

# SAFELOAD SEMI-AUTOMATIC API COUPLER

- ◆ INSTANT SNAP ON CONNECTION
- ◆ TAPERED LEAD IN FOR EASY ALIGNMENT
- ◆ FOUR LATCHES FOR MAXIMUM SECURITY
- ◆ FULLY INTERLOCKED
- ◆ SPRING ENERGISED MAIN SEAL
- ◆ ROBUST BUMPER RING
- ◆ DOUBLE SEAL MINIMISES DIRT ENTRY
- ◆ INSITU SEAL REPLACEMENT



## Introduction

The API RP1004 standard defines the interface requirements for female couplers and male tank units which are to be used for loading petroleum tankers, and ensures full interchangeability between different manufacturers products. So a female coupler from one manufacturer will connect and operate correctly with a male tank unit from any other manufacturer, and vice versa.

Such female couplers are fully interlocked so that the internal valve cannot be opened until the female coupler is securely connected to the male tank unit, and it also cannot be disconnected from the male tank unit until the internal valve is fully closed. This basic mechanical interlocking system is essential in order to ensure that spillages do not occur due to poor operational practices and inadvertent opening of the valve.

However, although API RP1004 describes the basics of these devices, there are important design and manufacturing distinctions between products from different manufacturers which are of a critical nature and which cause the users to prefer one particular brand over another.

## Description

Aljac has standardised on the 'Safeload' API coupler because in addition to fully meeting the requirements of the API RP1004 standard, it is also designed and manufactured in the UK to the highest quality standards, and has the following features and advantages:-

**Connection Security:** The most important consideration is the security of the connection to the male tank unit. Disconnection under pressure would result in a large fuel spillage and could be catastrophic, so the 'Safeload' API coupler has four latching lugs which mirror the profile of the male tank unit to hold it securely connected. The mechanical interlock will not allow the internal poppet valve to open until the connection has been made, and the coupler cannot be disconnected unless the internal poppet valve is fully closed.

**Service Life:** The 'Safeload' API coupler incorporates the highest quality materials in order to ensure a long service life under the most arduous operating conditions. It is manufactured from hard anodised Aluminium, Nitrided Steel and Stainless Steel, and it is fitted with Viton B seals and a Stainless Steel operating handle as

standard. The wear critical components of the 'Safeload' API coupler are tested to simulate over 5 years continual service, and the double seal arrangement stops dirt from entering the seal pocket and minimises the possibility of wear in this highly critical area.

The robust Bumper Ring protects the 'Safeload' API coupler against glancing blows.

**Easy Operation:** For the users, the operability of the coupler is crucial when deciding which brand to select, and the 'Safeload' API coupler is approved and widely used by all the major oil companies and fuel terminal operators. It has a tapered lead-in which assists the failsafe alignment with the male tank unit, and an instant "snap on" effect when it connects. In addition, the trigger design allows full alignment and connection

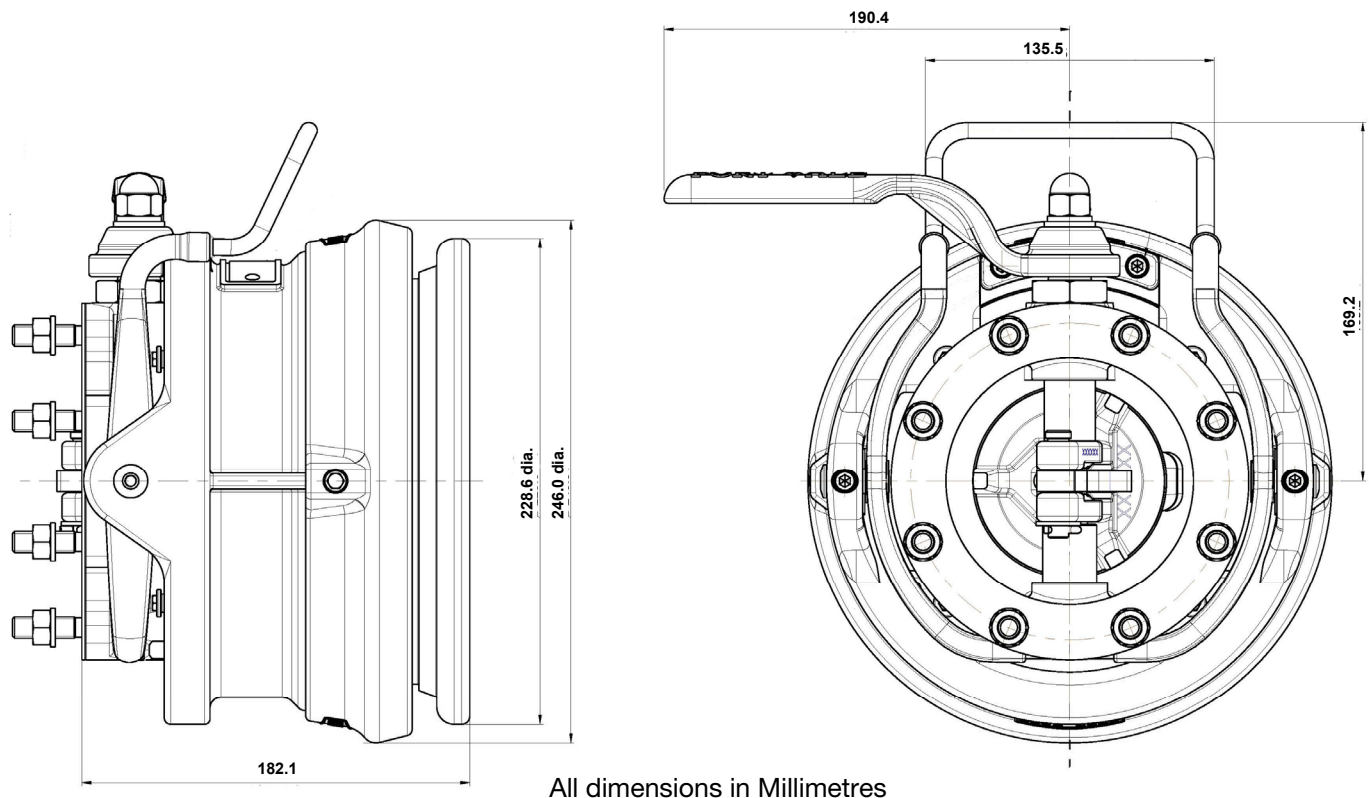
even if loading arms are crossed over.

**Easy Maintenance:** The 'Safeload' API coupler has been designed to simplify routine maintenance procedures. All seals may be replaced insitu without unbolting the coupler from the loading arm (if using the correct tools and procedures). The Release Handle has fewer parts so it is very easy to strip down, and the Shaft and Nut assembly is also very easy to maintain.

#### **How To Order**

To order the 'Safeload' API coupler contact the Aljac Sales Department and specify  
**Part number: 42API00000.**

#### **Dimensions**



#### **Specification**

**Description:** Semi automatic API coupler in accordance with API RP1004.

**Inlet Connection:** Flanged 4 inch TTMA, fitted with M10 studs and nuts.

**Body Material:** Hard anodised Aluminium Alloy.

**Handle Material:** Type 304 Stainless Steel.

**Interlock Bracket Material:** Cast type 304 Stainless Steel.

**Seals:** Viton B.

**Design Code:** ASME VIII Div. 1.

**Design Pressure (Maximum Allowable Working Pressure):** 6 Bar.

**Test Pressure:** 10 Bar.

**Maximum Surge Pressure:** 15 Bar.

**Design Temperature:** -13°C to +50°C.

**Specification Compliance:** ATEX Group II, Cat 2; EN 13083 and API RP1004 (2003).

**Nett Weight:** 12.15 Kg.