>2</sub>	%	6.7	6.2	6.7	6.9	6.5	8.0	7.1	6.9	6.5	6.7	6.5	6.7	6.5	6.7	6.5	6.7	6.5	6.7	8.0		
	g/AW·h	619	646	619	619	625	598	619	619	625	620	613	619	612	619	612	620	613	619	612	0.4	
PM	g/Nm <sup>3</sup>	0.12	0.12	0.12	0.12	0.11	0.10	0.12	0.12	0.11	0.10	0.09	0.09	0.08	0.11	0.12	0.11	0.12	0.09	0.07	0.03	
	g/AW·h	0.37	0.37	0.38	0.38	0.37	0.34	0.35	0.35	0.37	0.34	0.33	0.33	0.31	0.33	0.39	0.33	0.39	0.33	0.31	0.04	

## Notes

- Allowance: +25%
- Condition: 100kPa(750mmHg) barometric pressure, 298K(25°C) ambient temperature and 30% relative humidity.
- NOx, CO, HC[PPM]: with 13% O<sub>2</sub> Level.  
NOx, CO, HC, Particulates[ $\mu\text{g}/\text{Nm}^3$ ]: with 5% O<sub>2</sub> Level.  
NOx, CO, HC, Particulates[ $\mu\text{g}/\text{PS}\cdot\text{h}$ ]: with 13% O<sub>2</sub> Level.  
CO<sub>2</sub>[%]: Calculated Data.  
( ): Estimated Data.
- \*1: Standby Rating
- These data are subject to change without notice.





**MITSUBISHI DIESEL ENGINE  
TECHNICAL INFORMATION**

ITEM NO.

T33-0100-E

DATE

Jun. 1999

**FUEL CONSUMPTION**

(SB, SA, SH, SR SERIES ENGINES FOR GENERATOR DRIVE)

ENGINE MODEL	ENGINE rpm	REMARKS
S6B-PTA, PTK	1500	W/Fan, W/O Fan
	1800	
S6B3-PTA, PTK	1200	W/Fan, W/O Fan
	1500	
S6A3-PTA, PTK	1200	W/Fan, W/O Fan
	1500	
S12A2-PTA, PTK	1200	W/Fan, W/O Fan
	1500	
S12H-PTA	1500	W/Fan, W/O Fan
	1800	
S6R-PTA, PTK	1200	W/Fan, W/O Fan
	1500	
S6R2-PTA, PTK	1000	W/Fan, W/O Fan
	1200	
S12R-PTA, PTK	1200	W/Fan, W/O Fan
	1500	
S12R-PTA2, PTK2	1500	W/Fan, W/O Fan
	1800	
S16R-PTA, PTK	1200	W/Fan, W/O Fan
	1500	
S16R-PTA2, PTK2	1500	W/Fan, W/O Fan
	1800	
S6A3-PTAA	1500	W/Fan
	1800	
S6R2-PTAA	1500	W/Fan
S12R-PTAA2	1500	W/Fan
	1800	
S16R-PTAA2	1500	W/Fan
	1800	

First Edition : Jun. 1999

Engine Engineering Department  
Large Engine Design Section

Revision

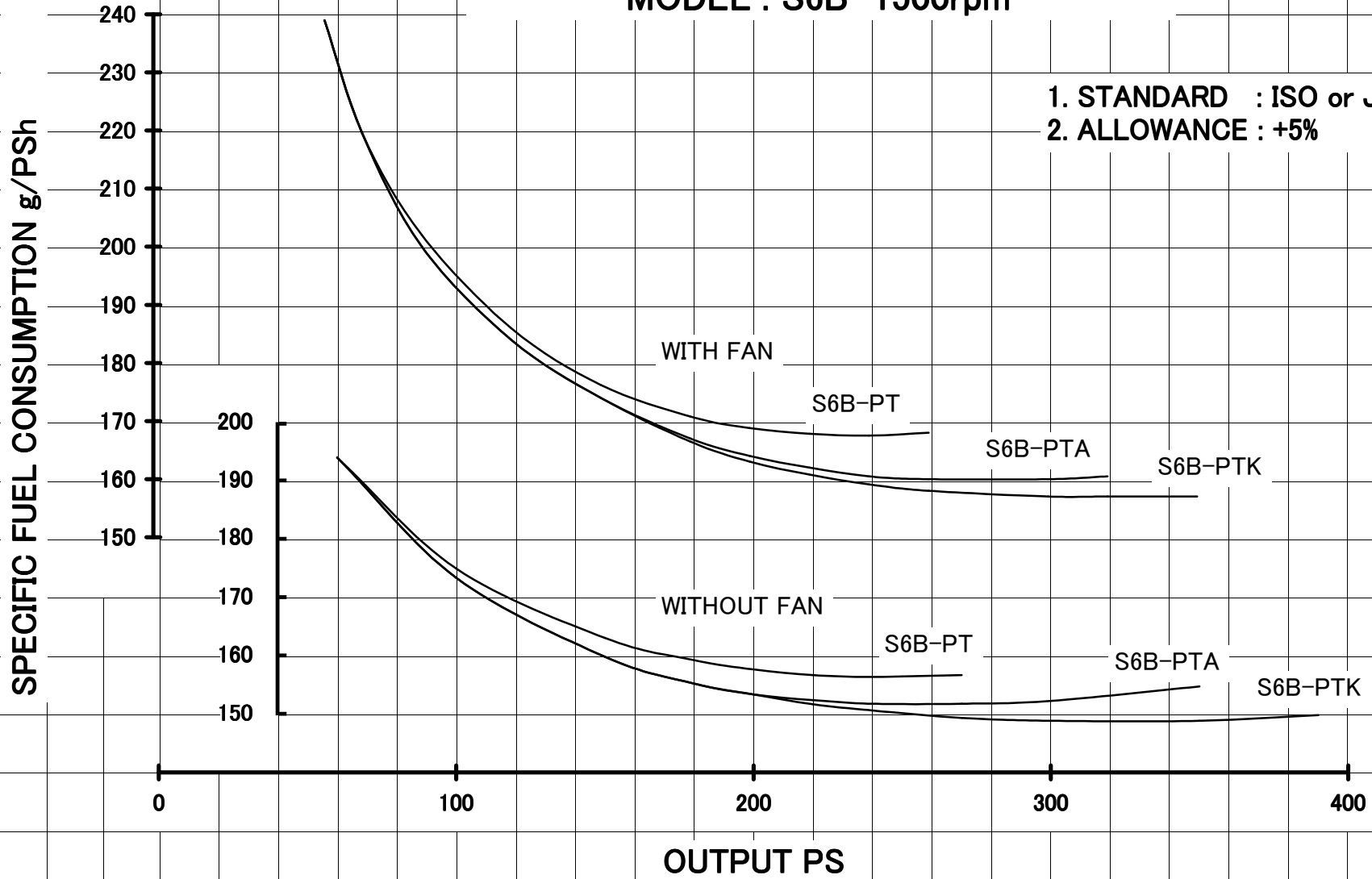
Approved by

Checked by

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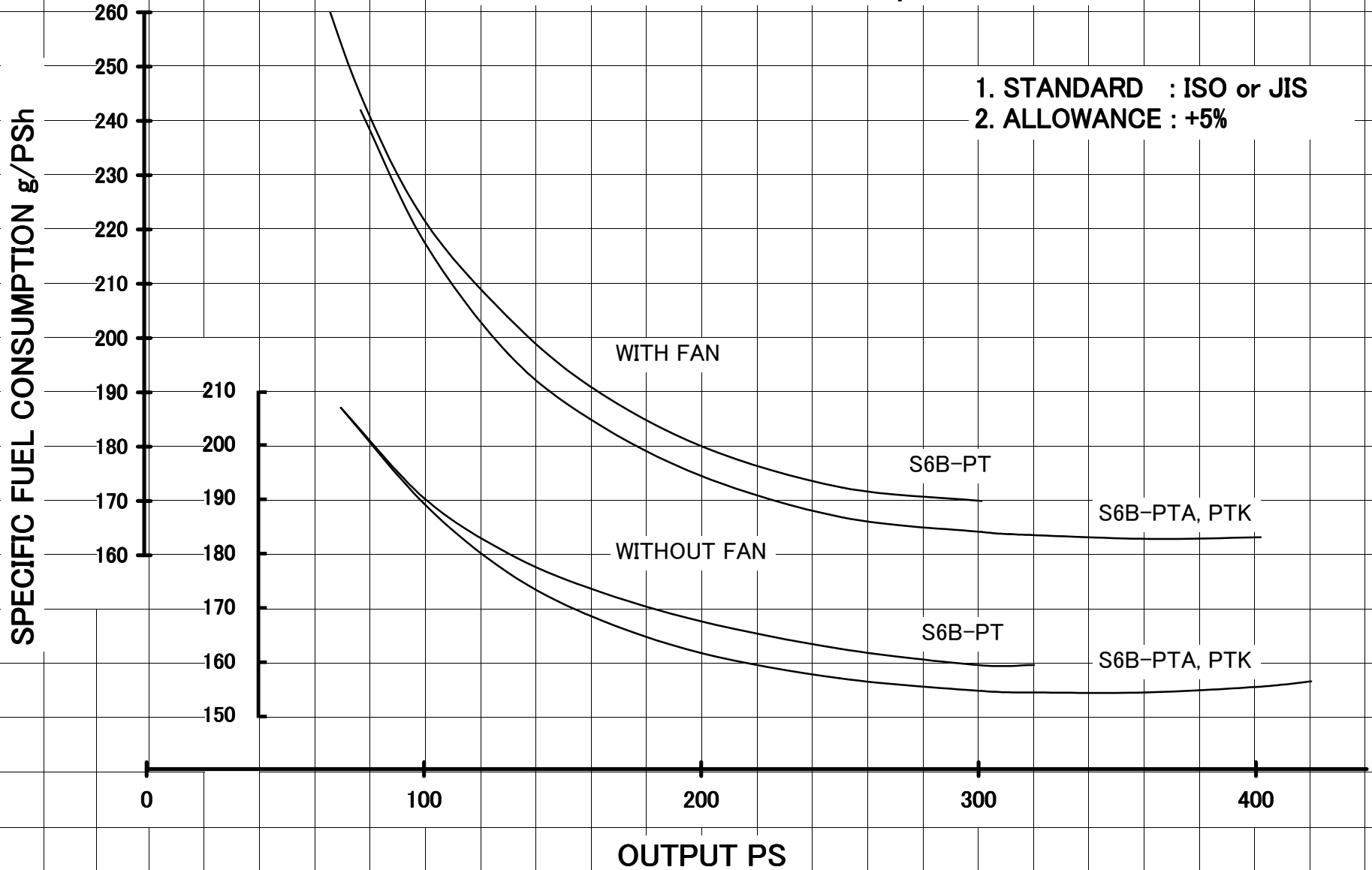
# SPECIFIC FUEL CONSUMPTION MODEL : S6B 1500rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%



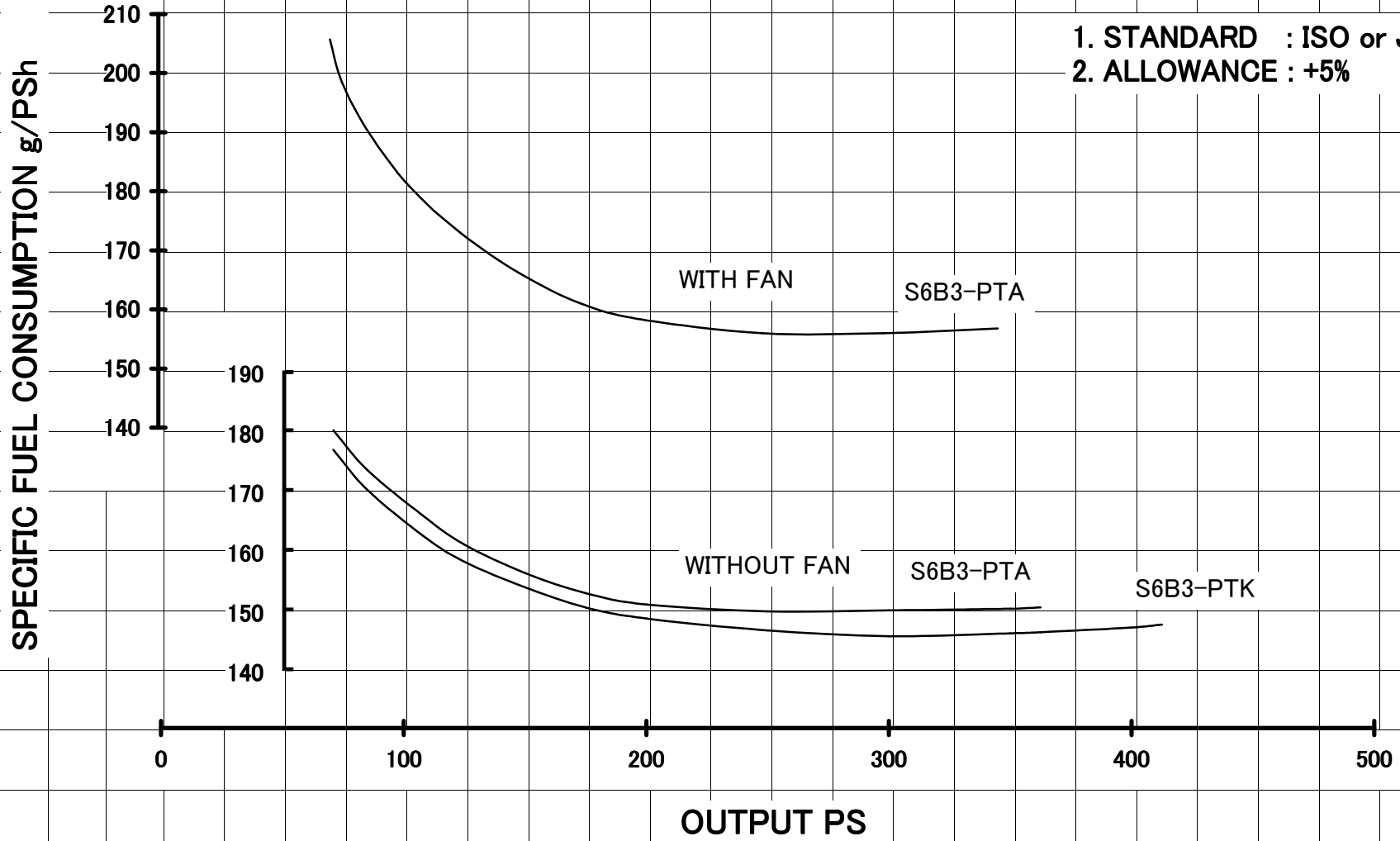
# SPECIFIC FUEL CONSUMPTION MODEL : S6B 1800rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%



# SPECIFIC FUEL CONSUMPTION MODEL : S6B3 1200rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

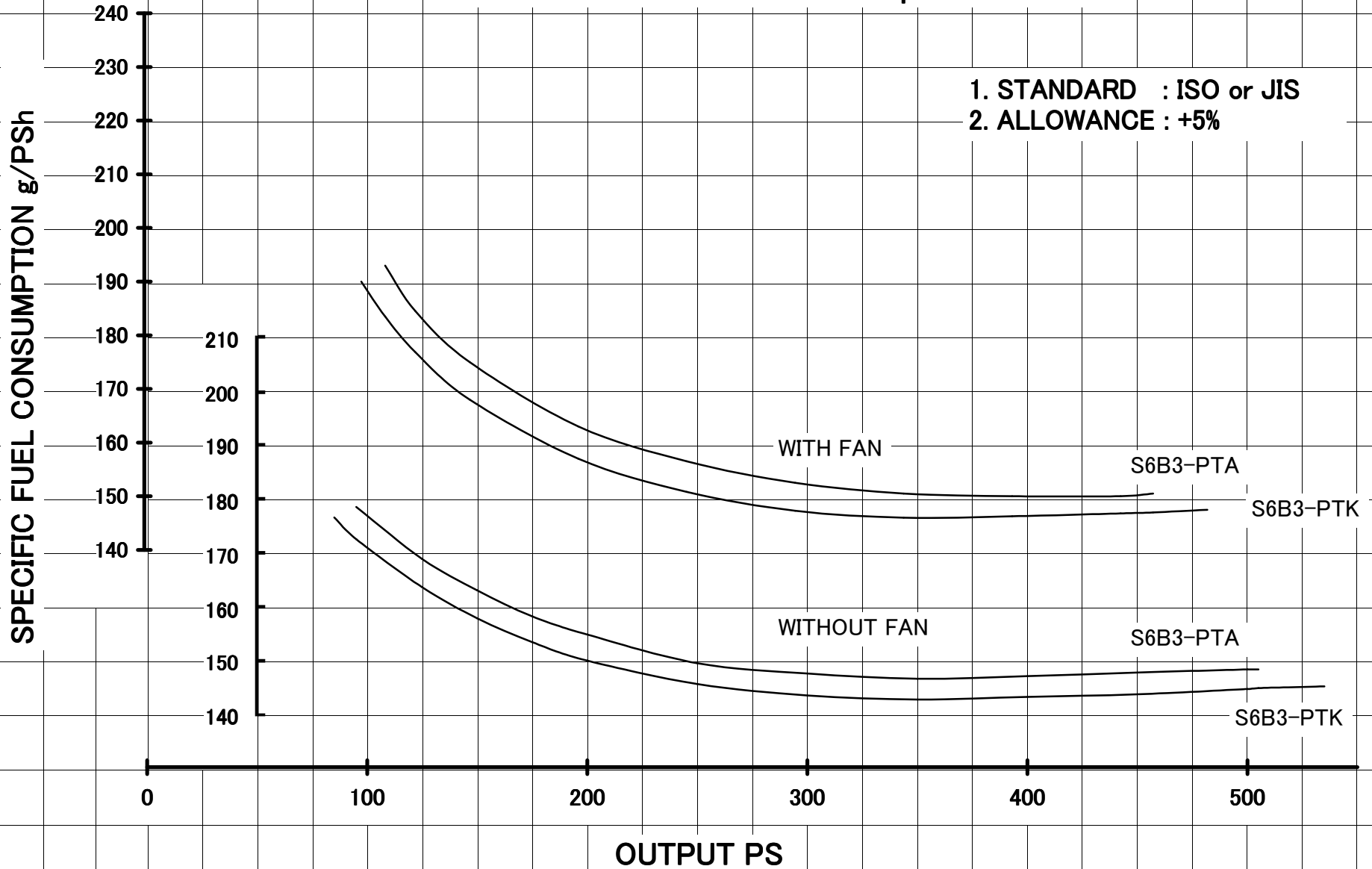


# SPECIFIC FUEL CONSUMPTION

MODEL : S6B3 1500rpm

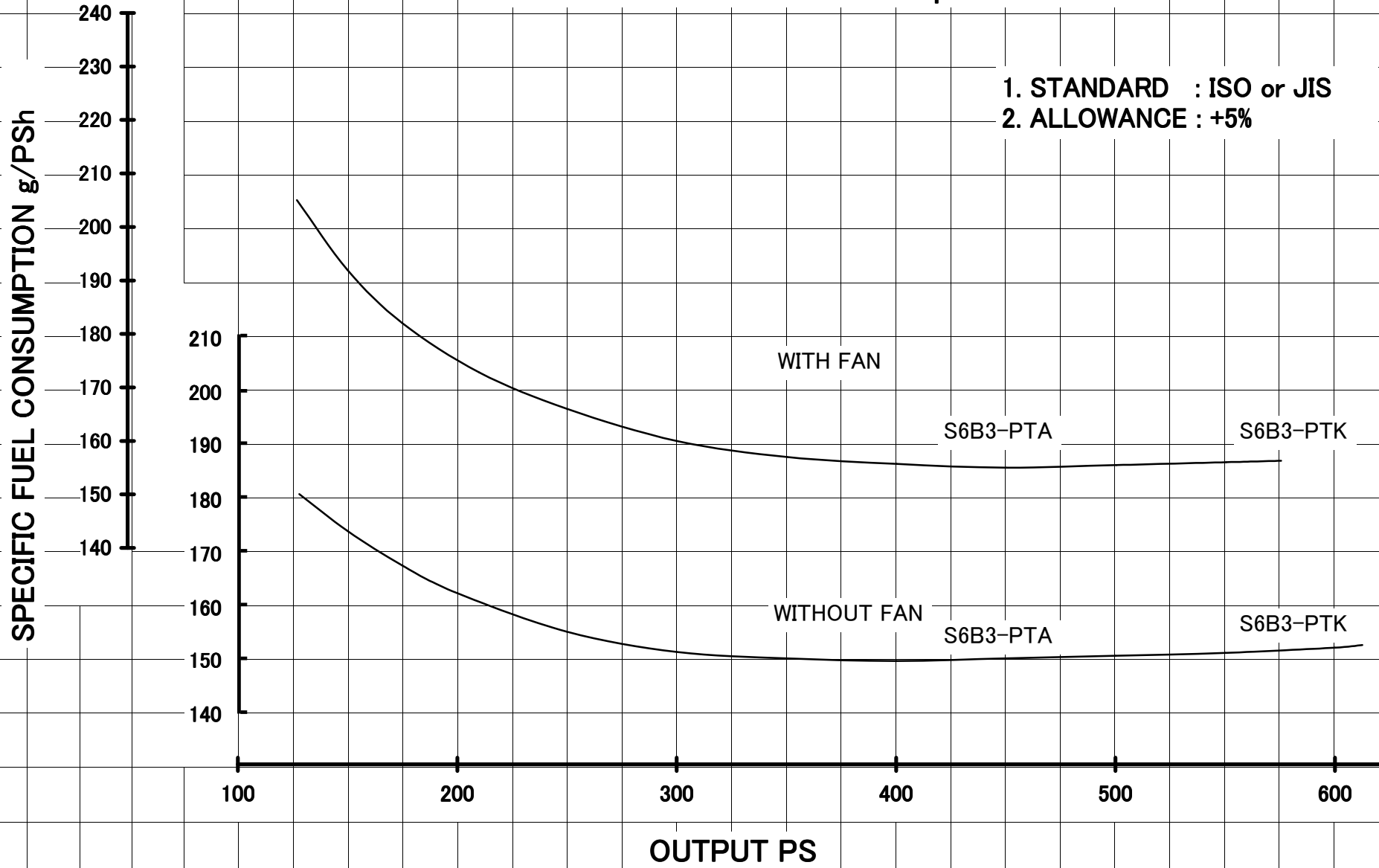
1. STANDARD : ISO or JIS

2. ALLOWANCE : +5%



# SPECIFIC FUEL CONSUMPTION MODEL : S6B3 1800rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%



# SPECIFIC FUEL CONSUMPTION

MODEL : S6A3 1200rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>

210  
200  
190  
180  
170  
160  
150  
140

190  
180  
170  
160  
150  
140

WITH FAN

WITHOUT FAN

S6BA3-PTA

S6A3-PTK

0

100

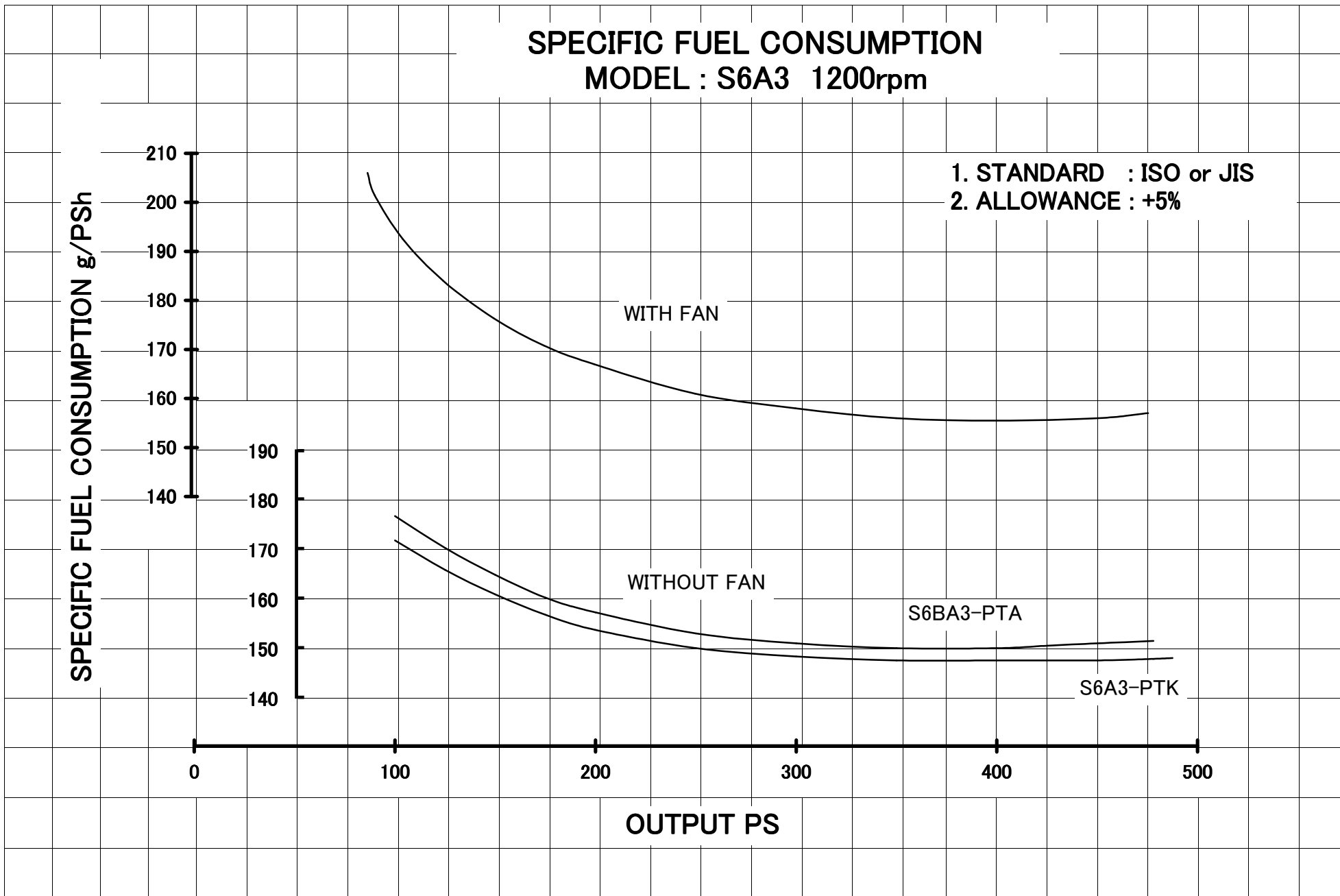
200

300

400

500

OUTPUT PS





# SPECIFIC FUEL CONSUMPTION MODEL : S6A3 1500rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

SPECIFIC FUEL CONSUMPTION g/PSH

220  
210  
200  
190  
180  
170  
160  
150  
140

210  
200  
190  
180  
170  
160  
150  
140

WITH FAN

S6A3-PTA

S6A3-PTK

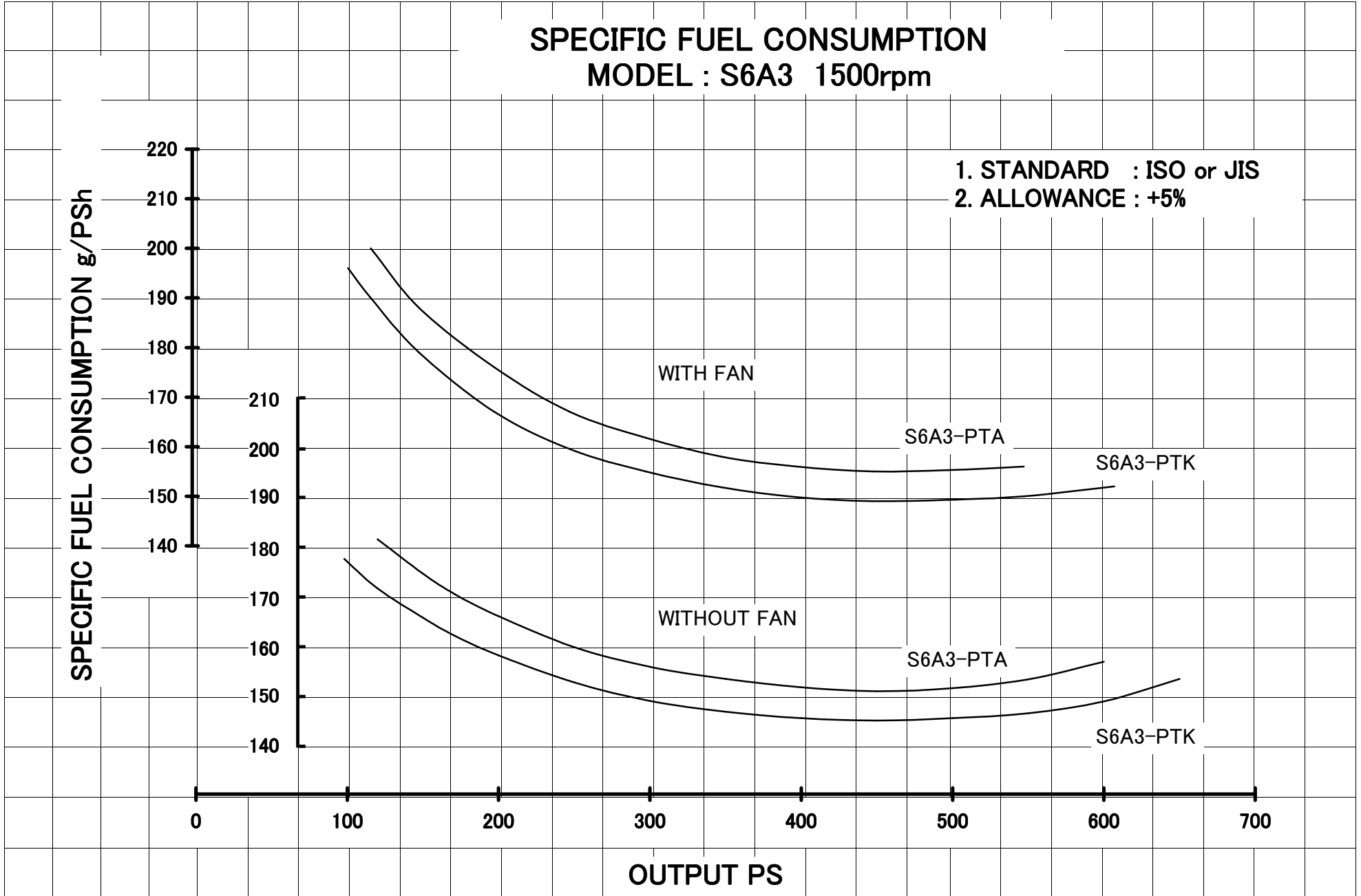
WITHOUT FAN

S6A3-PTA

S6A3-PTK

0 100 200 300 400 500 600 700

OUTPUT PS



# SPECIFIC FUEL CONSUMPTION

MODEL : S6A3 1800rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>

230  
220  
210  
200  
190  
180  
170  
160  
150

210  
200  
190  
180  
170  
160  
150

WITH FAN

S6A3-PTA

S6A3-PTK

WITHOUT FAN

S6A3-PTA

S6A3-PTK

0

100

200

300

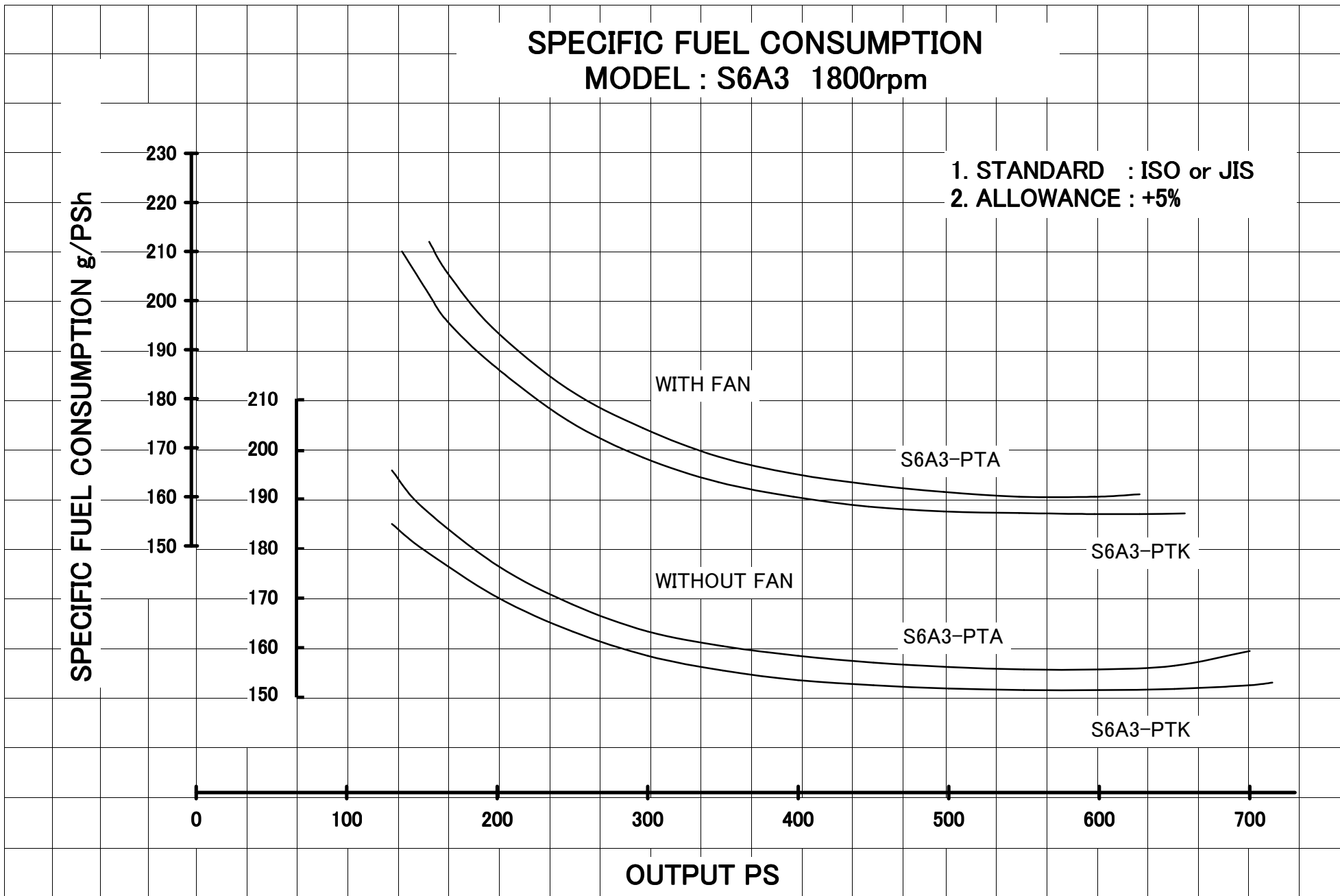
400

500

600

700

OUTPUT PS



# SPECIFIC FUEL CONSUMPTION MODEL : S12A2 1200rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>

190  
180  
170  
160  
150

180  
170  
160  
150

0

200

400

600

800

OUTPUT PS

WITH FAN

WITHOUT FAN

S12A2-PT

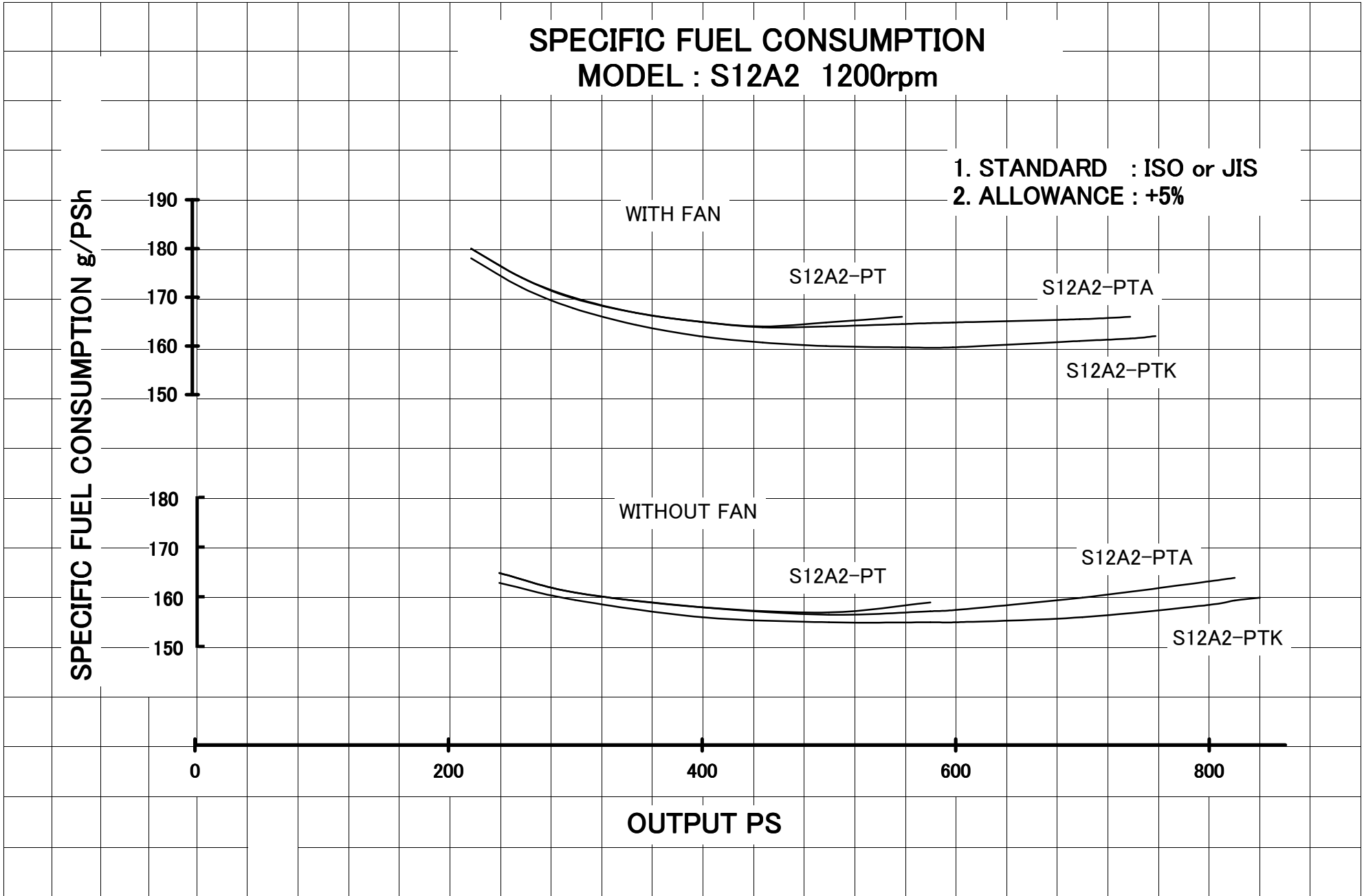
S12A2-PTA

S12A2-PTK

S12A2-PT

S12A2-PTA

S12A2-PTK



# SPECIFIC FUEL CONSUMPTION MODEL : S12A2 1500rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>

190  
180  
170  
160  
150

190  
180  
170  
160  
150  
140

0

200

400

600

800

1000

OUTPUT PS

WITH FAN

S12A2-PT

S12A2-PTA

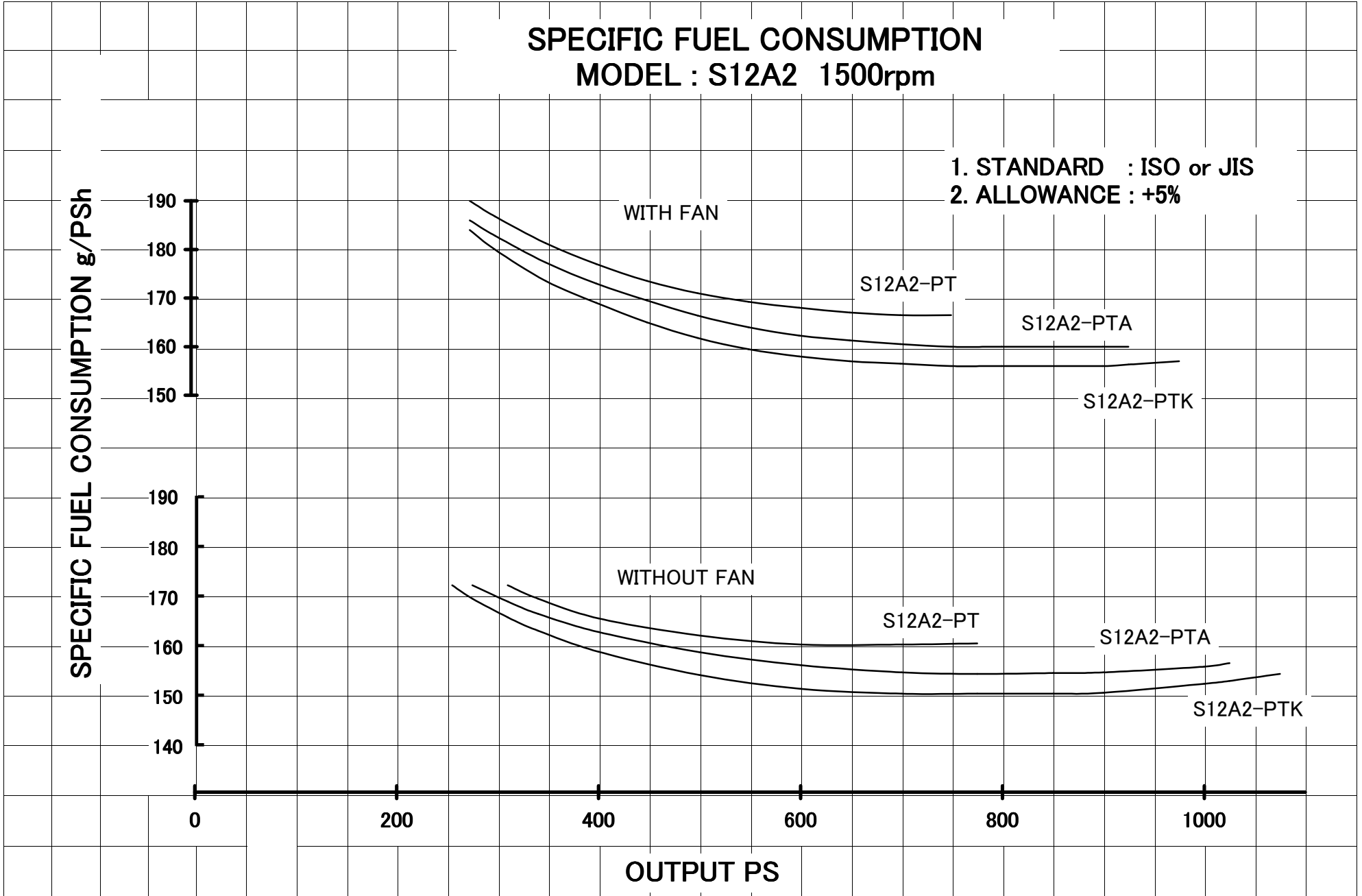
S12A2-PTK

WITHOUT FAN

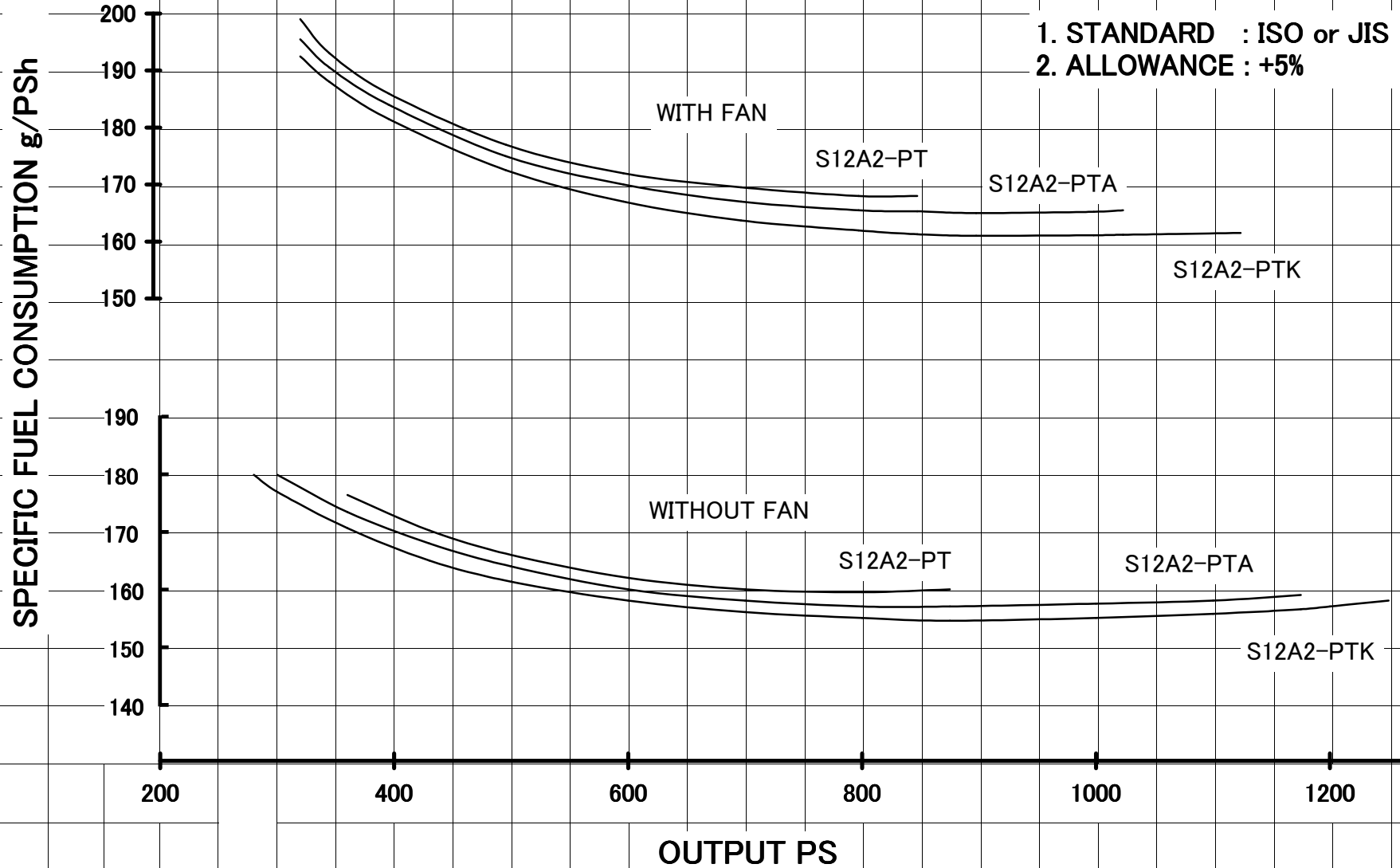
S12A2-PT

S12A2-PTA

S12A2-PTK

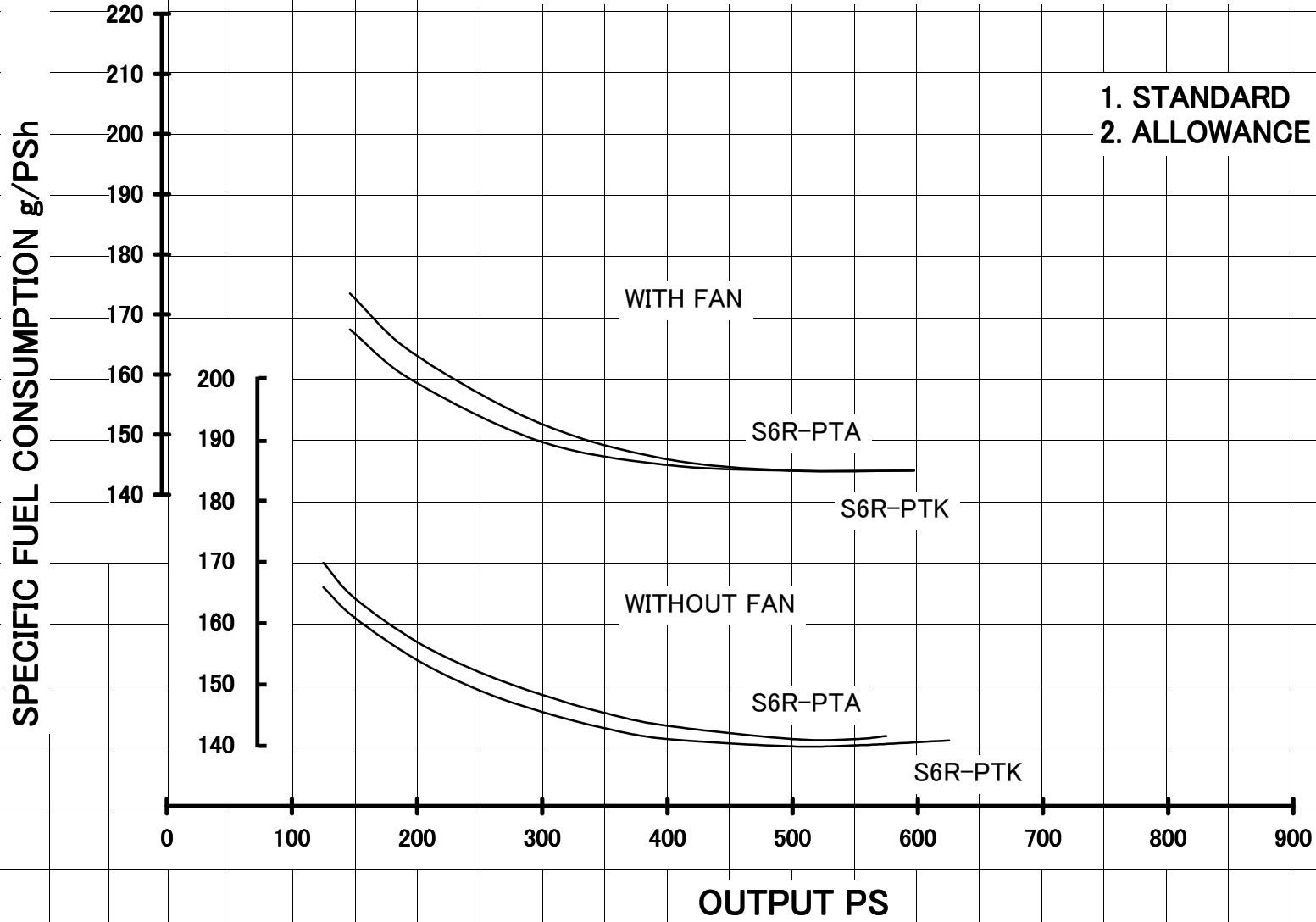


# SPECIFIC FUEL CONSUMPTION MODEL : S12A2 1800rpm



# SPECIFIC FUEL CONSUMPTION MODEL : S6R 1200rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

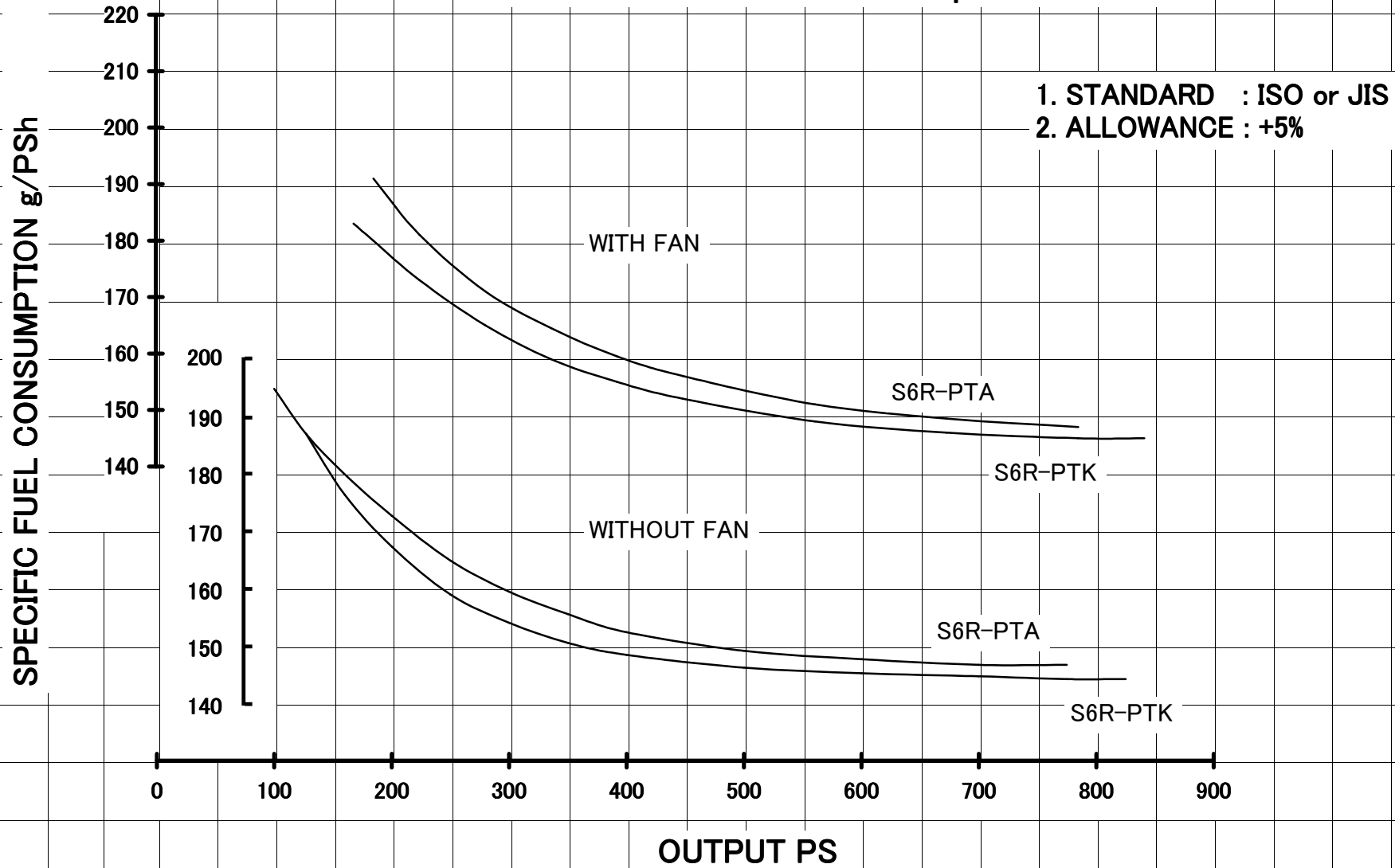


# SPECIFIC FUEL CONSUMPTION

MODEL : S6R 1500rpm

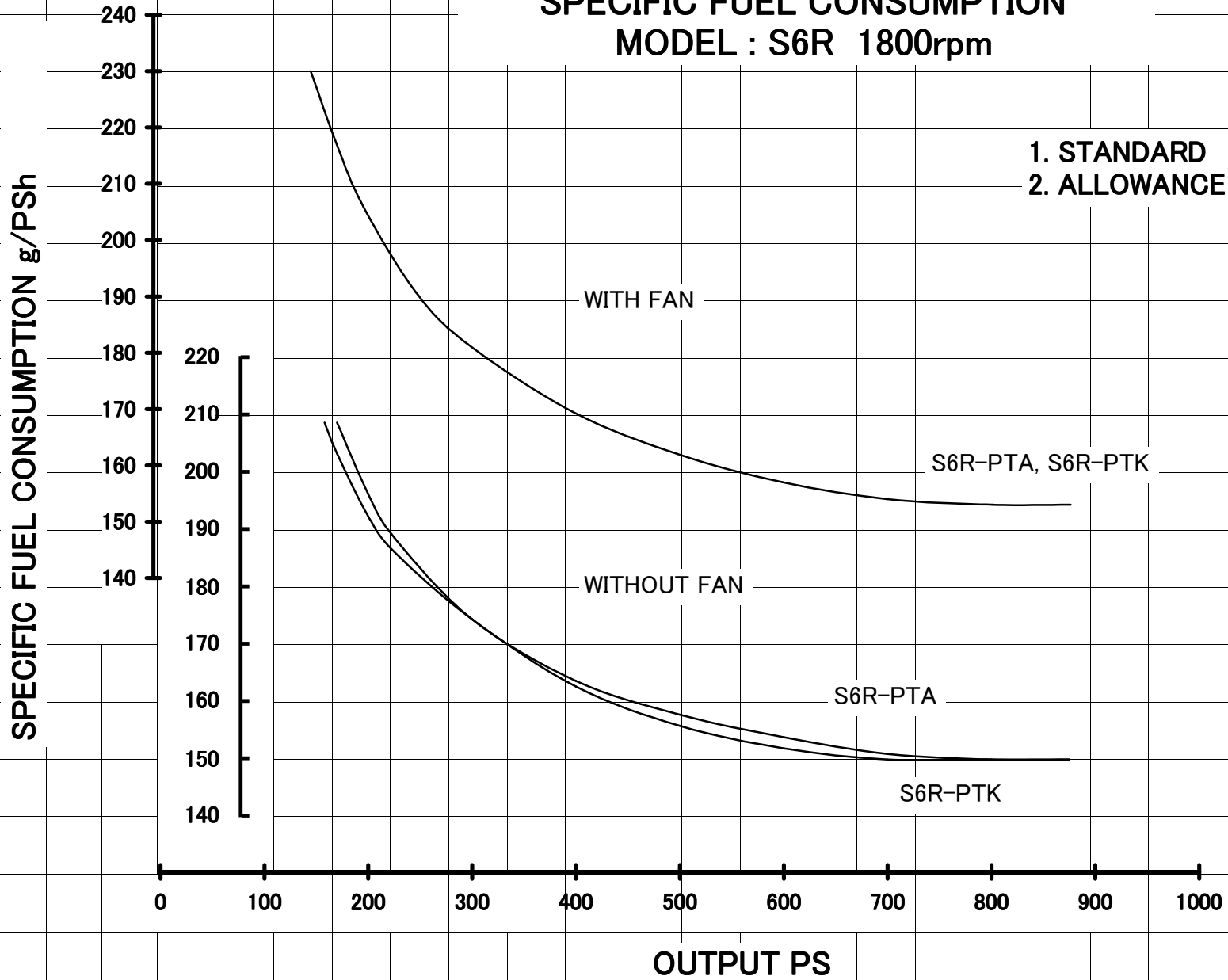
1. STANDARD : ISO or JIS

2. ALLOWANCE : +5%



# SPECIFIC FUEL CONSUMPTION MODEL : S6R 1800rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%



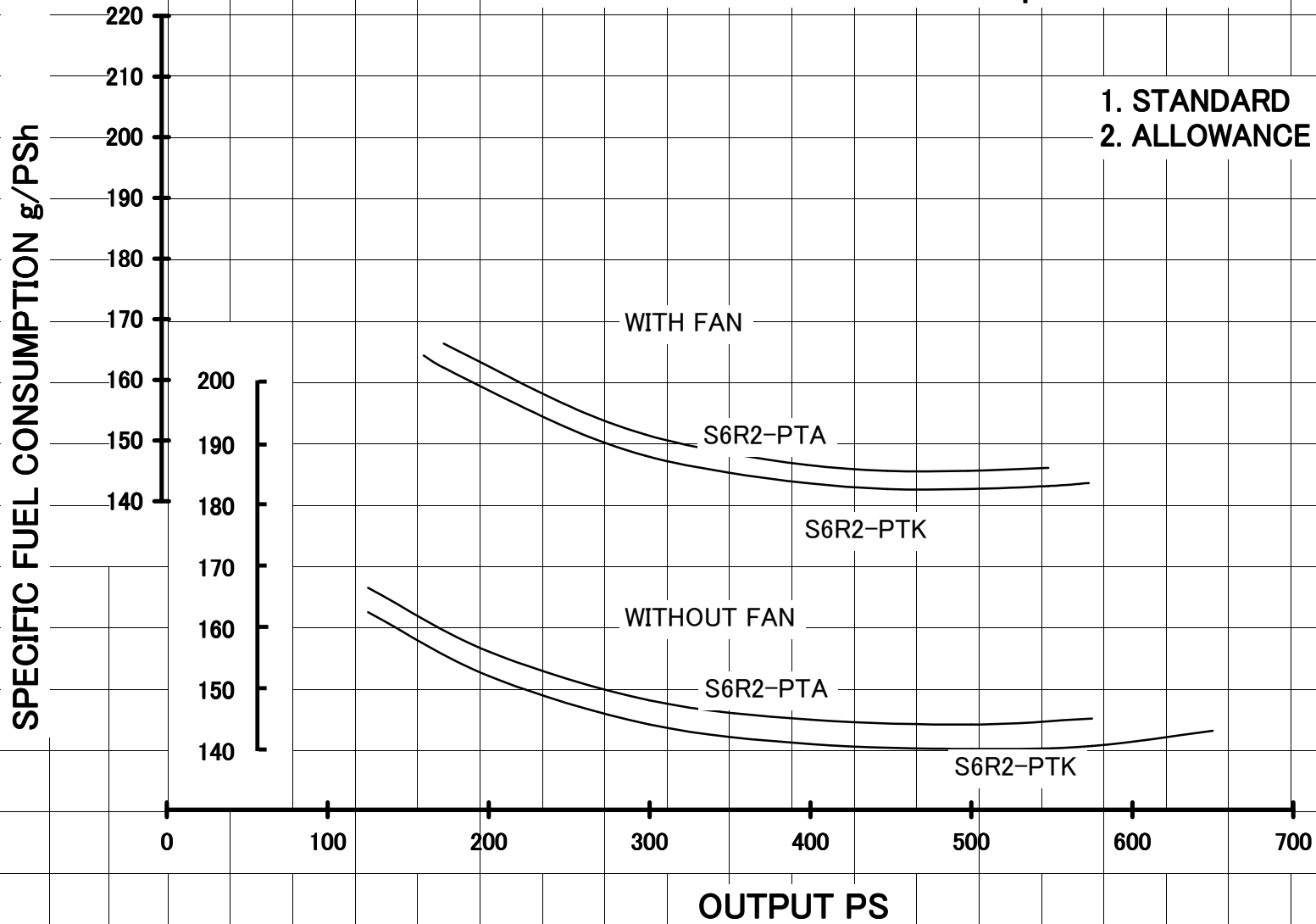


# SPECIFIC FUEL CONSUMPTION

MODEL : S6R2 1000rpm

1. STANDARD : ISO or JIS

2. ALLOWANCE : +5%

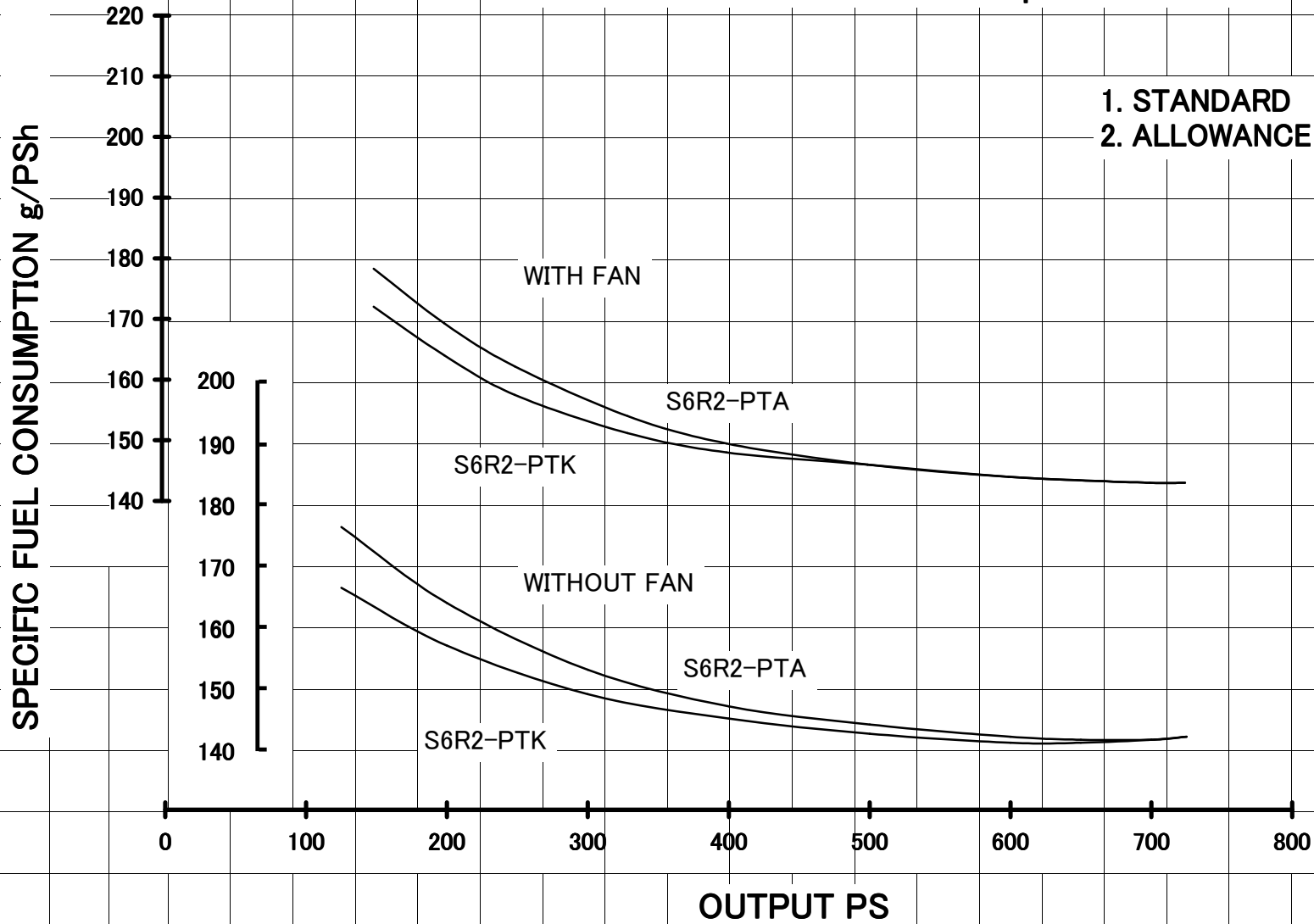


# SPECIFIC FUEL CONSUMPTION

MODEL : S6R2 1200rpm

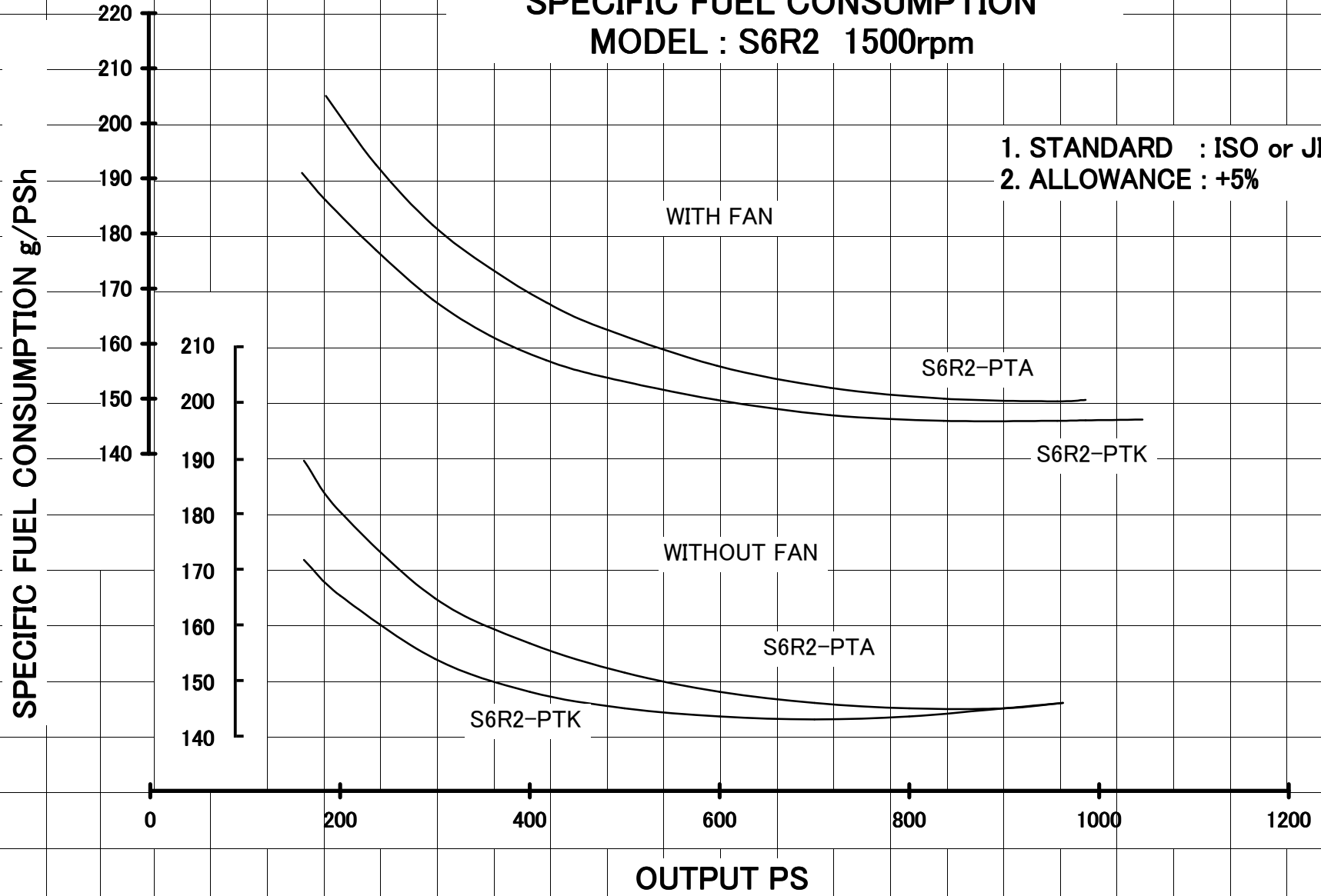
1. STANDARD : ISO or JIS

2. ALLOWANCE : +5%



# SPECIFIC FUEL CONSUMPTION MODEL : S6R2 1500rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

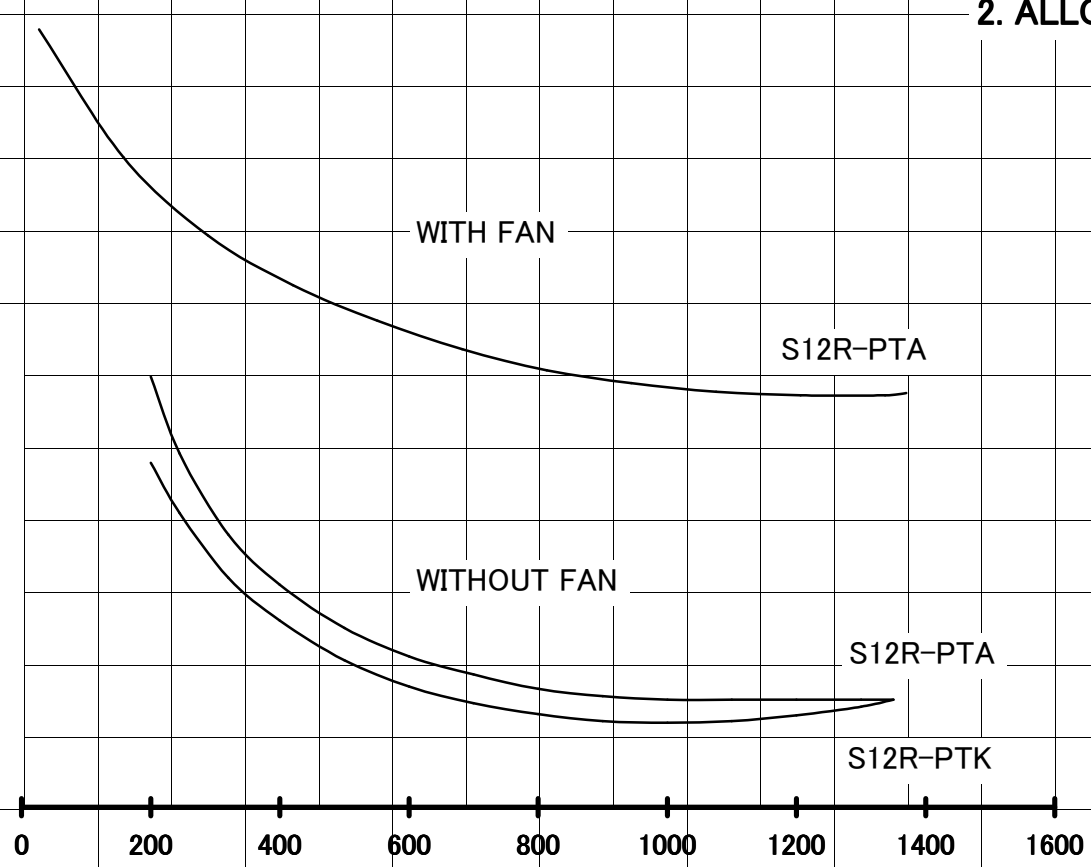


# SPECIFIC FUEL CONSUMPTION MODEL : S12R 1200rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

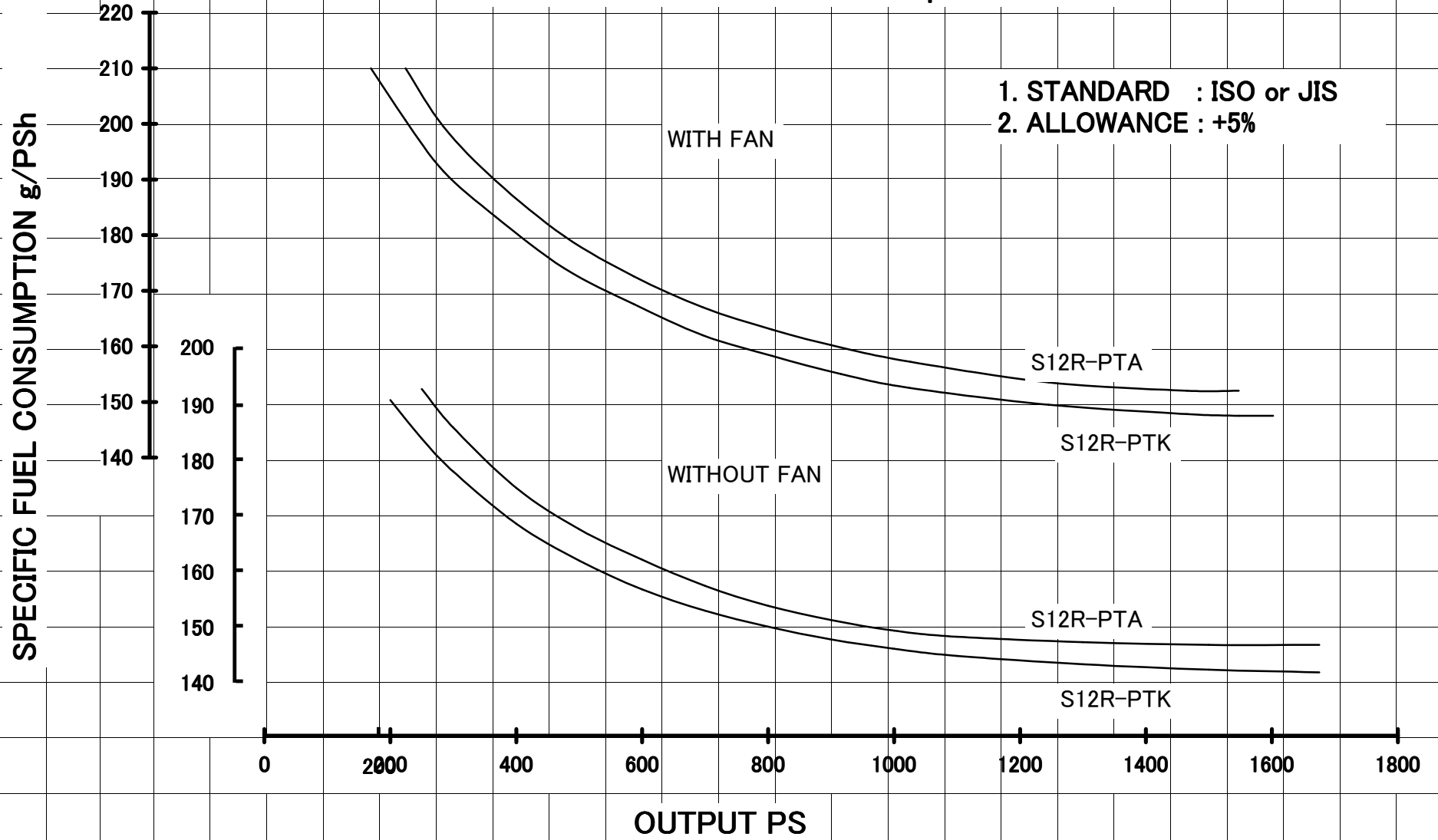
SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>

200  
190  
180  
170  
160  
150  
140  
190  
180  
170  
160  
150  
140

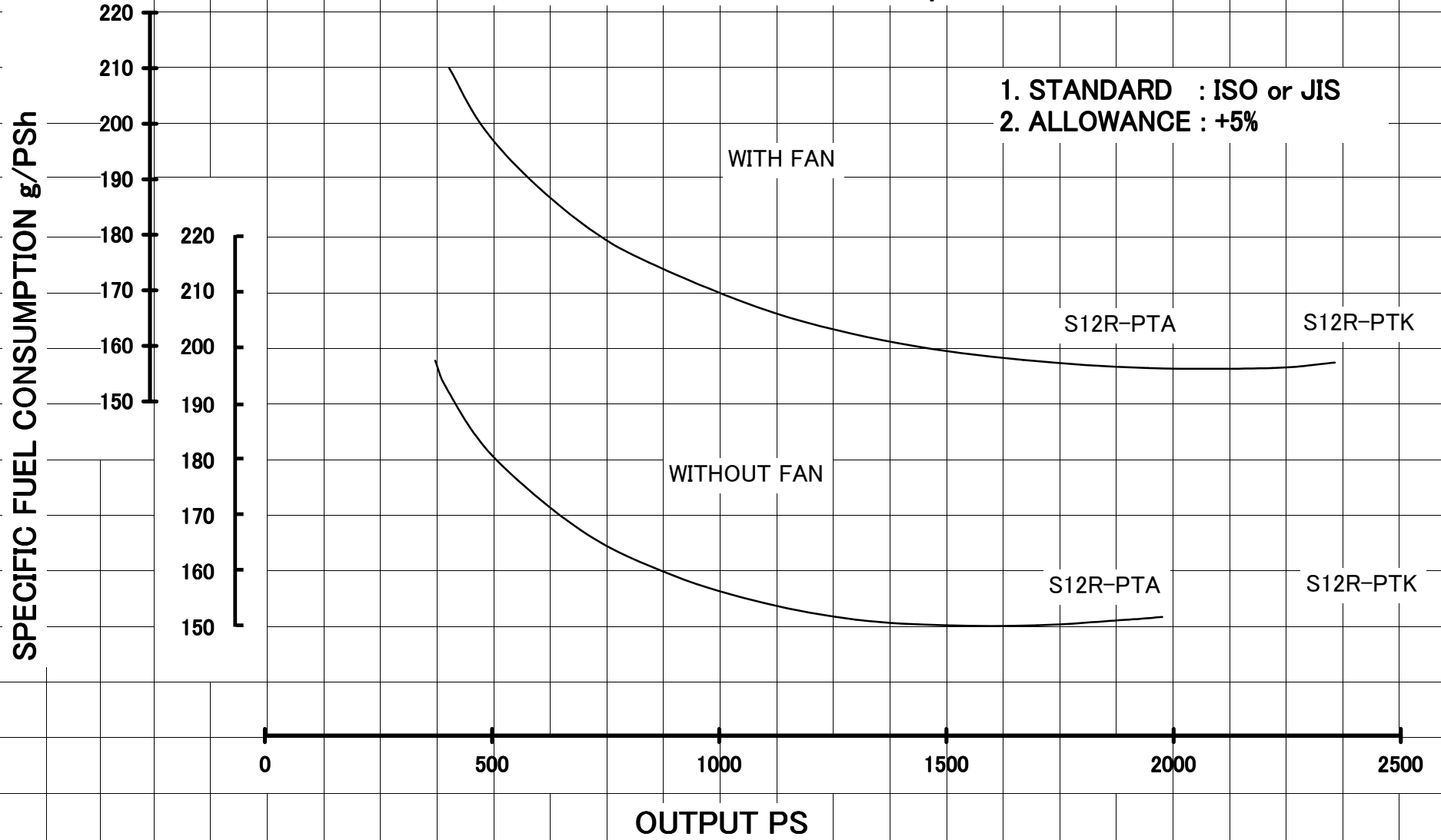


OUTPUT PS

# SPECIFIC FUEL CONSUMPTION MODEL : S12R 1500rpm

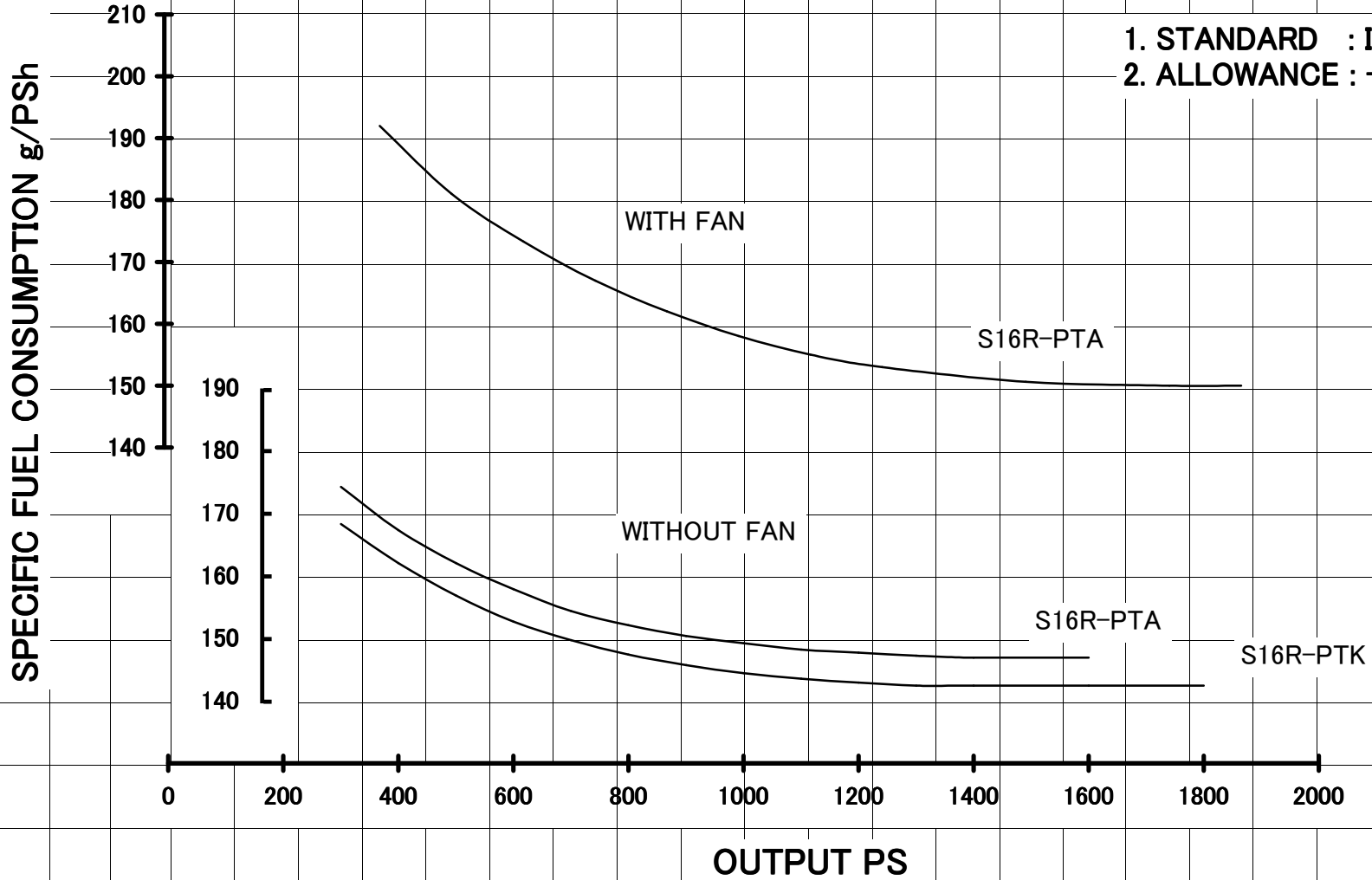


# SPECIFIC FUEL CONSUMPTION MODEL : S12R 1800rpm



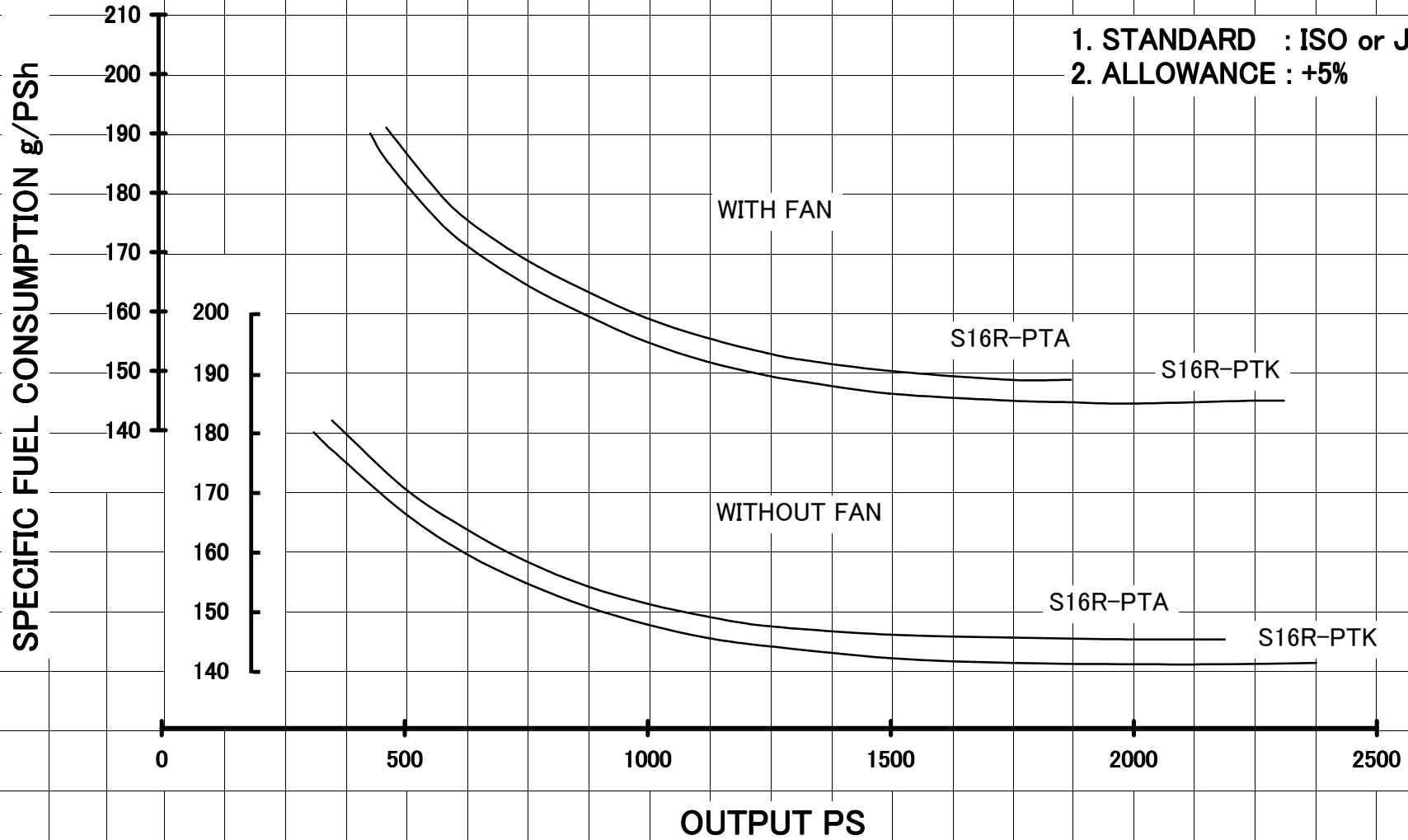
# SPECIFIC FUEL CONSUMPTION MODEL : S16R 1200rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%



# SPECIFIC FUEL CONSUMPTION MODEL : S16R 1500rpm

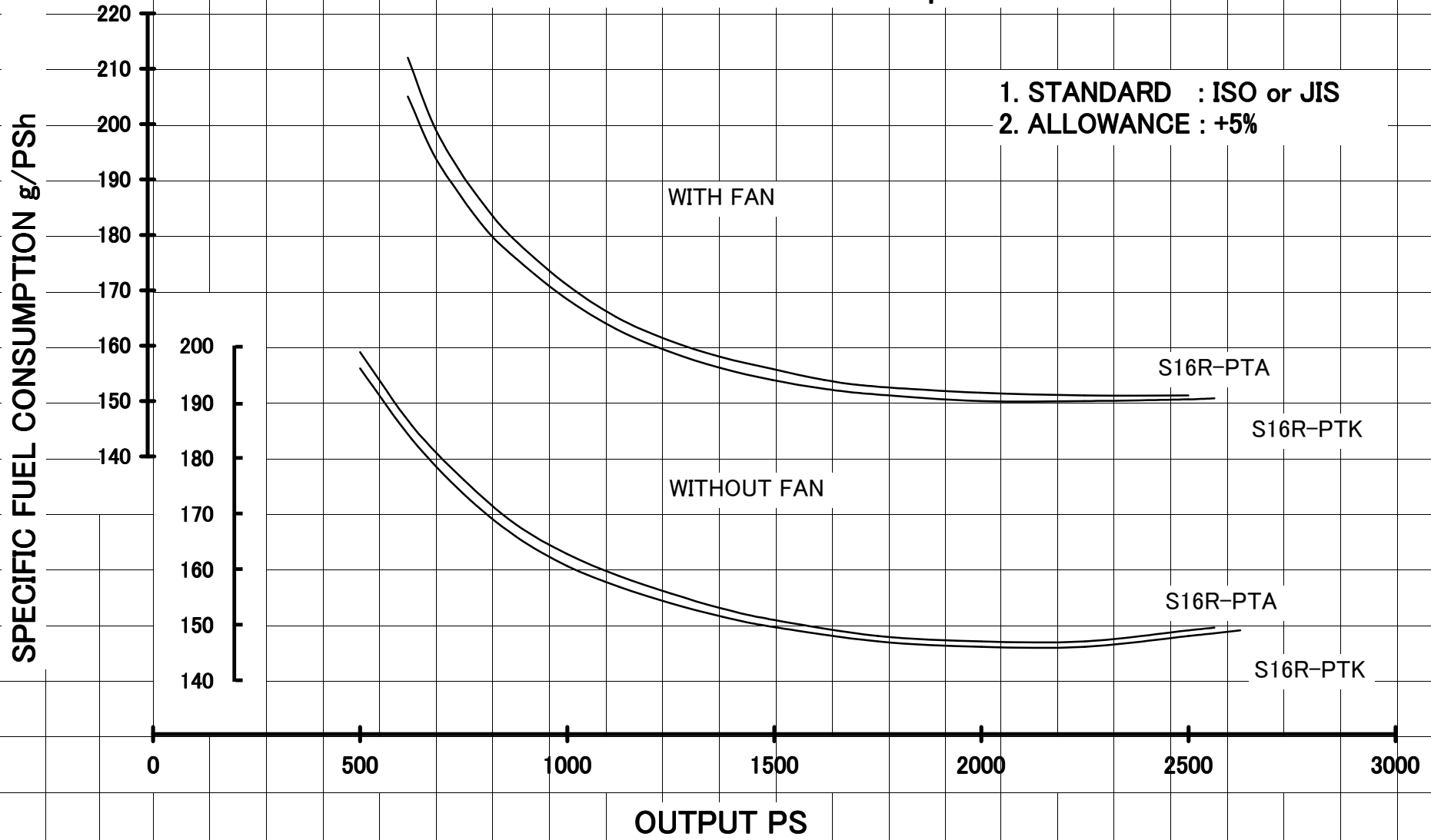
- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%





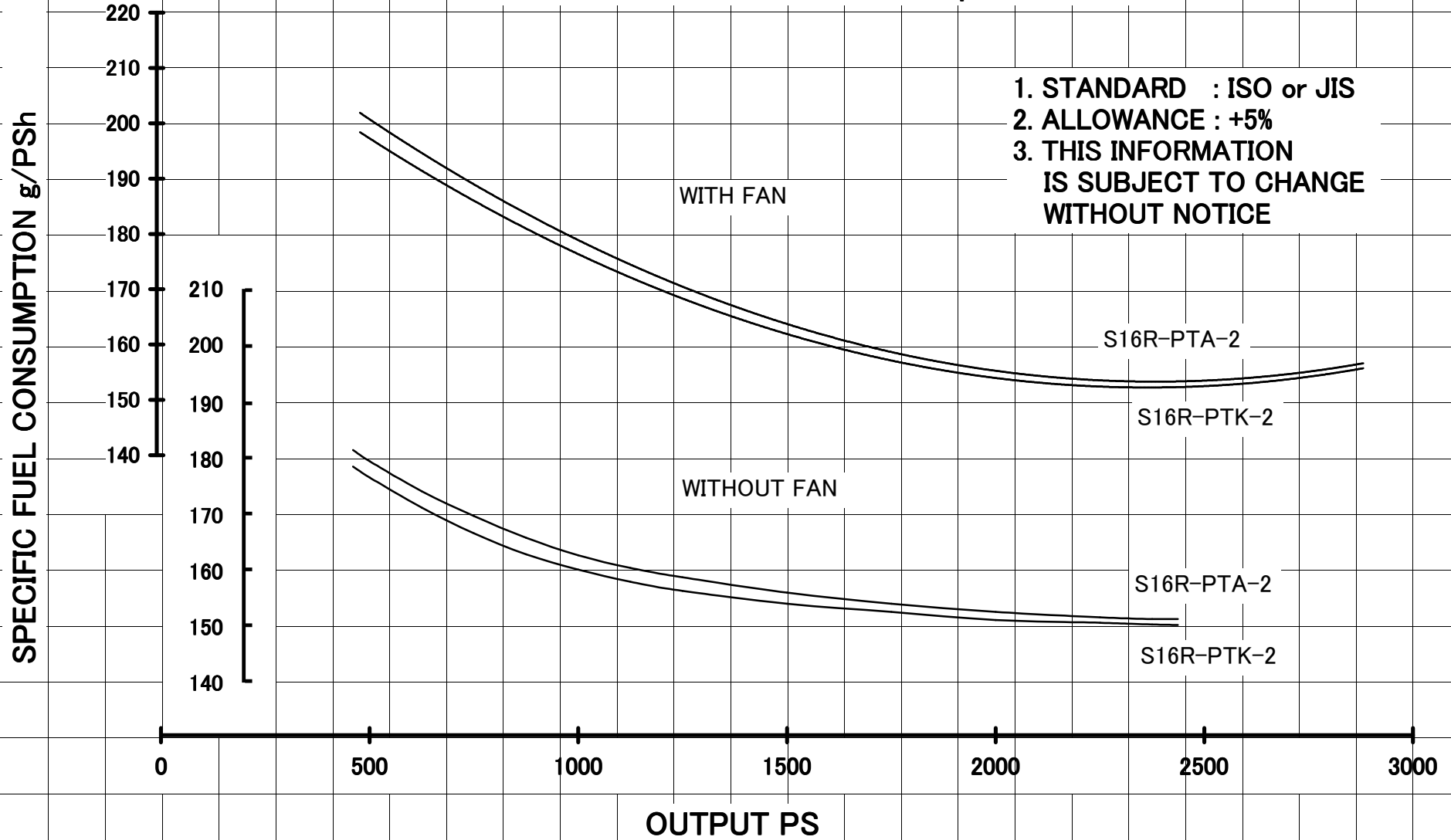
# SPECIFIC FUEL CONSUMPTION MODEL : S16R 1800rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%



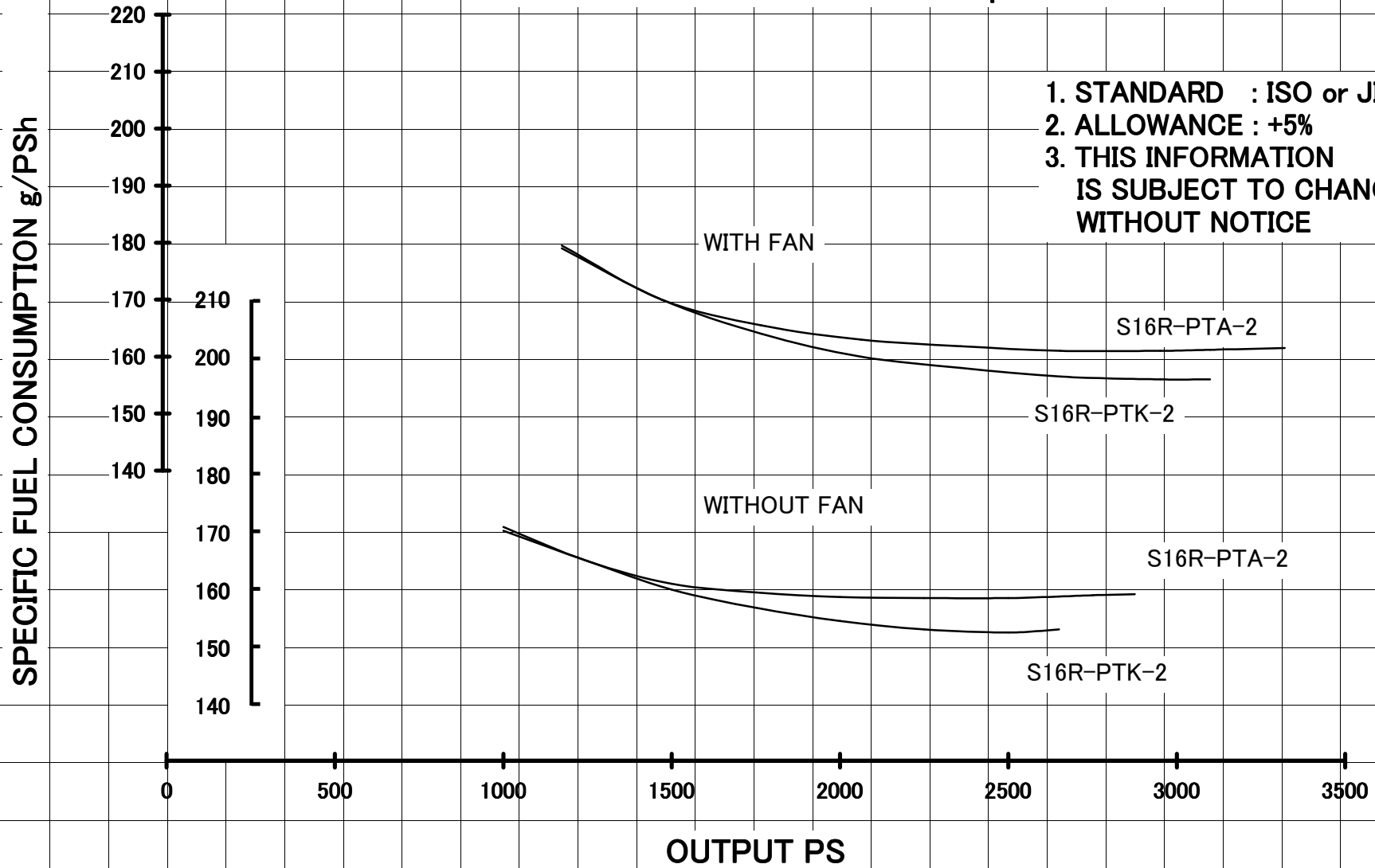
# SPECIFIC FUEL CONSUMPTION MODEL : S16R-2 1500rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%
- 3. THIS INFORMATION IS SUBJECT TO CHANGE WITHOUT NOTICE



# SPECIFIC FUEL CONSUMPTION MODEL : S16R-2 1800rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%
- 3. THIS INFORMATION IS SUBJECT TO CHANGE WITHOUT NOTICE



**SPECIFIC FUEL CONSUMPTION  
MODEL : S6R2-PTAA 1500rpm**

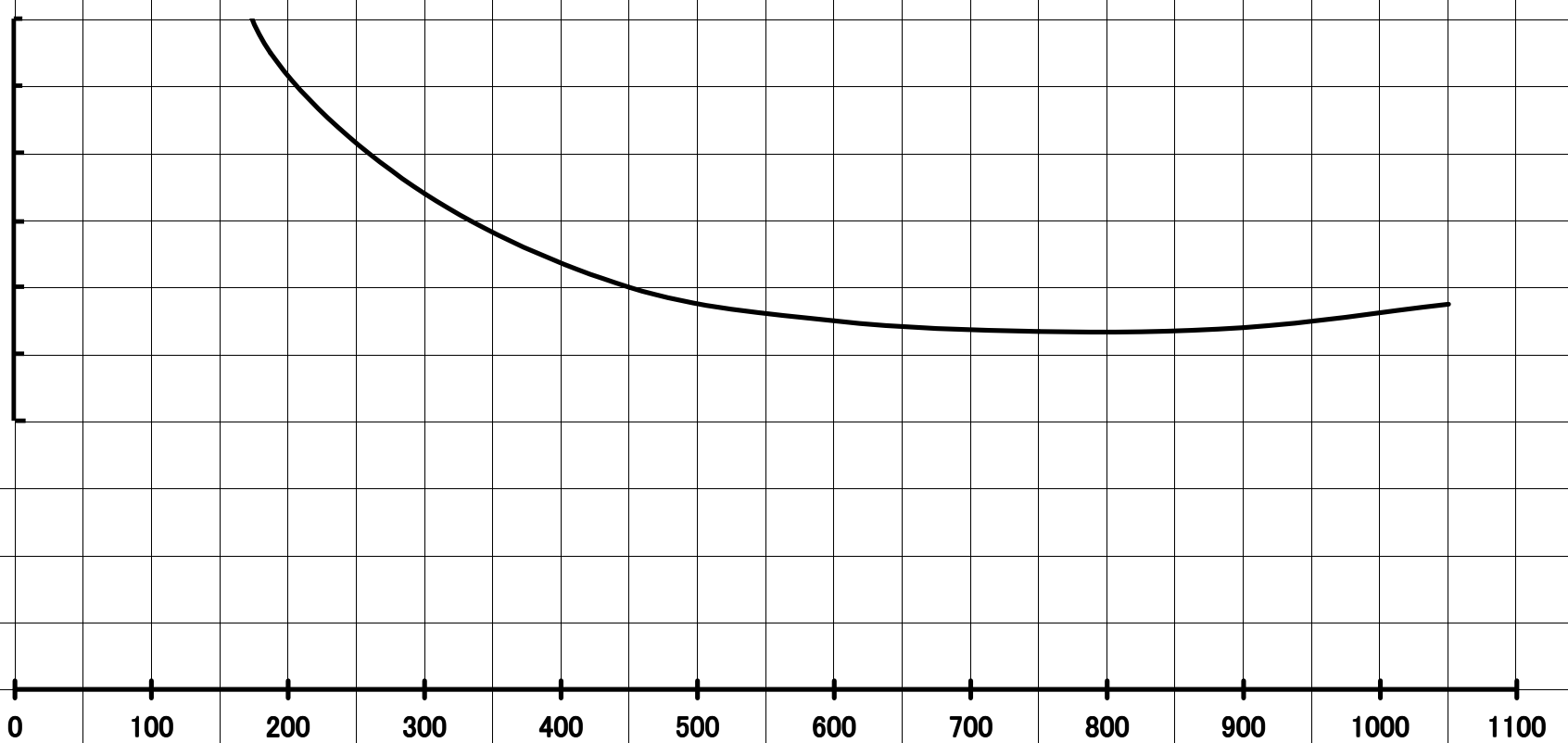
- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

**SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>**

200  
190  
180  
170  
160  
150  
140

0 100 200 300 400 500 600 700 800 900 1000 1100

**OUTPUT PS**



# SPECIFIC FUEL CONSUMPTION MODEL : S12H-PTA 1500rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>

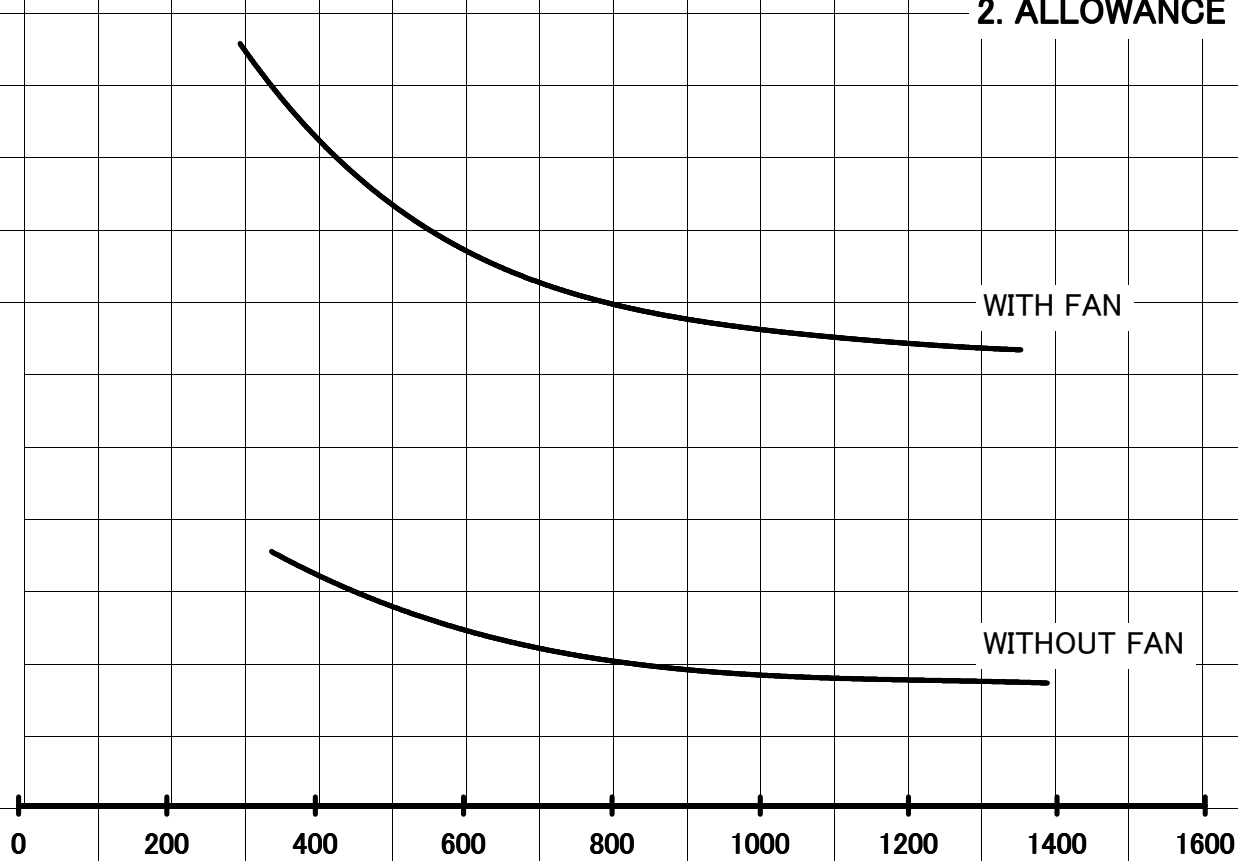
200  
190  
180  
170  
160  
150  
140  
190  
180  
170  
160  
150  
140

0 200 400 600 800 1000 1200 1400 1600

OUTPUT PS

WITH FAN

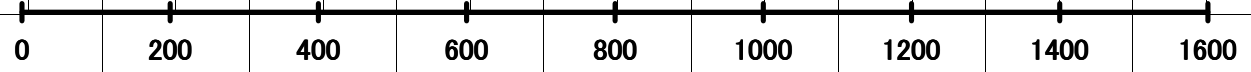
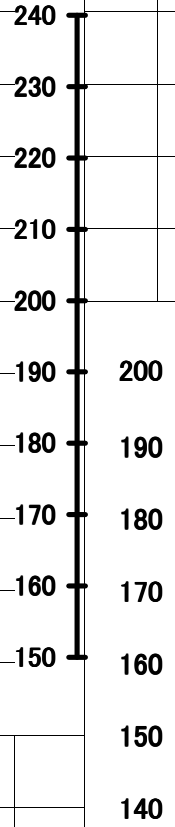
WITHOUT FAN



**SPECIFIC FUEL CONSUMPTION**  
**MODEL : S12H-PTA 1800rpm**

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

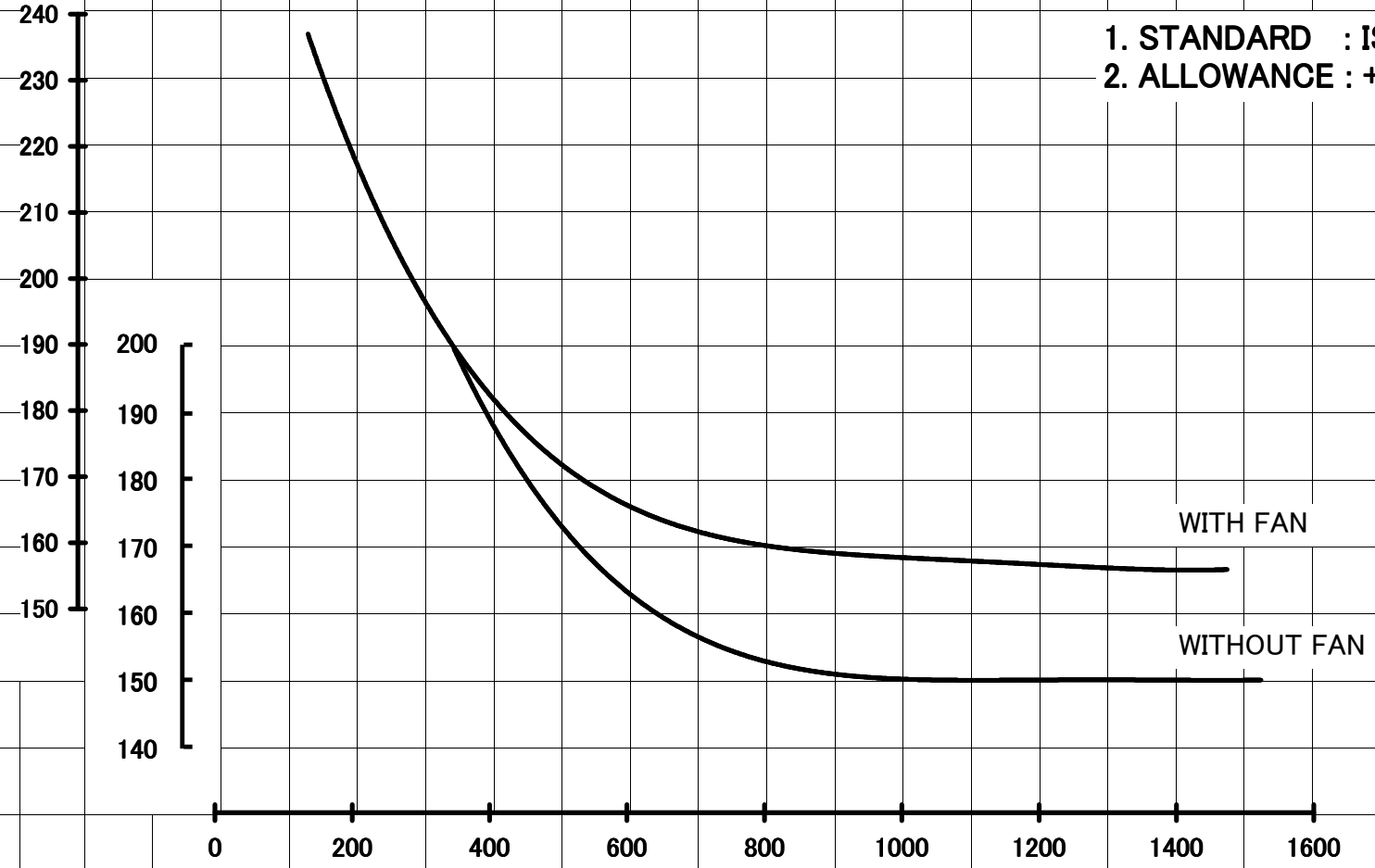
SPECIFIC FUEL CONSUMPTION g/PSH



WITH FAN

WITHOUT FAN

OUTPUT PS



**SPECIFIC FUEL CONSUMPTION  
MODEL : S12R-PTAA2**

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

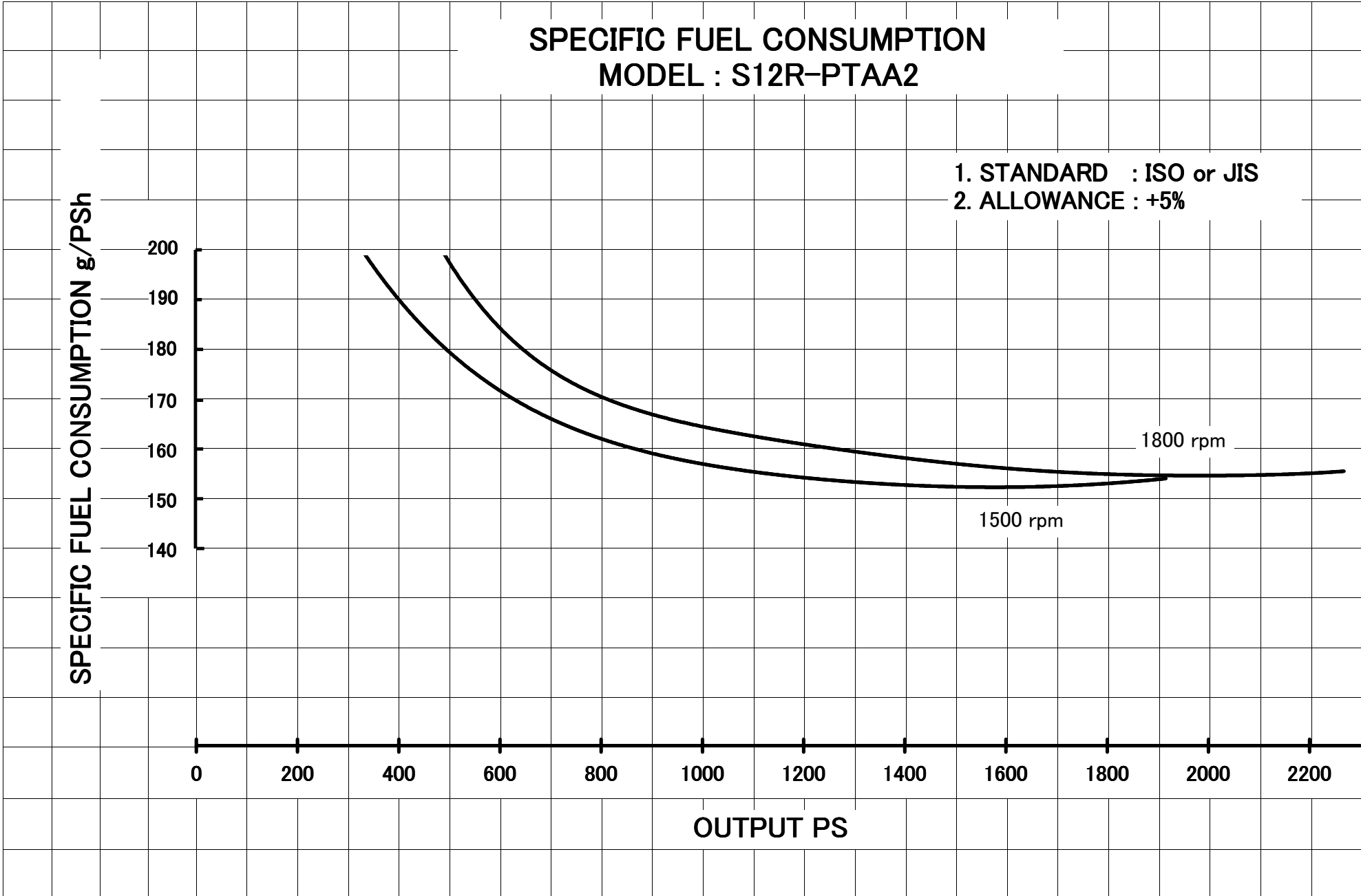
**SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>**

200  
190  
180  
170  
160  
150  
140

1800 rpm  
1500 rpm

**OUTPUT PS**

0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200



# SPECIFIC FUEL CONSUMPTION MODEL : S16R-PTAA2

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>

200  
190  
180  
170  
160  
150  
140

1800 rpm

1500 rpm

0

500

1000

1500

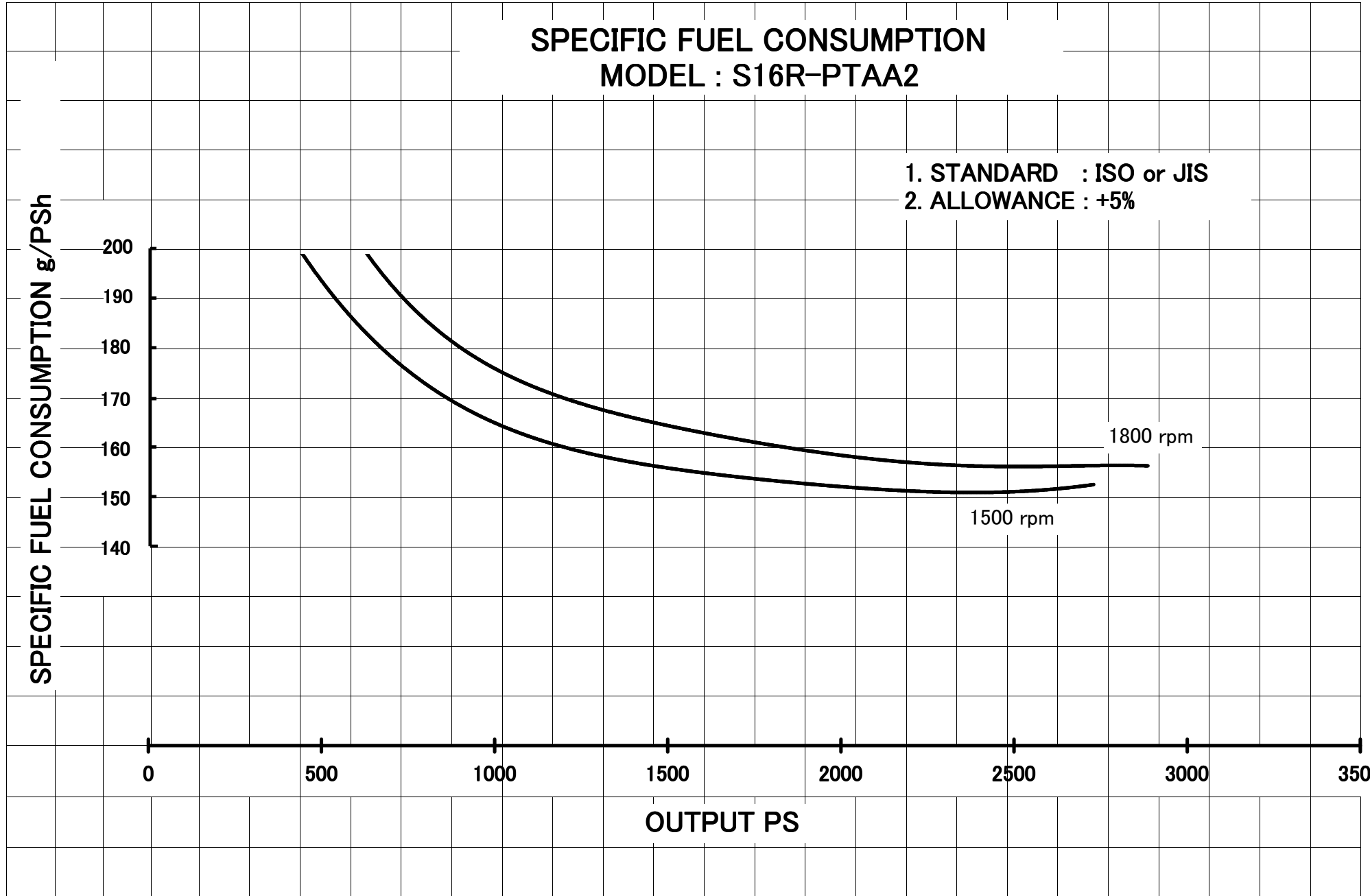
2000

2500

3000

3500

OUTPUT PS





# SPECIFIC FUEL CONSUMPTION MODEL : S12R-2 1500rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

SPECIFIC FUEL CONSUMPTION g/PS<sub>h</sub>

220  
210  
200  
190  
180  
170  
160  
150  
140

200  
190  
180  
170  
160  
150  
140

0 200 500 1000 1500 2000 2100

OUTPUT PS

WITH FAN

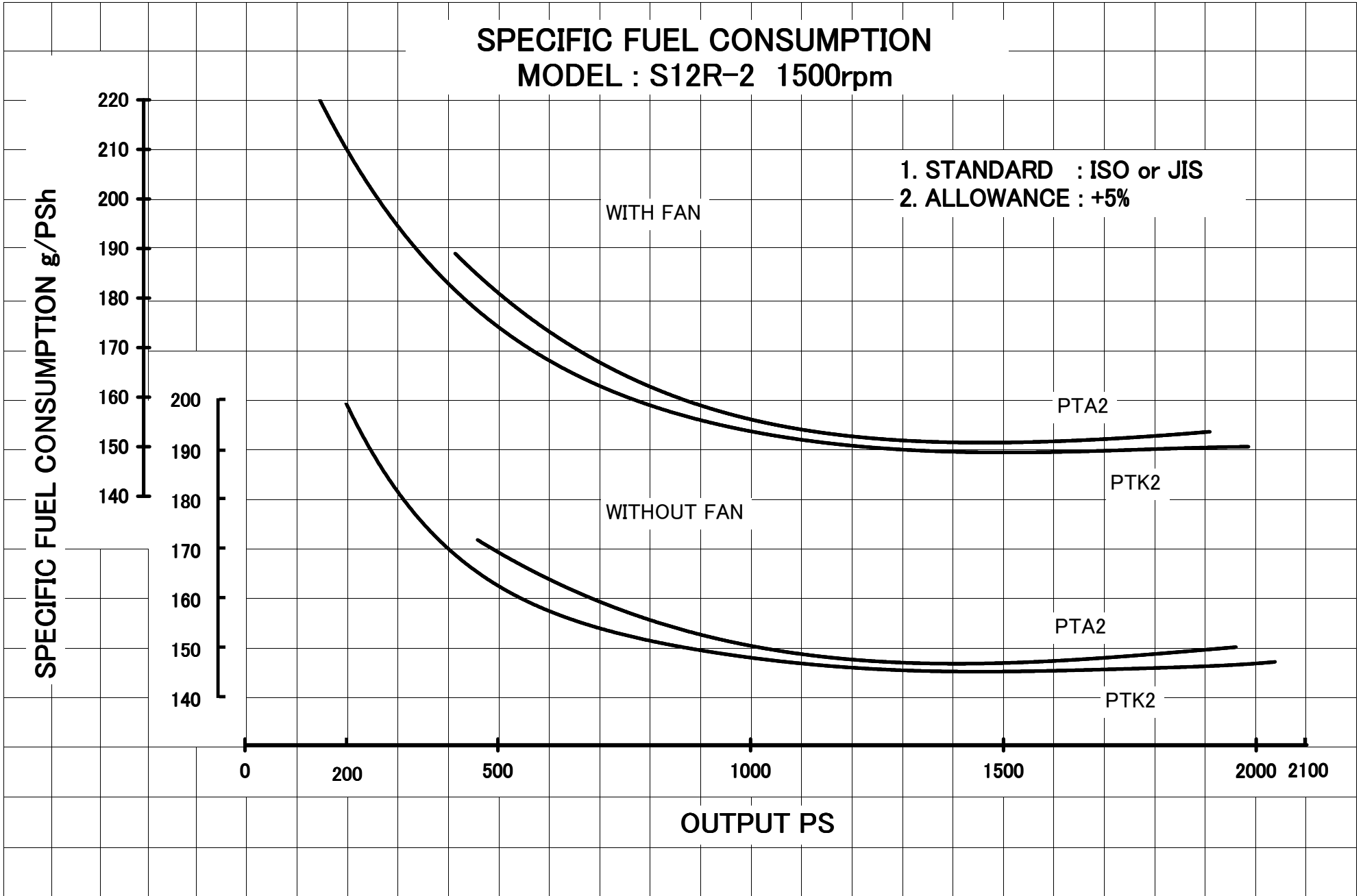
WITHOUT FAN

PTA2

PTK2

PTA2

PTK2



# SPECIFIC FUEL CONSUMPTION MODEL : S12R-2 1800rpm

- 1. STANDARD : ISO or JIS
- 2. ALLOWANCE : +5%

