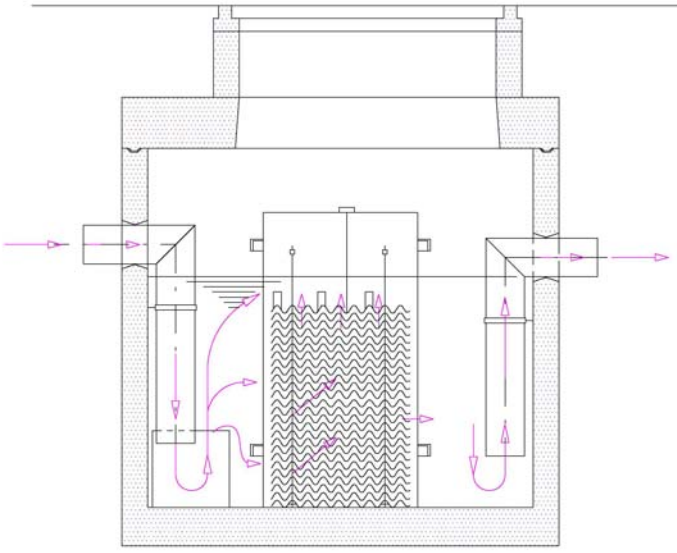
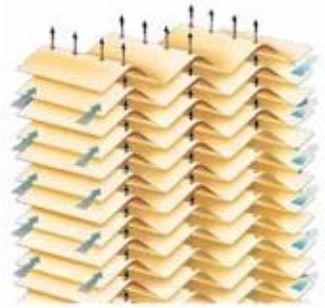
BREYLIT
OIL-WATER SEPARATOR



according ON B5101
issued 1990

OIL-WATER SEPARATOR

More than 5000
units in operation!



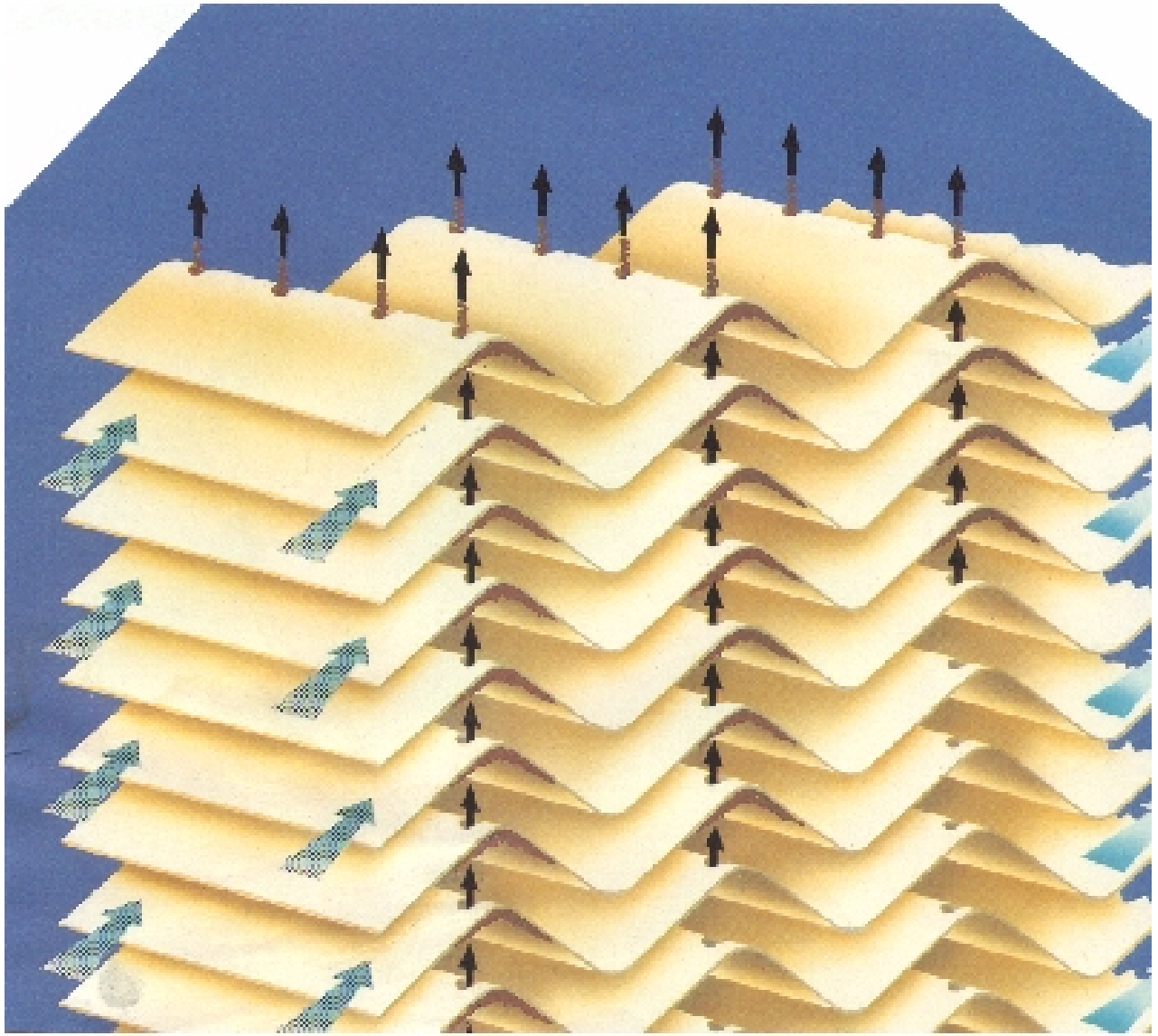
COALESCENT **PLATES**

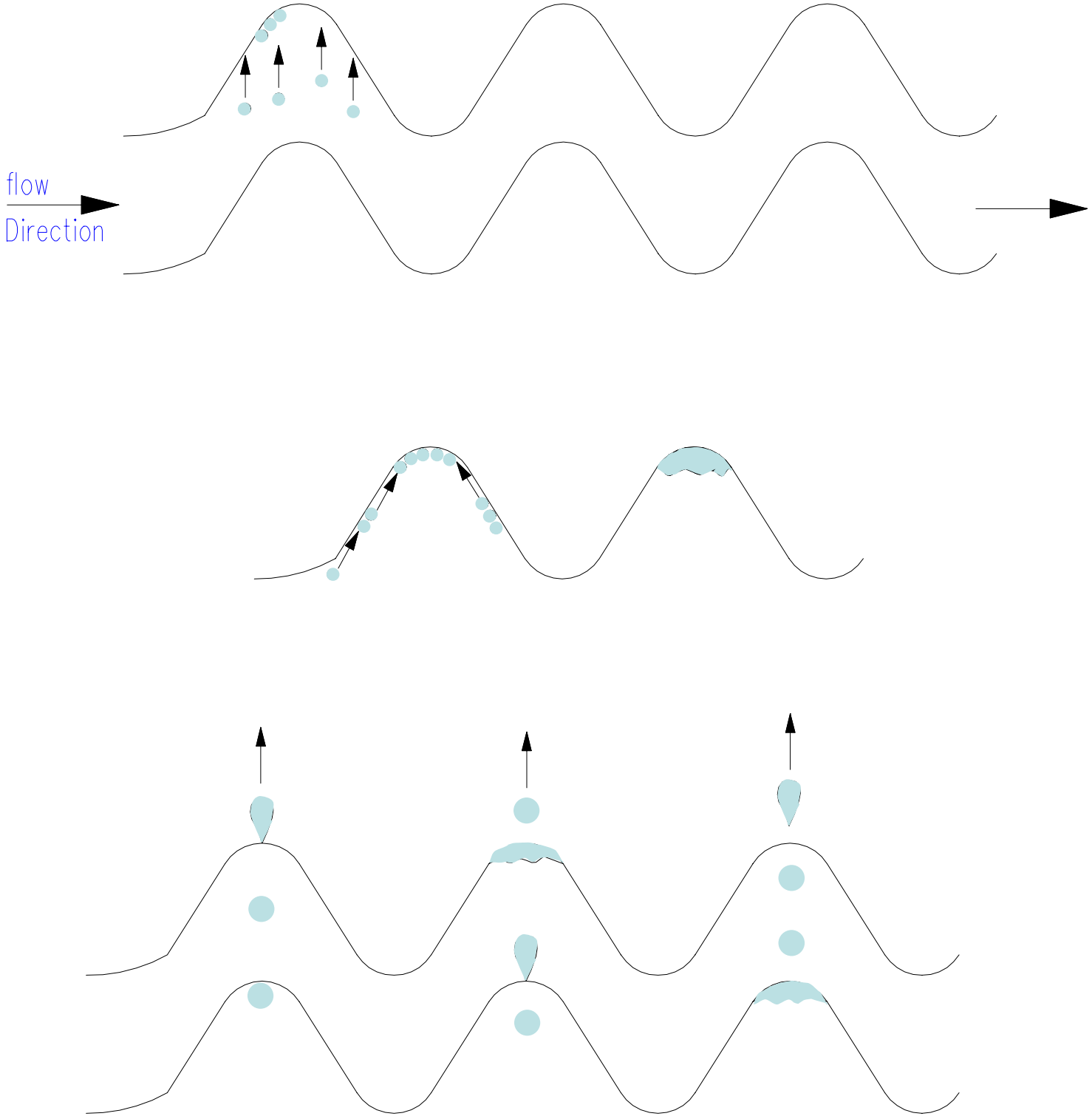
PLATE PACKS

HYDROCARBONS AND RESIDUAL OIL-WATER SEPARATOR

OIL CONTENT IN EFFLUENT WATER AFTER SEPARATOR LESS THAN 5 ppm

CAPACITIES : from 3 litres/second to 600 litres/second

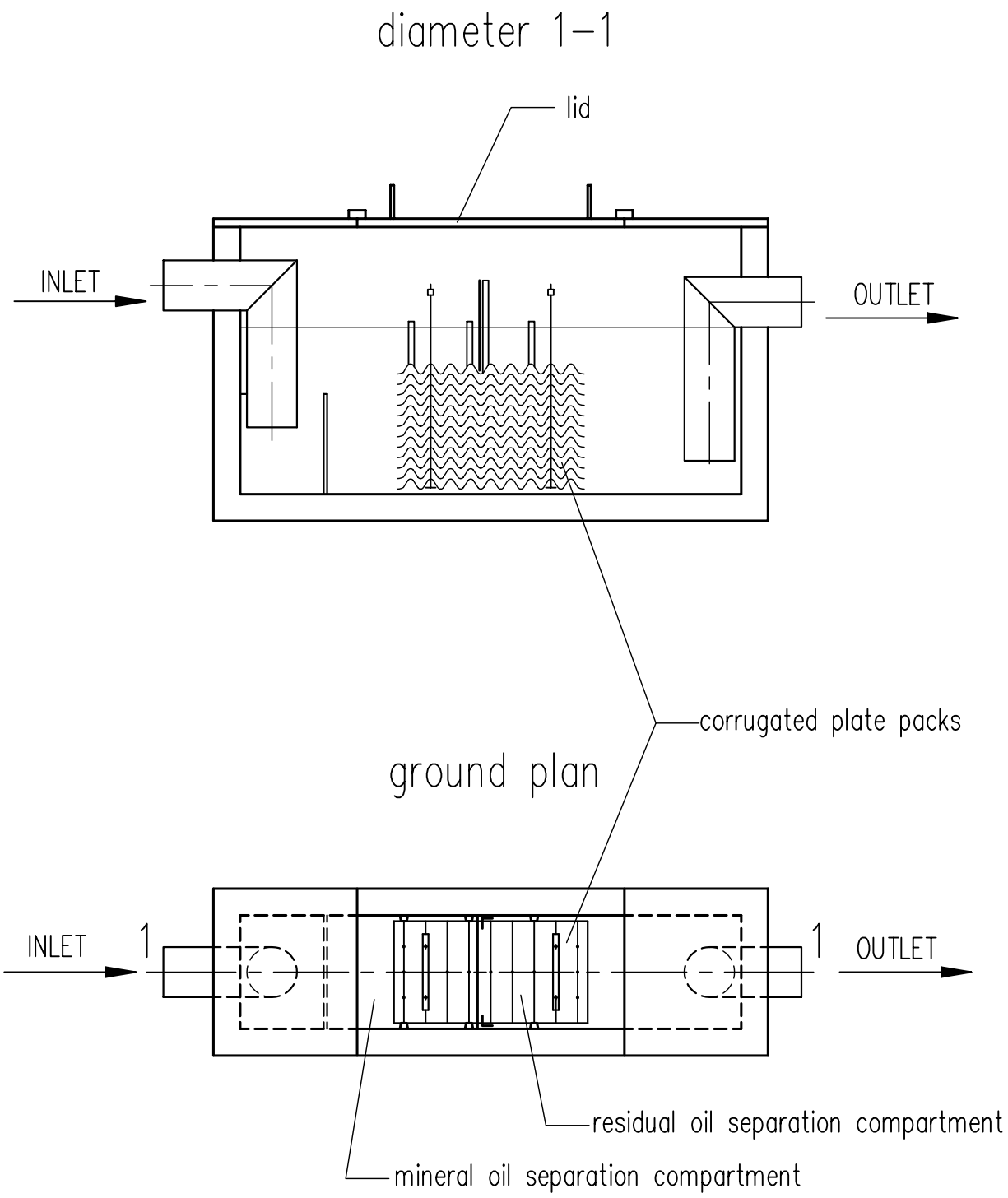

FREYLIT


flow
Direction

1 Introduction

1.1 System drawing of FREYLIT Mineral Oil and Residual Oil Separator

Illustration 1: System drawing M+R/P



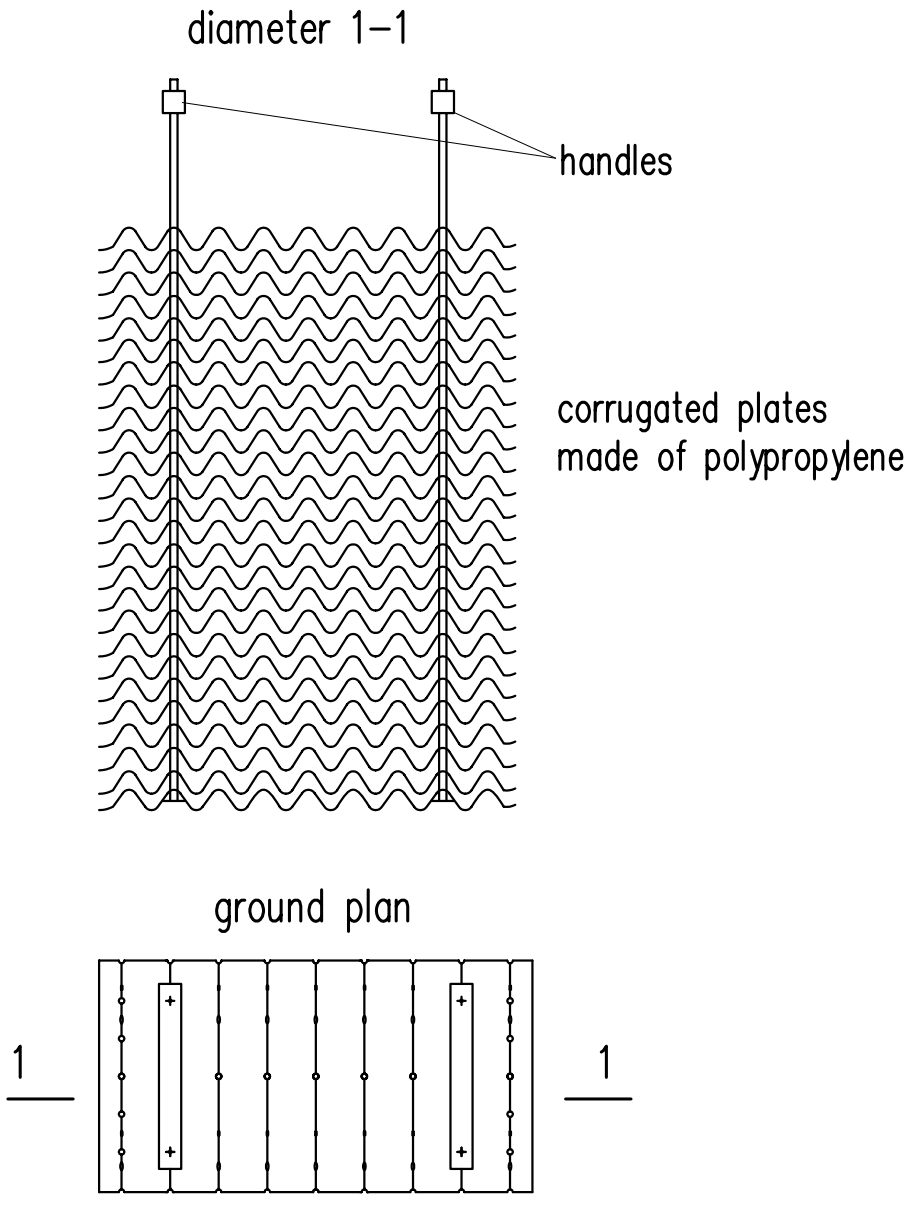
1.2 General

The ***FREYLIT*** Mineral Oil and Residual Oil Separator type M+R/R is a **compact unit** with an integrated **mineral oil separator** and **residual oil separator**. It is used for separating mineral oils from waste water.

With the technology of the ***FREYLIT*** oleophile, horizontal non-corroding corrugated plates made of polypropylene, effluent oil concentration is well below government requirements, without having to resort to any secondary treatment processes.

Any oil from chemically produced stable emulsions or soluble oils can not be separated by mechanical oil separators.

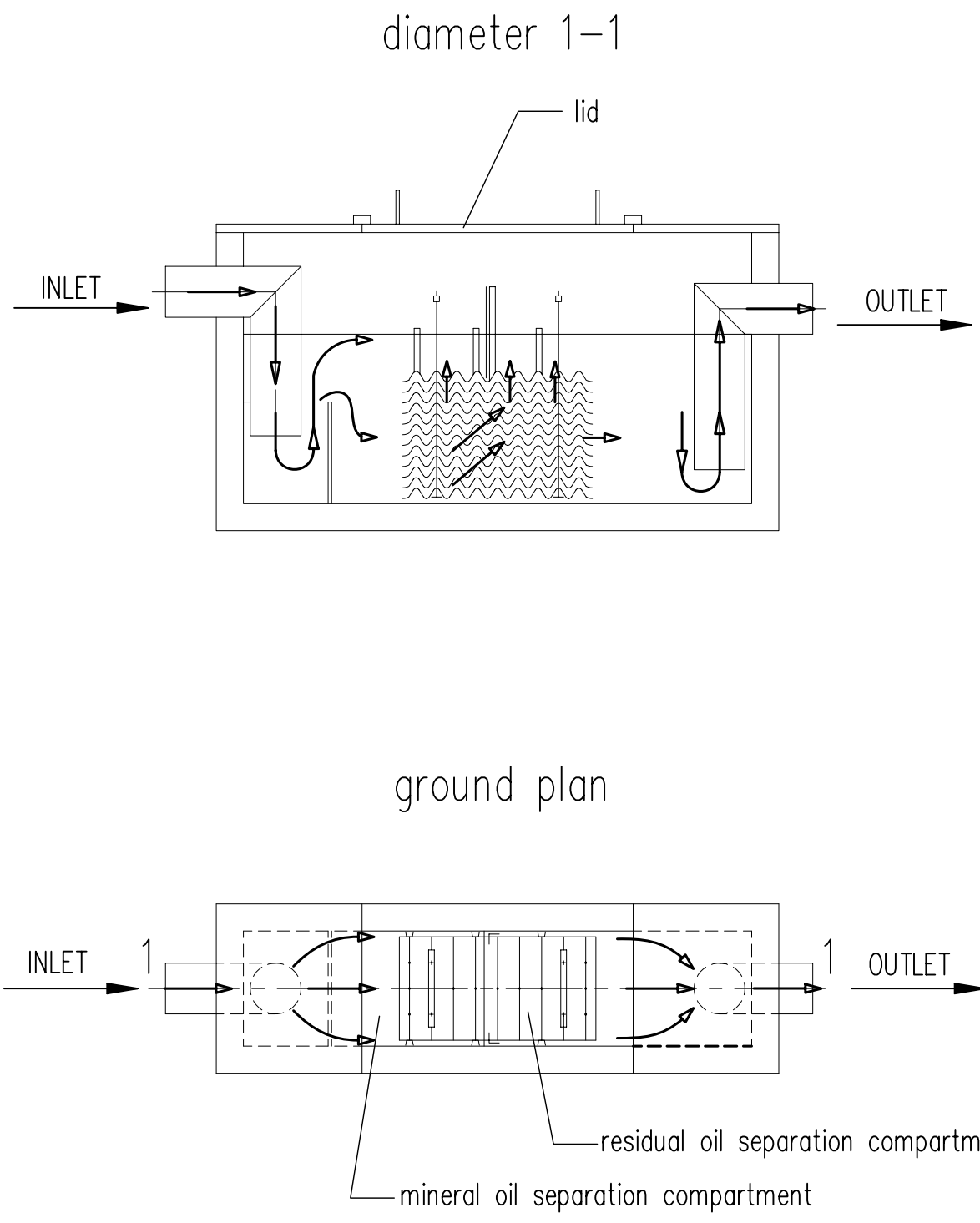
Illustration 2: Corrugated plates



2 Description of the FREYLIT Mineral Oil and Residual Oil Separator

The oil/water mixture enters the ***FREYLIT*** oil separator through an inlet pipe. Since the design provides for an inlet deflector, the oil/water flow is deflected, which generates a current in the direction of the oil collection layer (separator surface). Consequently the big oil drops rise faster towards the oil layer. Then, the water (which still contains oil droplets) flows through the **PLATE PACK SECTION** of the separator.

Illustration 3: Flow diagram



Horizontal, oleophilous, **NON-ROTTABLE** corrugated plates of polypropylene are used to separate the residual oil. The corrugated plates are stacked on top of each other at a distance of 6 mm (1/5"), by means of cast-on spacers. Accordingly, an oil droplet only needs to move upwards by a maximum of 6 mm (1/5"), before it contacts the next corrugated plate, which traps the droplet.

As soon as an oil droplet touches a corrugated plate it is separated. The droplet adheres to the underside of the corrugated plate and, on account of its specific gravity, it moves along the plate to the apex of the corrugation ridge.

Bore holes in the apices of the corrugation ridges (diameter 12 mm (1/2")), allow the oil collected in the apices of the ridges to move upward and reach the oil collection layer. Due to the fact that corrugated plates, which are tapered at the corrugation ridges, are stacked on top of each other, the oil-containing water moves along the corrugated plates at varying speed. This results in additional particle collisions (possibility to coalesce) of bigger and smaller oil droplets. The droplets become bigger, on account of these particle collisions, which accelerate their upward movement, so that they are consequently trapped by the corrugated plates. The plates have a length of 590 mm (1' 11").