
**Hydrometry — Low cost baffle
solution to aid fish passage at
triangular profile weirs that conform
to ISO 4360**

*Hydrométrie — Projet de chicane à faible coût pour faciliter le
passage des poissons au niveau des déversoirs à profil triangulaire
conformes à l'ISO 4360*



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Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols	2
5 Principles	3
6 Installation	4
6.1 Site selection and application.....	4
6.1.1 Restriction.....	4
6.1.2 Background.....	4
6.1.3 Preliminary survey.....	4
6.1.4 Limitations.....	6
6.2 General arrangement.....	6
6.3 Suitability for fish species.....	8
6.4 Location of the first baffle.....	9
6.5 Baffle dimensions.....	10
6.6 Baffle material and construction.....	10
7 Maintenance considerations	11
Bibliography	13

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The committee responsible for this document is Technical Committee ISO/TC 113, *Hydrometry*, Subcommittee SC 2, *Flow measurement structures*.

Introduction

Flow gauging structures are commonly used for the measurement of open channel flows. To operate satisfactorily, these structures require a head difference to be generated between the upstream and downstream water levels. At structures designed to operate in the modular flow range, an upstream head measurement is used to interpret flow rates. At structures designed to operate in both the modular and drowned flow ranges, the upstream head measurement is augmented by a second measurement which senses tailwater conditions. The former type tends to require higher head losses over the structure.

In recent years, greater emphasis has been placed on environmental issues, including the free migration of fish in watercourses. It is acknowledged that flow measurement structures, with their requirement for a head loss between upstream and downstream conditions, may inhibit the movement of fish. It has become important, therefore, to consider ways of aiding fish migration without seriously affecting flow measurement accuracy.

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1 Scope

This document specifies the requirements for the integration of baffles on the downstream face of triangular profile flow measurement structures to aid the passage of fish.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 772, *Hydrometry – Vocabulary and symbols*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 772 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

diadromous fish

fish that migrate between fresh water and sea water to complete their life cycle

3.2

potamodromous fish

fish that migrate wholly within fresh water to complete their life cycle

3.3

baffle

wall or block attached to the downstream face of the structure to aid fish passage

3.4

aerobic swimming

<fish> sustainable swimming using red muscles, which incur no oxygen debt

3.5

anaerobic swimming

<fish> time limited swimming using white muscles, which incur oxygen debt

3.6

riverine species

fish species typically found in and adapted to a flowing water environment