

# RESTECH NORWAY

## PLT® PNEUMATIC LINE THROWERS SAFETY, WORK & RESCUE



# A Global Provider of Pneumatic Line Throwers

Restech Norway AS is the manufacturer of the only Solas approved Pneumatic Line Thrower PLT<sup>®</sup>, and related high precision rescue and line throwing devices.

Our products are well known and recognized all over the world among users that needs a precise line-throwing tool. Both as a rescue tool and a working tool.

Some of our end users are Coast Guards, Ferries and Cruisers, Fire Brigades, Sea Rescue Organizations, FPSO-installations, Marine Police, Special forces, Terminals, Navy, Ocean Research and Offshore.

Restech works with several distributors in:

Europe  
America  
Asia  
Australia



Restech Norway AS was established in 1989 by an officer from the Life Saving Organization. Our main office is located in Bodø, a small city above the Arctic Circle in Norway.

# References

The PLT® is ideal for oil and gas environment and many types of offshore operations. Depending on the operation and choice of projectile, six types, the PLT® can provide a safety zone from 50-200 meters.

These are some of our user who take advantage of the PLT® system.

A.P. Møller-Maersk AS	Elf UK	Mowinckel Ship Management
Aker Marine Contractors AS	Euronav Ship Management	Møkster Safety AS
Aker Maritime	Exxon Mobil	Naftomar Shipping & Trading Co.
Aker Oilfield Services AS	Farstad Shipping ASA	Norfield Shipping AS
Aker Piping Technology	Finarge Armamento Genovese S.R.L.	Ocean Rig
Aker Pusnes AS	Fred Olsen & Co.	Odfjell Drilling Technology
Alianca, Brazil	Fronape, Brazil	Odfjell Well Services
APL, National Oilwell Varco	Fugro Geoteam	OMS UK
Atlantic Power & Gas	GC Rieber Shipping AS	OSM Offshore AS
Bergesen	GEMS Survey Limited	Petrobras Transporte S.A.
Bluewater	Golar Nor Offshore AS	Petrobras, Brazil
BOURBON	Gulf Offshore Norge A/S	PGS Production AS
Bukser og Berging AS	Havila Offshore AS	Rederij Waterweg B.V.Holland
BW Offshore	Heerema Marine Contractors Ned. BV	Remoratech
Canship Uglan Ltd	Hoyland Offshore AS	SBM-Single Buoy Moorings, Monaco
CBO	Hydro Olje & Energi	Shell UK
CGG Veritas	INTERUNITY Management Corp.	Simon Møkster Shipping A/S
Chevron UK	Island Offshore Management AS	Statoil Petroleum
Colombia Shipmanagement Ltd.	Japan Vietnam Petroleum Company Ltd	Stolt Comes Seaway Ltd
COSL Offshore Management	Knutsen OAS Shipping AS	Subsea 7
Dalby Offshore Services Limited	Louis Dreyfus Armateurs	Swire Pacific Offshore Operations
Deep Sea Supply PLC	Maersk Drilling	Teekay Cooperation
Dof Management	Maersk FPSOS	The Torvald Klaveness Group
Dolphin Geophysical	Maersk Oil	Thome Ship
Eidesvik AS	Management Pte Ltd	Transpetro, Brazil
	Marathon Petroleum	Uglan Marine Services AS
	Mobil UK	V.Ships Norway AS
	Modec International LLC	Varun Shipping Company Limited

# Some advantages using the PLT®

## **Safety, for safer operations**

The PLT® has several safety features that will prevent any danger to the user. A reduction valve will regulate the air pressure to the ideal working pressure, 45 and 75 bars. A fail-to-close regulator will shut down the unit if something is wrong, and the unit can not be used. It is dimensioned to hold extreme pressure, 450 bars. There are no back fire gases such as found with propulsion driven projectiles.

## **No explosives, sparks or flames**

Perfect in oil and gas environment.

Mandatory equipment with several companies operating in oil and gas environment.

Can be shipped with any type of transportation

## **No expiry date**

Easy maintenance and long shelf life

Made of Stainless Steel, anodised aluminium and plastic

## **High precision**

There are no propulsion driven projectiles, free fall flight, ensuring a straight flight in any wind direction.

At a distance of 250 meters, the projectile will land within 8 meter radius when launched in a rig.

# Basic Types of PLT® Devices

The PLT® consist of a launching unit, several types of projectiles and 3 types of launching tubes

## Launching Unit

The launching unit contains a built-in air cylinder for filling of compressed air up to 200/300 bars (2900/4350psi).

This is sufficient for 4/6 launches before refilling is necessary. The air cylinder is fitted with standard fittings for diving and BA-equipment for filling of dry and clean air from a high-pressure compressor.

- Launching distances up to 250m
- 4-6 multiple launches
- Complies with IMO/SOLAS regulation 74/83
- Heavy duty launcher



Launching Unit

# Projectiles for the PLT®



**PLT® R-230** Launching distance up to 230-250 meters with internal line



**PLT® R 150** Launching distance up to 150-160 meters



**PLT® 150** launching distance up to 140 meters



**PLT® Line Pick-up Grapple**  
Launching distance up to 85 meters



**PLT® Rescue Buoy** Launching distance up to 115 meters



**PLT® Ball** Launching distance up to 80-90 meters



## Pivot Support for the Big PLT®

Due to the heavy recoil it is necessary to have a good support for the PLT®. The back cushion of the PLT® can be placed against a solid point as support.

We recommend however using the Pivot Support (fig 1). A steel tube shown on fig 2 shall be welded or clamped at the launching area (rail, i.e.). Tubes can be installed at different places on board.



Fig 1



Fig 2



In rough seas the Pivot will help personnel to keep balance and focus on aiming.

# Basic Types of PLT® Devices

The **PLT® Mini** consists of a launching unit, several types of projectiles and a launching tube.

## Launching Unit

The Launching Unit can be used either with disposable 33 grams CO2 cartridges or compressed air from a high pressure air cylinder. CO2 is commonly used during operations for easier maneuvering.

- High maneuverability
- Launched from shoulder
- Medium range operations



**Launching Unit**



# Projectiles for the PLT® Mini



PLT® Mini 100  
100 meters



PLT® Mini Rubber  
90 meters



PLT® Mini Line Pick-up  
Grapple 70 meters



PLT® Mini Sharp-  
Grapple 70 meters



PLT® Mini-Rescue Buoy  
Inflates in 2 sec.  
80 meters



PLT® Mini Rubber tip  
95 meters

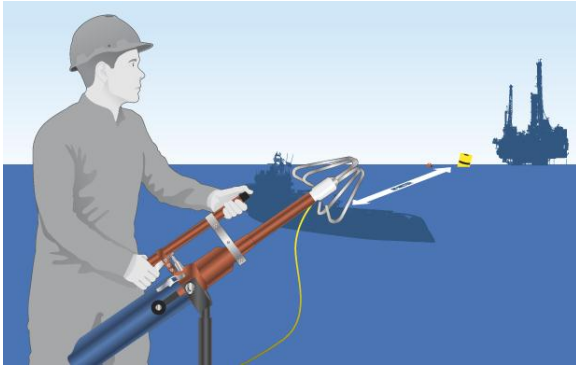


PLT® Mini Entering Grapple 3  
30-65 vertical meters

# A Multi Purpose Tool

The Pneumatic Line Thrower is a multipurpose tool, meaning that you can add features according to your operational requirements.

Anchor Handling.



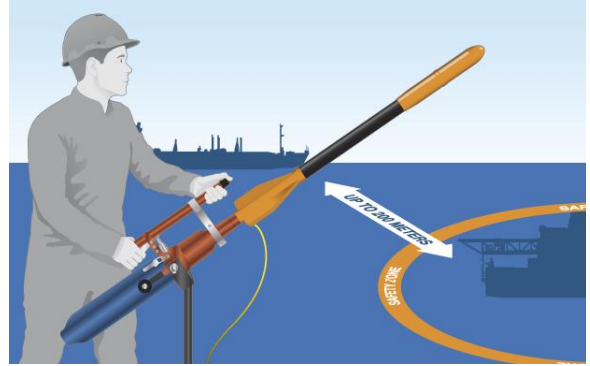
Towing Operation.



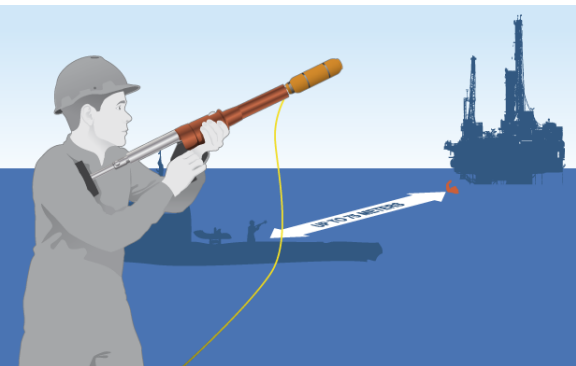
Line Transfer Operation.



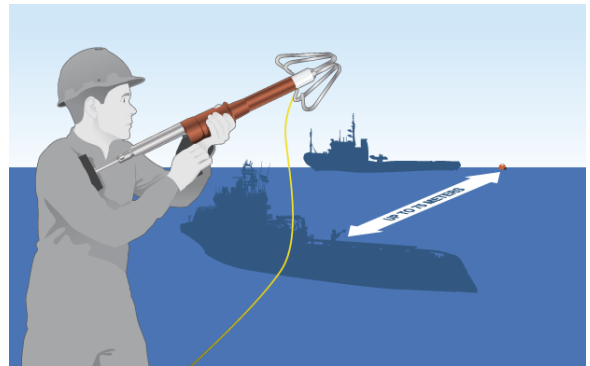
FPSO Loading Operation.



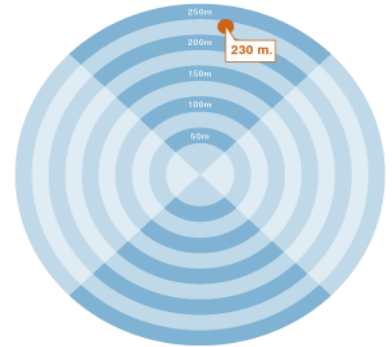
Rescue Operation.



Line Pick-up.



# PLT® Rescue 230 Complete



The PLT® Rescue 230 meets the IMO Solas regulation 74. You can launch 6 times without refilling the air cylinder. The minimum launching distance is 230 meters. All parts are re-useable

Due to its high precision, the PLT® R 230 is also used on FPSO/FSO for long range line transfer during loading operations. This provides a safety zone up to 160 meters.



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