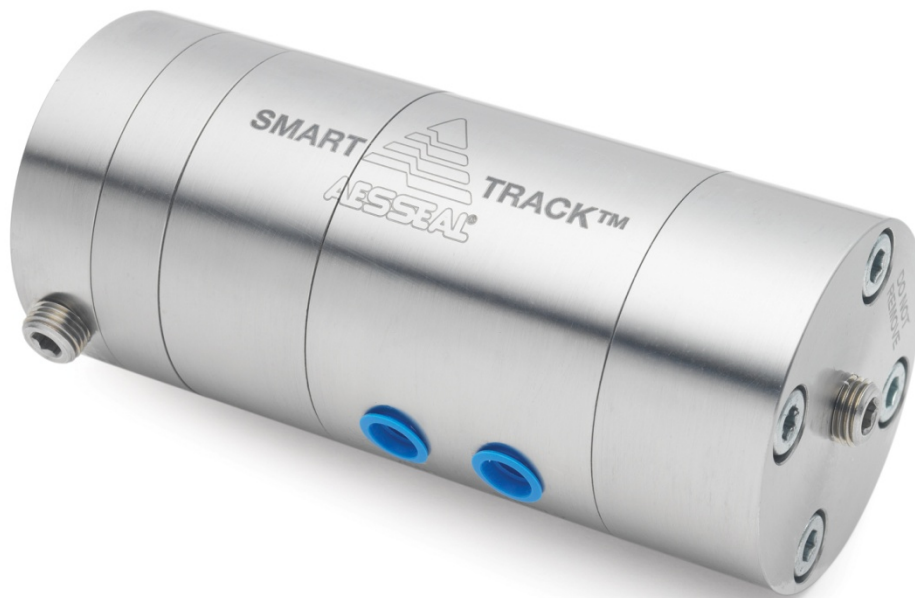


SmartTrack

Installation, Operation & Maintenance Instructions





Health and Safety

- The SmartTrack I has been designed as a pressure tracking regulator for use with pressurised barrier systems.
- This product has been designed for use with AESSEAL double seal barrier fluid support systems only. Please consult with AESSEAL plc before use in any other application.
- Isolate the process and power on installation, maintenance and decommissioning (and ensure that the system pressure has been relieved before undertaking maintenance).
- The system should be installed by competent engineering personnel.
- Ensure any pressure releases are discharged to a safe area.
- Do not over pressurise the system beyond the maximum design pressure. If there is any possibility of over pressurisation, the system must be fitted with a suitable protection device.
- Do not exceed the operating limits of the system.
- Ensure the system is completely leak free before full operation.



Environment

Once the barrier fluid and system have reached the end of its life, it should be disposed of in accordance with local regulations and with due regard to the environment.

For further information please contact **AESSEAL®**

Installing & Commissioning

SmartTrack Typical Operational Arrangement

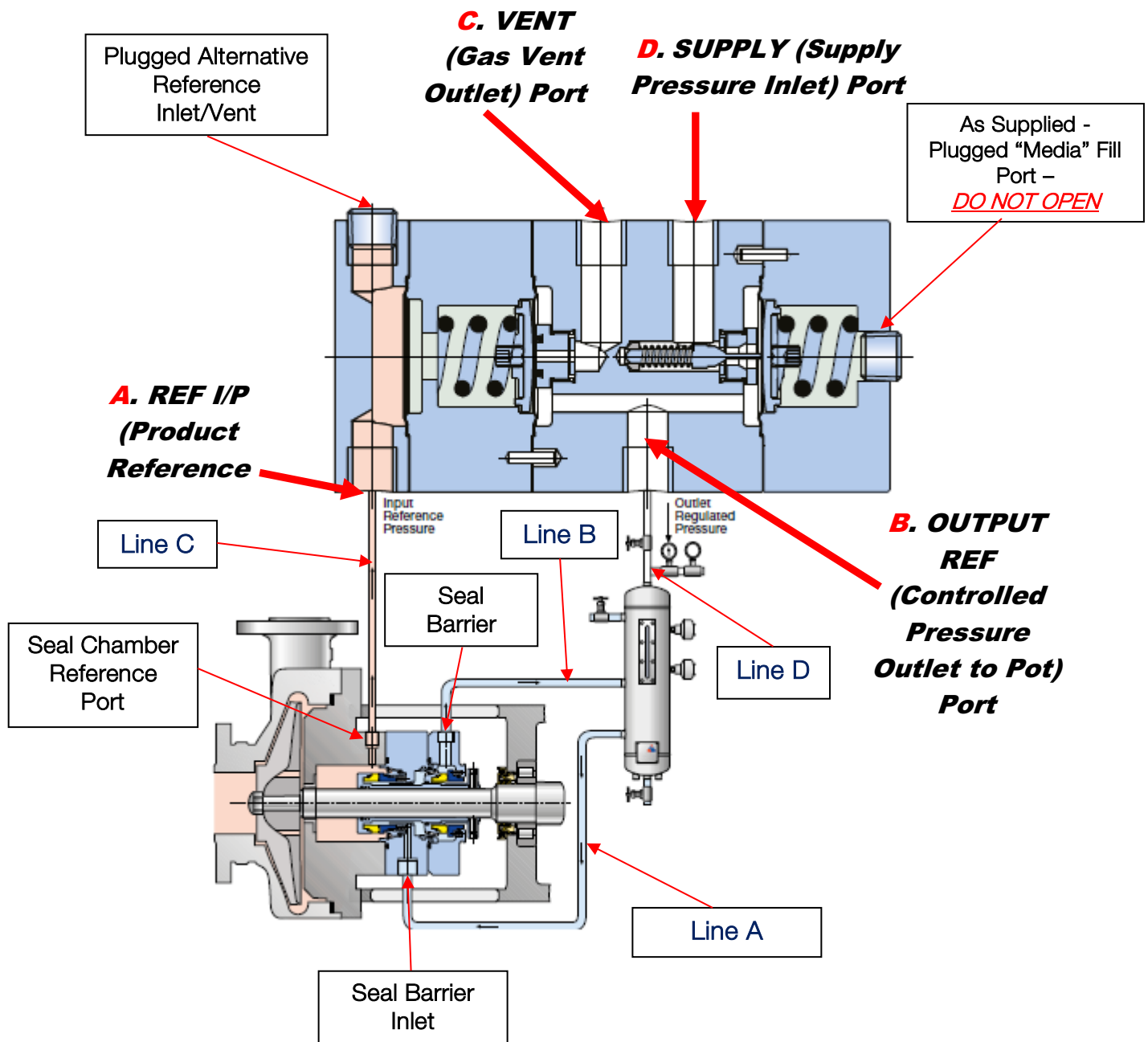


Fig.1 Typical Layout

Please note the two ports marked with anti-tamper paint are for MEDIA FILL ONLY and ARE NOT TO BE OPENED.

Connections

Ensure all connections are made:

A REF I/P (Product Reference Pressure Inlet)	1/4" NPT (F)
B OUTPUT REF (Controlled Pressure Outlet to Pot) Port	1/4" NPT (F)
C VENT (Gas Vent Outlet) Port	1/4" NPT (F)
D SUPPLY (Supply Pressure Inlet) Port	1/4" NPT (F)

Installing & Commissioning

Pre-Installation Checks

- The SmartTrack should be securely mounted in a position free from vibration.
- The SmartTrack should be connected directly to the seal chamber via the 'REF I/P' port, to the gas supply via the 'SUPPLY' port **D** and to the barrier system via the 'OUTPUT REF' port **B**.
- Ensure that all connections to the SmartTrack are isolated and that the barrier system has been depressurised before installation.
- Read installation instructions in conjunction with instructions for the seal and system for use with this unit prior to installation of the SmartTrack.
- In order to prevent any particles entering the SmartTrack valve, a 25µm (or finer) filter must be fitted at the gas supply inlet.
- Connect the seal chamber reference pressure port **A** on the pump housing to the unplugged 'REF I/P' port on the SmartTrack.
- Connect the gas supply to the 'SUPPLY' port **D** on the SmartTrack.
- A small amount of gas can vent from the SmartTrack 'VENT' port **C** after making this connection but this should stop after a short period of time. If a small weep of gas is found to continue this should stop after pressure is added to the SmartTrack 'REF I/P' port **A**.
- Connect the SmartTrack 'OUTPUT REF' port **B** to the vessel gas inlet.
- Ensure all lines connecting the seal and system units are as follows;
 - **Line A** – Barrier system outlet to seal barrier fluid inlet.
 - **Line B** – Seal barrier outlet to barrier system inlet.
 - **Line C** – Pump housing seal chamber pressure port to SmartTrack 'REF I/P' inlet.
 - **Line D** – Regulated gas supply outlet to vessel gas pressure inlet.
- **Line A** and **Line B** are to be primed and vented.
- Remove the isolation from **Line A**, **Line B** and **Line D** (Depressurisation of the barrier system may result).
- In accordance with local / product safety requirements and practises, remove isolation & fully vent the reference line (**Line C**).
- It is recommended to monitor the static system pressure for several hours whilst carrying out visual checks at all connection points for signs of leakage, and check remote instrumentation is functioning correctly.
- Once satisfied that the system is pressure tight, the equipment can be run up in accordance with operating instructions.
- Monitor the seal and system for several hours, paying close attention to seal inlet and outlet temperatures, vibration, noise, visible leakage and pressure loss as detailed in AESSEAL plc general commissioning instructions.

Maintenance

This system should be maintained in accordance with site standards or local regulations.

Daily

- Check system pressure reading against the process pressure. Any change in the differential pressure between the two may be a sign of a developing problem.
- Check for signs of leakage from the seal, system support and pipe work.

Monthly

- Any filters should be inspected and changed if contaminated or blocked.
- Any discolouration of the barrier fluid or contamination of filters may be an indication of leakage of the inboard mechanical seal faces and should be investigated immediately.

Caution

- Do not allow loose tape or thread sealant to enter the valve or the fluid stream.
- All connections should be checked for leakage.
- Appropriate pressure relief is recommended for valve and system protection.
- Do not remove any other sealed plugs.
- Do not loosen cap-head screws on the valve body.

Operating Limits

Maximum Gas Supply Inlet Pressure:	46 barg (675 psig)
Maximum Reference Point (Seal Chamber) Pressure:	42 barg (415 psig)
Minimum Reference Point (Seal Chamber) Pressure:	-1 barg (-14.5 psig)
Temperature Range:	4 to 80°C (39 to 176°F)

- For AES28 Systems, when used with a water based barrier/buffer the Chloride content should not exceed 250ppm

N.B: maximum and minimum ratings for the entire system are based on the lowest rated component.

For system specifications and design limits, please see drawing (2124657).