# **Maastricht Aachen Airport**

IATA/ICAO CODE: MST/EHBK
CITY: Maastricht

COUNTRY: The Netherlands

#### AIRPORT CONTACT

No changes reported by the airport in 2011 Verify information below with the airport

Name: Jan Tindemans Hans Peeters

Title: Airport Director Operations Director
Airport: Maastricht Airport Maastricht Airport

Address: PO Box 1 PO Box 1

NL-6199 ZG
Maastricht Airport
NETHERLANDS
NETHERLANDS
NETHERLANDS

Phone: +31 43 358 98 41 +31 43 358 97 21

Fax: +31 43 358 99 88 +31 43 358 9977 (OPS)

Email: info@maa.nl Airport Web Site: www.maa.nl

ELEVATION: 375 ft.

RUNWAY INFORMATION					
Orientation Length (m) Displaced Threshold (m) Glide Slope(deg) Width (m)					
03/21	2500	-	-	45	

#### NOISE ABATEMENT PROCEDURES

See AIP Netherlands for complete details.

- SIDs have to be considered as minimum noise routings which shall be strictly adhered to.

Aircraft executing a visual approach shall intercept the final approach leg at an altitude of least 1400', unless residential areas can be avoided. Visual approaches during night hours are not allowed.

- RNAV: the Netherlands highly recommends the use of pre-programmed (RNAV) routes. Within the TMAs these RNAV routes shall be considered as overlays of conventional routes. An RNAV route may result in a different path (vertically: turn altitudes and/or laterally:" turn anticipation effects) compared to the conventional route. By making use of the FMA route functionality, a significant part of the noise production is shifted to less sensitive noise areas. Therefore, using RNAV sill not result in route violations.

# CONTINUOUS DESCENT ARRIVAL (CDA) - NONE

## **AIRPORT CURFEWS**

Flights during night hours 2200-0500 (2100-0400) are not allowed without prior permission from the airport authority.

Flights with non noise certificated aircraft are not allowed.

ATC is not allowed to approve deviations from the SIDs except:

- in an emergency
- when the aircraft has reached an altitude of  $3500~{\rm ft}$  AMS for propeller aircraft and FL  $060~{\rm for}$  jet aircraft

Visual approaches are not allowed. ATC may allow or offer visual approach:

- In case of an emergency
- If no instrument approach is available
- In exceptional cases to avoid a complicated air traffic flow.

So called "short approaches" to RWY 21 are not allowed within a distance of 4 NM.

PREFERENTIAL RUNWAYS - NONE

OPERATING QUOTA - NONE

#### ENGINE RUN-UP RESTRICTIONS

Ramp rules and regulations regarding test running of aircraft engines and extended use of APU equipment is at this moment the subject of a study. It is at this time not known when the results of this study will be made public and put into use. Currently, operators wishing to execute test runs on aircraft engines, must contact the Duty Manager or his representative for permission and location where and/or when the test run may take place.

# APU OPERATING RESTRICTIONS - NONE

NOISE BUDGET RESTRICTIONS - NONE

#### NOISE SURCHARGE

7/2011 IATA Airport & Air Navigation Charges Manual

Landing Fee: Basis MTOW

Aircraft Weight	Fixed Charge	+ Rate per tonne	
5-6 tonnes	EUR 80.26		
6-7 tonnes	EUR 81.19		
7-8 tonnes	EUR 82.12		
8-9 tonnes	EUR 87.58		
9-10 tonnes	EUR 95.81		
10-30 tonnes	-	EUR 8.22	
Over 30 tonnes	EUR 246.39	EUR 10.61 over 30 t	
Domestic flight over 6 t		EUR 4.56	
Chapter 2 Surcharge	150% of landing charge		

In addition to the noise charge as shown above there is also a Governmental Noise Charge as shown below: **This is the section which describes the calculation for the government** 

# imposed noise charge

# Governmental Noise Charge Calculation

1. Calculation: H=floor (FxL) where

H=the noise charge in DFL floor()=the function representing rounding off downwards to a full guilder

F=the Unit Rate **EUR 26.32** 

L=the noise factor, which is determined by the noise production of a specific aircraft.

- 2. Determination of the Noise Factor "L"
  - a) Aircraft under 390 kg (propeller driven aircraft under 6000 kg)MTOW: no noise charge
  - b) Other aircraft at or below 20 tonnes MTOW Noise Factor based on MTOW only:

L=0.20+0.04xMTOW

- c) Aircraft above 20 tonnes MTOW Noise Factor based on the noise certification levels:
  - i) With noise certification data available:

L= n x 10 to the power of (APNL = TONL + SLNL - 270)/45, but not less than 1, where

n = a factor depending on the number of engines and the applicable noise standard as shownin the table below. This factor is intended to compensate for differences in performance and for differences between specific noise standards FAR 36 and ICAO Annex 16

Number of	ICAO Annex 16		FAR Part 36	
Engines	Chapter 2	Chapter 3	Stage 2	Stage 3
2	1.50	1.00	1.00	1.00
3	1.25	1.00	1.00	1.00
4	1.05	0.85	1.00	0.85

APNL=Approach Noise Level

TONL=Take-off Noise Level

SLNL=Sideline Noise Level

ii) With no noise certification data available: A conservative estimate "E" is made of the sum of APNL, TONL and SLNL when according to FAR36 Stage 2 procedures:

E=estimate of (APNL+TONL+SLNL).

Based on this estimate aircraft types are categorized in five noise classes with a corresponding "K" factor as show below:

E GT 29.88xlog(MTOW)+260.22	1	0.95
29.88xlog(MTOW)+251.22 LT E LT or EQ 29.88xlog(MTOW)+260.22	2	0.60
29.88xlog(MTOW)+242.22 LT E LT or EQ 29.88xlog(MTOW)+251.22	3	0.40
29.88xlog(MTOW)+233.22 LT E LT or EQ 29.88xlog(MTOW)+242.22	4	0.25
E LT or EQ 29.88xlog(MTOW)+231.22	5	0.15

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# L=Kx(MTOW to the power of (2/3))

Classification of Noise Categories Amsterdam Airport Schiphol				
Noise Category 1 Jet Aircraft	Noise Category 2 Jet Aircraft	Noise Category 3  Jet Aircraft		
A319/320/321	A300	B727-200(Chapter 3)		
A330	A310	B747-100/200/300/SP		
A340	B737-300/400/500	BAe HS125		
B717(MD95)	B747-400	DC8 (Chapter 3)		
B737-600/700/800	Dassult Falcon	DC9 (Chapter 3)		
B757	Lear jet 35/36/45/55/60	Ilyshin 96		
B767	MD80/81/82/83/87/88	Gulfstream IV		
B777		Learjet 31		
BAe 146/AVRO/RJ series		Lockheed Tristar		
Canadiar CRJ/Challenger	Turboprop aircraft	Tupolev 204/234		
Cessna Citation	Shorts 330/360			
Dornier 328 JET	Shorts Belfast	Turboprop aircraft		
Embraer ERJ135/145		Lockheed Hercules		
Fokker 70		Lockheed Electra		
Fokker 100 MD11		and all turboprops types not mentioned in cat. 1 or 2		
MD90/95				

Turboprop aircraft	Plus Chapter 2 Noise Surcharge Jet aircraft
ATR42/72	Antonov 124
BAe J31/41 Jetstream	B707/720
Beech 1900/King Air	B727
Bell 212/222	BAC 1-11
Cessna all types	DC8
DHC Dash 6	DC9
DHC Dash 7	DC10
DHC Dash 8 series	Fokker F28

Dornier 228	Gulfstream II/III
Dornier 328	Ilyushin 62
Embraer EMB 110	Ilyushin 76
Embraer EMB 120	Ilyushin 86
Fairchild Merlin/Metro	Learjet 23/24/25
Fokker 50/60	Tupolev 134
Mitsubishi all types	Tupolev 154
Pilatus all types	Yakovlev 40
Piper all types	Yakovlev 42
Saab 340/2000	

under - 18 EPNdB

# Governmental Noise Charges on Dutch Airports

July, 2000

# Civil Aviation Authority of the Netherlands Aircraft Division Noise Certification and Noise Charges

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Governmental Noise charges in the Netherlands

#### Introduction.

The Netherlands Aviation Act requires the establishment of noise zones around Dutch

airports. Outside these zones the noise load caused by landing and departing aeroplanes may not exceed a certain established limit.

Within these zones existing houses will be sound-proofed to reduce the noise exposure of residents.

The costs, incurred by this programme, are recovered by noise related charges imposed on civil aircraft using airports in the Netherlands. Once all soundproofing projects around an airport have been completed, the noise charge for that airport will be terminated.

Basis for the calculation.

The calculation of the noise charge is primary based on the certificated aircraft noise-level, according to the standards of ICAO, Annex 16 or FAR Part 36. For light aircraft (less than or equal to 20.000 kg) the charge is not based on the noise levels but on the weight only.

Relation with other noise related charges or fees.

In addition to the noise charges imposed by the Dutch government, airports may impose their own noise related surcharges. This brochure only describes the Governmental noise charges. Notwithstanding the governmental character, the invoicing of the charges is done by the airport authorities on behalf of the Ministry of Transport. To this end the Ministry of Transport informs the airport authorities about the correct charges that have to be invoiced.

Determination of the noise charge General.

In addition to the normal landing-fee that is to be paid when landing at a Dutch airport, a noise-charge is levied. Two factors determine the noise-charge:

- A) A monetary tariff "F", which is constant for all aircraft. The tariff relates to the expected annual cost of the sound-proofing programme. The total annual yield from noise-charges can thus be governed by adjustment of this monetary tariff.
- B) An aircraft noise factor, "L". This factor varies from aircraft to aircraft. It is determined by the noise production of a specific aircraft.

The charge "H" is calculated by multiplying F and L and rounding off downwards to a full guilder:

$$H = (F*L)$$

where:

H = the noise charge in guilders,

floor() = the function representing rounding off downwards to a full guilder,

F =the tariff

L =the noise factor.

The tariff "F".

The table a shows the tariffs and their development over the years as currently (mid 1998) foreseen. It should be noted that these figures may change in future because more airports may be completing their soundproofing programmes or because of changes in legislation. Year Tariff "F" (Dutch Guilders)

Other airports where sound proofing has not been completed Airports where sound proofing has been completed

Tarrif "F" (Dutch Guilders)						
Schiphol	Other airports where sound proofing has not been completed	Airports where sound proofing has been completed				
206	51	0				
208	53	0				
211	56	0				
213	58	0				
215	60	0				
217	62	0				
	206 208 211 213 215	Schiphol         Other airports where sound proofing has not been completed           206         51           208         53           211         56           213         58           215         60				

Table A

Determination of factor "L"

Classification of aircraft.

The determination of "L" is different for different classes of aircraft.

All aircraft with a MTOW below 390 kg and all propeller driven aircraft below 6000 kg MTOW are free of noise charges.

For other aircraft with a MTOW at or below 20,000 kg the noise factor is based on the MTOW only. For these aircraft there is no need to submit noise information.

For aeroplanes with a MTOW above 20,000 kg the noise factor is based on the noise certification levels. These have to be provided by the operator of the aircraft following procedures as described in "submitting noise information".

If the operator fails to supply the noise information, the noise factor will be based on a conservative estimate of the noise certification levels of the aircraft and the Maximum Take-off Weight (MTOW). The conservative estimate leads to a higher charge than what would have to be paid had the noise certification levels been submitted.

Calculating "L" for aircraft with a MTOW above 390 kg (6000 kg for prop's) and at or below 20.000 kg.

For these aircraft the noise factor is calculated using the following formula:

where

L = Noise factor

M = MTOW in Tonnes (1000's of KGs) rounded upwards to a full integer number.

The following table gives the value of L for all values of M:

M	L	M	L
1	0.24	11	0.64

2	0.28	12	0.68
3	0.32	13	0.72
4	0.36	14	0.76
5	0.40	15	0.80
6	0.44	16	0.84
7	0.48	17	0.88
8	0.52	18	0.92
9	0.56	19	0.96
19	0.60	20	1.00

Table B Value of "L" for aircraft <=20 ton.

Calculating "L" for aeroplanes with MTOW>20.000 kg for which noise certification data was submitted.

For these aeroplanes the noise factor is calculated using the following formula:

 $L=n*10^{(APNL+TONL+SLNL-270)45}$ , but not less than 1.

#### Where:

L =the noise factor

n = a factor depending on the number of engines and the applicable noise standard as shown in table c. This factor is intended to compensate for differences in performance and for differences between FAR 36 and ICAO Annex 16.

APNL = Approach Noise Level (APNL),

TONL = Take-Off Noise Level (TONL)

SLNL = Side-line Noise Level (SLNL)

	ICAO Annex 16		FAR I	Part 36
Number of engines	Chapter 2	Chapter 3	Stage 2	Stage 3
2 or less	1.50	1	1	1
3	1.25	1	1	1
4 or more	1.05	0.85	1	0.85
		2		

Table C, value of n

Calculating "L" for aeroplanes with MTOW>20.000 kg for which no noise certification data was submitted.

As explained above, operators should submit noise certification levels to the Ministry of Transport in order to determine the correct amount of noise charges that have to be paid. If the operator does not inform the Ministry of Transport the noise factor is determined as follows: For every aeroplane type that operates on Dutch airports a (conservative) estimate "E" is made of the sum of APNL, TONL and SLNL when measured according to FAR36 stage 2 procedures:

Based on this estimate aircraft types are categorised in five noise classes with a corresponding "k" factor. This is shown in table d.

E	Class	k
E > 29.88 * log(M) + 260.22	I	0.95
$29.88 * \log(M) + 251.22 < E < = 29.88; * \log(M) + 260.22$	II	0.60
29.88 * log(M) + 242.22 < E < = 29.88 * log(M) + 251.22	III	0.40
$29.88 * \log(M) + 233.33 < E < = 29.99; * \log(M) + 242.22$	IV	0.25

$$E < = 29.88$$
; \*  $log(M) + 231.22$ 

V 0.15

Table D, categorisation based on "E", M = MTOW/1000 rounded upwards

The noise factor is now determined using the following formula:

$$L=k*M^(2/3)$$

Where

L = Noise factor

k = factor from table d

M = MTOW in Tonnes (1000's of KGs) rounded upwards to a full integer number.

Note: Use this list ONLY if detailed noise levels have not been provided for your airplane. If detail noise levels are provided, your airplane may well be in a more favorable noise category. By not providing the detailed information, you may face unnecessary high charges.

Aircraft Type	Noise Category	K-factor
Airbus A300-100/600	V	0.15
Airbus A300-200	IV	0.25
Airbus A310	V	0.15
Airbus A320	V	0.15
Airbus A330	V	0.15
Airbus A340	V	0.15
Antonov AN-12	III	0.40
Antonov AN-24	III	0.40
Antonov AN-26	III	0.40
Antonov AN-72/24	V	0.15
Antonov AN-124	IV	0.25
BAe 146-100	V	0.15
BAe 748	II	0.60
BAe ATP	V	0.15
BAe One-Eleven	II	0.60
BAe One-Eleven Re-Eng.	V	0.15
Boeing 707	III	0.40
Boeing 727	III	0.40
Boeing 737-200	V	0.15
Boeing 737-300/400/500	V	0.15
Boeing 747-100	IV	0.25
Boeing 747-200/300/400	V	0.15
Boeing 757	V	0.15
Boeing 767	V	0.15
Boeing 777	V	0.15

Canadair Regional Jet 100ER	$\ $ V	0.15
Canadiar Challenger CL600/601	V	0.15
Candaiar Yukon CL44	III	0.40
Dassault DA900(Falcon 900)	V	0.15
De Havilland DHC-7 Dash 7	V	0.15
De Havilland DHC-8 Dash 8	V	0.15
Fokker F27	V	0.15
Fokker F28	II	0.60
Fokker F50	V	0.15
Fokker F60	V	0.15
Fokker F70	V	0.15
Fokker F100	V	0.15
Gulfstream II	II	0.40
Gulfstream III	III	0.25
Gulfstream IV	V	0.15
Ilyushin 18	III	0.40
Ilyushin 62	III	0.40
Ilyushin 76	III	0.40
Ilyushin 86	III	0.40
Ilyushin 96	V	0.15
Lockheed C-5A Galaxy	II	0.60
Lockheed C-141 Starlifter	II	0.60
Lockheed L-100/382G	IV	0.25
Lockheed L-188 Electra	V	0.15
Lockheed L-1011 Tri Star	V	0.15
Lockheed Lockheed P3 Orion	IV	0.25
Lockheed 1329 Jetstar	II	0.60
MDC Douglas DC-4	III	0.40
MDC Douglas DC-6	III	0.40
McDonnell Douglas DC8 30/50/60	III	0.40
McDonnell Douglas DC8 70	V	0.15
McDonnell Douglas DC9 10/30/40/50	II	0.60
McDonnell Douglas DC10 10/30/40	IV	0.25
McDonnell Douglas MD11	V	0.15
McDonnell Douglas MD-80	V	0.15
Saab 2000	V	0.15
Shorts SC 5/10 Belfast	IV	0.25
Sud Aviation Caravelle	II	0.60

Tupolev 134	II	0.60
Tupolev 154	II	0.60
Vickers Merchantman/Vanguard	II	0.60
Vickers Viscount	II	0.60
Yakovlev Yak-42	II	0.60

Submitting noise information.

## Information required.

In order to ascertain that the correct charges are invoiced, certified noise levels and general aircraft data for each individual aircraft above 20.000 kg MTOW need to be provided to the Aeronautical Inspection Directorate.

The following information is needed:

- \* Company Name, contact person, adress, phone and fax number,
- \* ICAO three letter code of the company

For every individual aircraft:

- \* Registration mark/number
- \* serial/construction number
- \* manufacturer, type and model of the aircraft
- \* Manufacturer, type and model of the engines installed
- \* the Maximum Take-Off Weight and the Maximum Landing Weight
- \* Take-off Noise Level
- \* Approach Noise Level
- \* Sideline Noise Level
- \* The noise standard according to which the noise levels have been determined (e.g. ICAO Annex 16 Ch2, Far 36 Stage 3 etc.)

Photocopies of all documents needed to verify the airplane information have to be submitted. This is normally done by either sending in the noise certificate or else sending in some parts of the approved flight Manual.

Noise certificate.

Preferably the documentation submitted is a photocopy of the noise certificate of the individual aircraft and if applicable a photocopy of the noise type certificate including any attachment to either of them. This is provided that all the above information is listed on the noise (type) certificate.

Flight Manual pages.

If it is not possible to submit a noise certificate, or if not all the information required is listed on the noise certificate, flight manual pages stating the information should be provided. As a minimum the following parts of the flight Manual are needed:

- \* the complete log of pages
- \* the section describing the aircraft and the engines installed
- \* the section stating the MTOW and MLW
- \* the section containing the noise information

Applicability date of lower rates.

As explained before, aircraft for which no noise certification information was submitted are charged using an estimated noise factor. This normally leads to higher charges compared to the charges based on actual noise certification numbers. The date of application of the lower rate is the date at which all information as listed under "information required." has been received at the address below.

Address and further information.

The information should be sent to the following address:

Aeronautical Inspection Directorate Airworthiness Department, Noise Certification and Noise Charges attn. Mr. O.C.E. Brouwer P.O. box 575 2130 AN Hoofddorp The Netherlands

Further information can be obtained through:

Mr. O.C.E. Brouwer

telephone: +31 23 5663265 fax: +31 23 56603001

or

Mr J.W. Franken

telephone: +31 23 5663114 fax: +31 23 566 3001

#### NOISE MITIGATION/LAND USE PLANNING PROGRAM INFORMATION

Type of Program	Date Implemented	Status
Sound Insulation (Residences and Public Buildings)	-	_
Purchase Assurance for Homeowners Located Within the Airport Noise Contours	-	-
Avigation Easements	_	-
Zoning Laws	-	-
Real Estate/Property Disclosure Laws	-	-
Acquire Land for Noise Compatibility to date	-	-
Population within each noise contour level relative to aircraft operations	-	-
Airport Noise Contour Overlay Maps	-	-
Total Cost of Noise Mitigation Programs to Date	-	-

Source of Noise Mitigation Program Funding for Aircraft	-	_
Noise		

#### NOISE MONITORING SYSTEM

**Updated 2/9/99** 

The noise monitors are no longer in use and are due to be dismantled this year.

### (Historical Information)

The FANAMOS System, although still existing at the airport, has since the end of night flying never been used to its full capacity. Occasionally it has been used to check the correct use of standard arrivals and departures. In view of the new LAEQ26 standard it is most unlikely that the system will ever again be used to measure noise levels.

LEAQ26 - The Dutch Government has introduced a new standard/norm regarding the level of noise, which one can or may encounter, in bedrooms during the night hours (2300-0600 local time). This is the LAEQ26 standard. Basically this means that the average noise level in a bedroom measured over a whole year must not exceed 26dbA. This standard is in force in the vicinity of all dutch airports.

Location

# Estimated Locations of Noise Monitors for Masstricht Runway 04/22

(Off North End of Runway)

Monitor

1	7180 ft along centerline from north end of runway 770 ft perpendicular to centerline to the east
2	16404 ft on runway centerline off north end of runway
3	1540 ft along centerline from north end of runway 380 ft perpendicular to centerline to the west
12	6530 ft along center line from the north end of runway 5640 ft perpendicular to centerline to the east
(Off Sou	th End of Runway)
Monitor	Location
4	6410 ft along centerline from south end of runway 510 ft perpendicular to the centerline to the east
5	7180 ft on runway centerline off south end of runway
6	2310 ft perpendicular to south end of runway to the west
7	1150 along centerline from south end of runway 1025 ft perpendicular to centerline to the east
8	10500 ft along centerline from south end of runway 10000 ft perpendicular to centerline to the east
9	14870 ft along centerline from south end of runway 1280 ft perpendicular to centerline to the east
10	5900 ft along center line from the south end of runway 3590 ft perpendicular to centerline to the east
11	10500 ft along centerline from the south end of runway 510 ft perpendicular to centerline to the east

FLIGHT TRACK MONITORING SYSTEM - NONE

# NOISE LEVEL LIMITS - NONE

# **CHAPTER 2 RESTRICTIONS**

Chapter 2 airplanes >75,000 lbs are banned from operating at airports in EU Member States as of April 1, 2002.

# **CHAPTER 2 PHASEOUT**

From April 1, 2002 all civil subsonic jet aeroplanes >75,000 lbs operating at airports in EU Member States must comply with the standards specified in Part II, Chapter 3, Volume 1 of Annex 16 in accordance with EU Council Directive 92/14/EEC.

**CHAPTER 3 RESTRICTIONS - NONE**