The probe and receiver are designed for an attachment of a 6 inch or 7 inch hose, and when connected, provide a leak proof streamlined design to handle flows up to 5000 imperial G.P.M (22,750 litres) of fuel. The probe rides along a span wire from the tanker to the receiver.

The probe and carrier assembly consists of a trolley block assembly and a probe assembly. The trolley block is mounted on a tube which provides a means of connecting the fuel line to the probe assembly. The trolley block assembly is hinged so that it can be attached to the span wire without disassembly of parts. The probe assembly contains latching mechanisms which hold the probe in the receiver by spring forces.

The standard receiver assembly consists basically of a bell mouth and a housing. A handle is mounted on the housing to provide a means of disengaging the probe at the receiver. Flags are mounted on the housing to indicate when the probe is fully engaged in the receiver. When the probe is engaged, the flags are in the raised position; when disengaged, the flags are stowed.

**FUNCTIONAL REQUIREMENTS**
Goldring Replenishment at Sea (RAS) systems ensure uniformity and compatibility of RAS operations and equipment between NATO vessels.

**SYSTEM SPECIFICATION**
- Probe & Receiver will handle wide range of fuels, Jet Fuel, Diesel, Furnace fuel oil
- Normal operating pressures: 100 psi (7 bar)
- The pressure drop of the combined nozzle and receiver is 12 psi @ 3000 gpm (0.82 bar @ 13,600/m)
- Engagement force: 300 lbs (136 kg)
- Disengagement force: 2500 lbs (1136 kg) nominal
- Designed for operation from -20° F to +125° F (-5° C to +50° C)
- All materials are corrosion resistant, and are suitable for a marine environment.
- Probe weight: 310 lbs (140 kg)       Receiver weight: 129 lbs (59 kg)

**RECEIVING RATE**
Receiving stations shall be capable of receiving the following transferred Liquids:
Note. To avoid hazards due to static electricity, the rate of fuel transfer is not to be greater than 7 metres/second. Thus the maximum permitted volume flow rates are:

<table>
<thead>
<tr>
<th>Hose Size</th>
<th>Max Volume Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>177mm (7&quot;)</td>
<td>626 M³/HR</td>
</tr>
<tr>
<td>153mm (6&quot;)</td>
<td>460 M³/HR</td>
</tr>
</tbody>
</table>

**STANDARDS**
The Probe & Receiver design will be consistent with the ‘Standard NATO Refuelling Systems’ and will also meet the requirements of the following standards:
- UK Ministry of Defence Standard DefStan 07-279 Issue 3
- NATO Replenishment at Sea Manual ATP-16(D)
- Admiralty Manual of Seamanship BR 67
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