LIFETIME IGNITION

BALLISTIC/PYROTECHNICAL IGNTION SYSTEM

PRODUCT INTRODUCTION

Contents

General Notes

This Document is created to aid in understanding of the LifeTime Ignition Ballistic Ignition System functionality, assembly, processes and components.

System Introduction

The LifeTime Ignition (LTI) Ballistic Ignition System (BIS) is designed for the NAMMO LP 2000 Pyrotechnical Ignition Pellet.

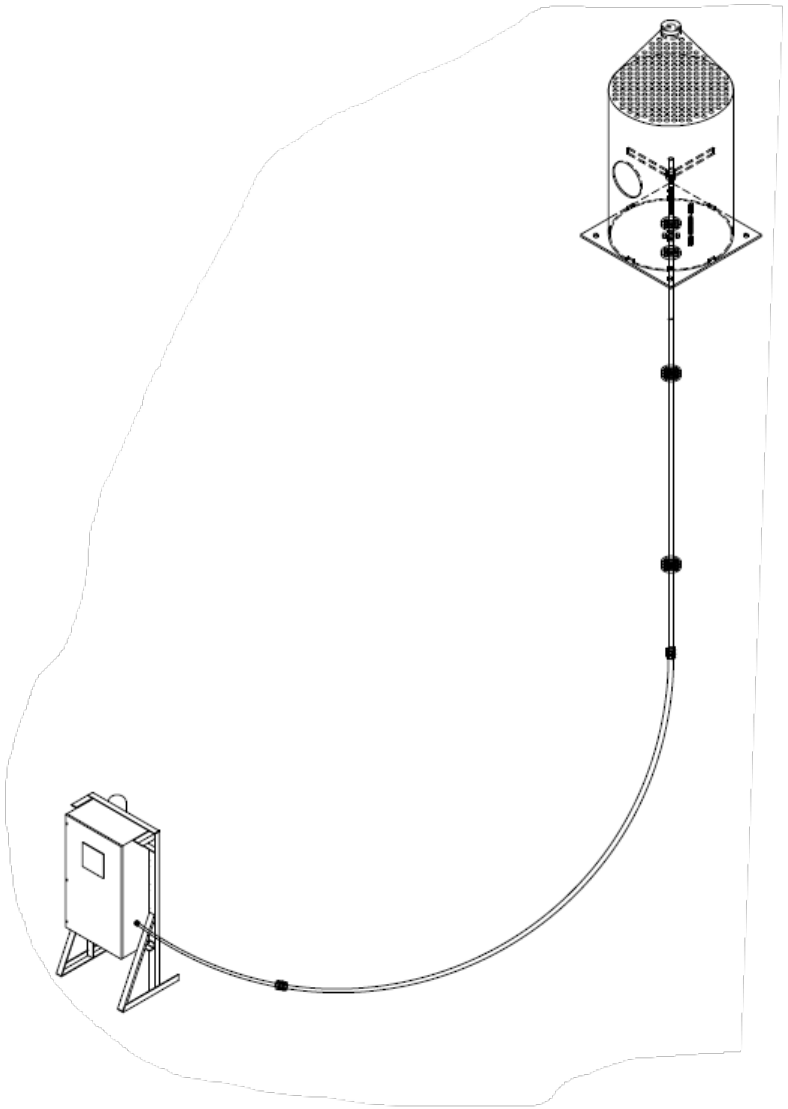
The LP2000 Pellet is graded 1.4S – Pyrotechnical Article and is safe to handle following the procedures and safety notes.

The LP 2000 ignites flare gas by releasing a “cloud” of sparks with very high temperature at the flare-tip upon the release of flare gas.

LTI’s BIS is designed to activate and sending the LP 2000 towards the Flare Tip.

LTI’s BIS contains the following components:

- System Cabinet (containing a 20-chamber magazine for the LP 2000 Pellets)
- Pellet Tube – a 25mm/ 3/4” tube between the System Cabinet and a Pellet Collector
- Pellet Collector - a cylindrical open container designed to stop and hold used LP 2000 Pellet (installed by flare tip).



NAMMO LP2000 Pyrotechnical Ignition Pellet

Nammo LP 2000 Ignition Pellet is a pyrotechnical article designed solitarily to ignite flare gas by presenting a large cloud of high temperature sparks at the flare gas.

The Pellet release high-temperature sparks (60deg. Cone-shaped – 20 meters) upon its exit from the Pellet Tube inside the Pellet Collector. The sparks are burning for approx. 6 seconds.

The LP 2000 is activated by pressurizing from back-end with approx. 6barg (in the system magazine) and an internal trigger is then held back by the tube wall of the Pellet Tube until it exits from it in the Pellet Collector.

Dimensions: 100mm cylindrical shape Ø=20mm

Weight: 100g

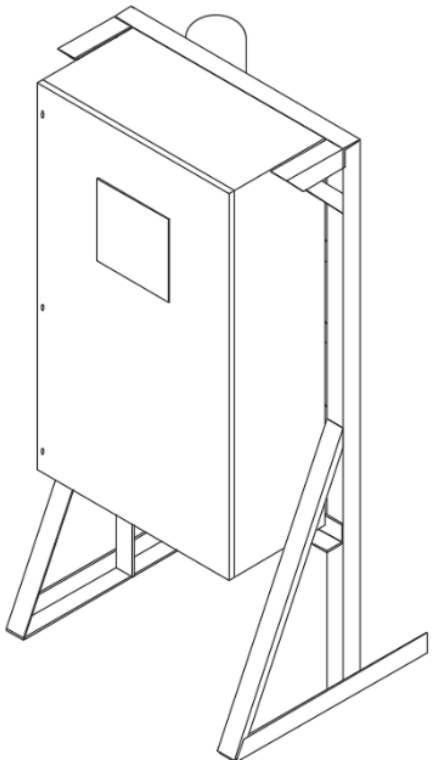
Ballistic Ignition System Cabinet

The LTI BIS contains necessary components to activate and launch LP 2000 Ignition Pellets, as well as monitoring safe and reliable system operation.

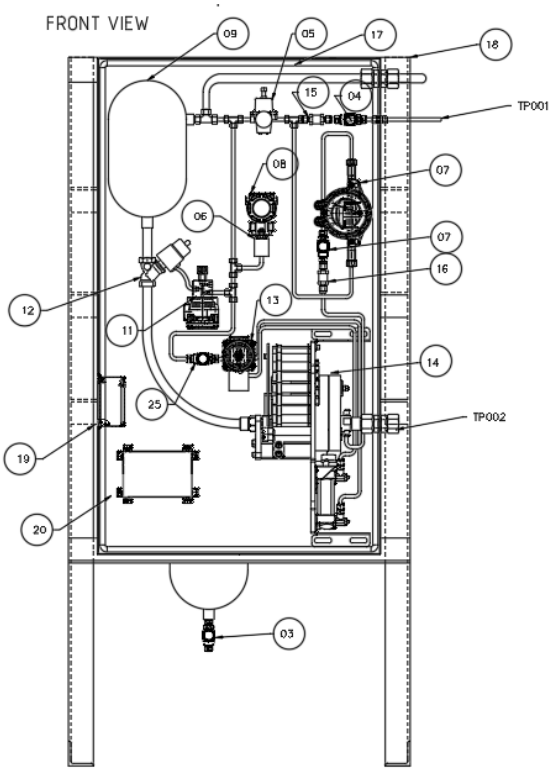
The system is installed on deck – normally close to the flare stack and is designed for Zone 1 installation. All critical components are installed inside an IP66 Weather Housing, but due to manual operation/handling requiring open door – all internal components are rated accordingly.

BIS contains the following basic instrumentation:

- Tronrud Pellet Magazine – 20 pcs LP 2000 Pellet
- Magazine Rotation Solenoid
- Fast opening Plug Valve (for Pellet activation and Launching)
- Pellet Launching Solenoid
- Pressure Transmitter (System Pressure Monitoring)
- VA Flowmeter/transmitter (Guide Tube Purge Air monitoring)
- 10 and 50 l vessels (PED or ASME)



System design pressure:	15barg
System operating pressure:	6barg
Footprint:	1000x800mm (approx.)
Height:	2000mm (approx.)
Material:	SS 316 L



ITEM	DESCRIPTION
01	PSV
02	50L BUFFER VESSEL - 316L
03	BALL VALVE
04	BALL VALVE
05	FILTER REGULATOR
06	BLOCK AND BLEED VALVE
07	PURGE FLOWMETER/TRANSMITTER
08	PRESSURE TRANSMITTER
09	10L BOOSTER VESSEL - 316L
10	BALL VALVE
11	LAUNCHING SOLENOID
12	LAUNCHING PLUG VALVE
13	ROTATION SOLENOID
14	LP2000 MAGAZINE
15	CHECK VALVE
16	CHECK VALVE
17	ELDON ASR 1400848-316
18	LTI BIS FRAME 01 - 316L
19	JB STAHL 8150/.-0116-0116-.-.-3.1
20	JB STAHL 8150/.-0116-0116-.-.-3.1
21	GUIDE TUBE SPOOL 1 (NOTE 2)
22	GUIDE TUBE SPOOL 2 (NOTE 2)
23	GUIDE TUBE SPOOL 3 (NOTE 2)
24	PELLET COLLECTOR (NOTE 2)
25	MAGAZINE ISOLATION VALVE

NOZZLE	TYPE
TP001	18MM TUBE
TP002	25MM PARKER MODIFIED EO COUPLING

NOTES:
1. NO NOZZLE LOAD PERMITTED
2. ON SEPARATE DRAWING
3. -

Pellet tube

The Pellet Tube is the BIS CRITICAL Component as the LP 2000 Pellet will travel through the tube from the System Magazine to the Pellet Collector.

Any dents/deformations/internal blockages will cause the LP 2000 Pellet to stop inside the tube and cause a potential hazardous situation.

The Pellet Tube's Lowest point should be at system magazine to accommodate Pellet Tube drainage availability.

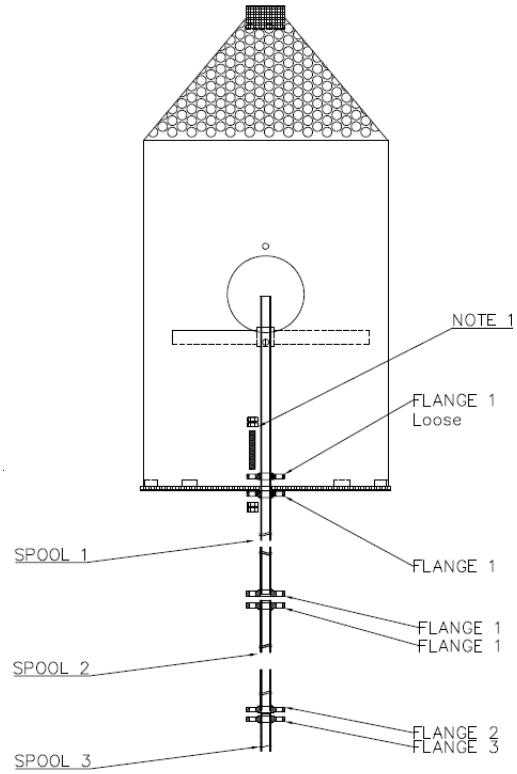
The tube consists of Flanged ¾" Spools at top end and 25mm Spools with modified couplers (internal diameter of 21mm) the remaining length. The Pellet Tube is installed from top to bottom, and the spools that are supported on the flare stack are normally installed prior to flare erection.

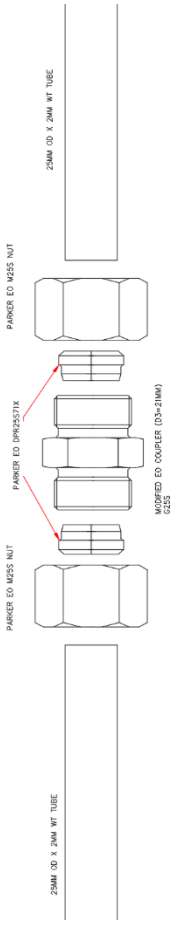
Bending radius: 3.6 m to allow Pellet passage.

Support: mostly Non-Grip U-bolts every 1.5m

Installation should be performed/supervised by LTI or appointed personnel.

Material: SS316L/6MO and Incolloy 800HT.





Pellet Collector

The Pellet Collector is designed to stop and collect used LP 2000 Pellets.

It has a Capacity for around 2000 pcs LP 2000 Pellets based on standard design size.

The Collector is installed on flare deck below opening of flare tip (approx. 2m c-c and 3m below flare-tip).

The Pellet Tube is installed though a hole in the Collectors baseplate and attached with four bolts.

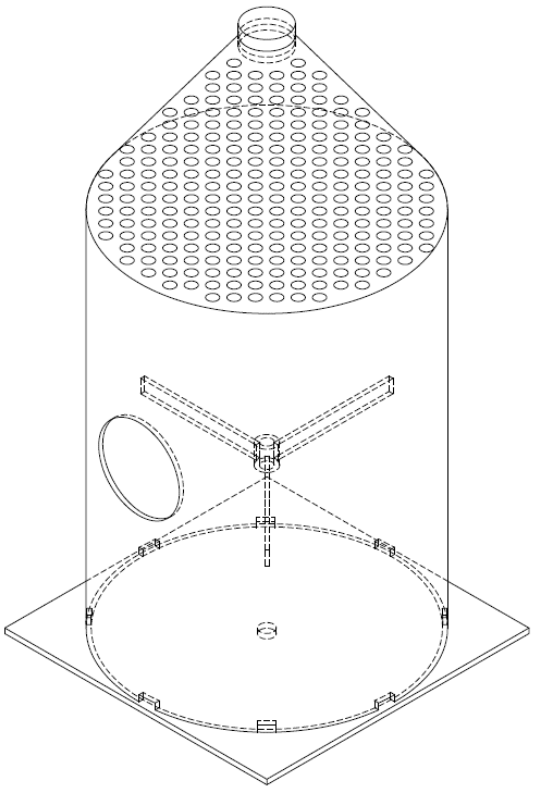
Necessary maintenance: emptying during maintenance shut-down - access to flare tip

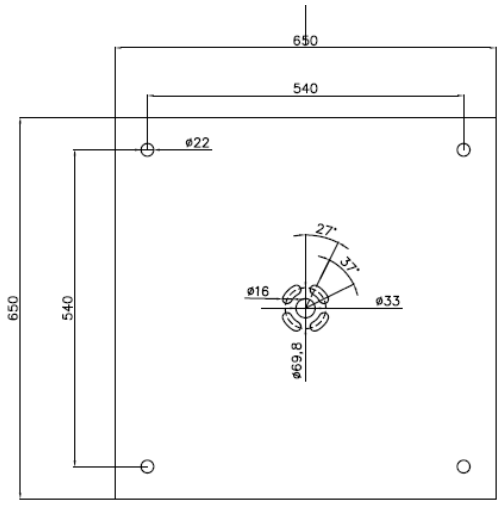
Dimensions: 650x650x1300mm (approx.)

Mounting: 4 pcs M20 Stud Bolt with double washers and Lock Nut.

Weight: 130kg (approx. net weight)

Material: Incolloy 800 HT(*)





*Standard material is Incolloy 800 HT but may also be delivered in other material upon client request.