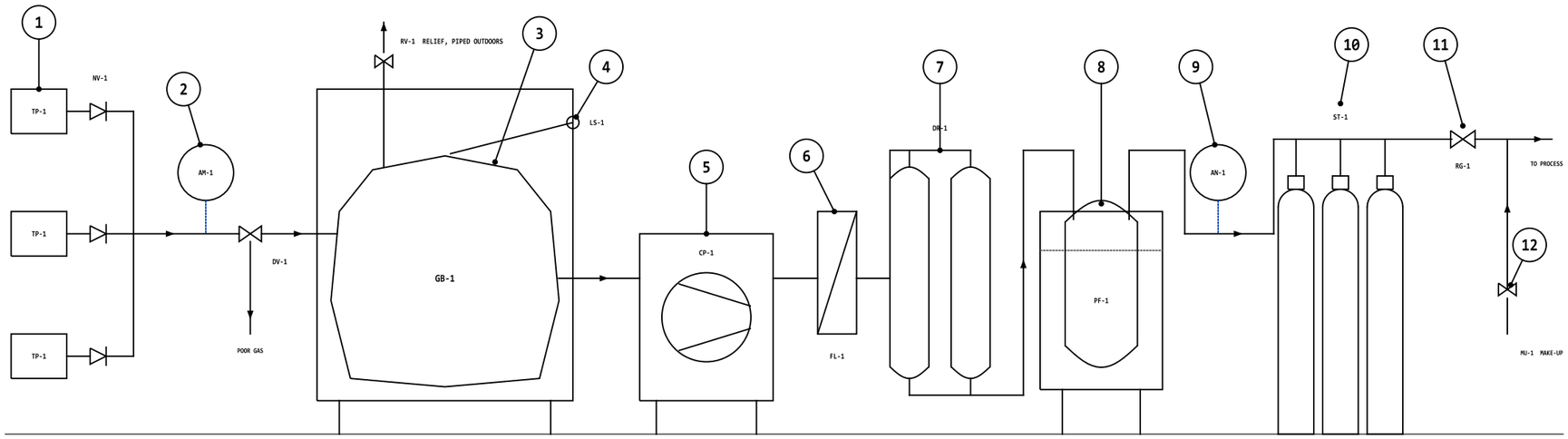
# ARRANGEMENT - FLOW FROM SOURCE TO STORE

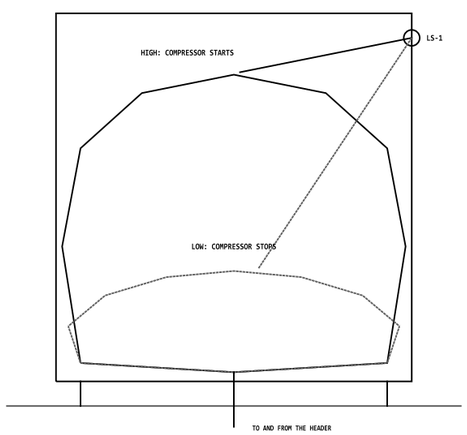
NOT TO SCALE




GAS FROM THE TEST POINTS PASSES NON-RETURN VALVES NV-1 TO ONE HEADER; THE MONITOR AM-1 AND THE VALVE DV-1 KEEP POOR GAS OUT; THE BAG GB-1 TAKES THE BURSTS AND THE SENSOR LS-1 FOLLOWS IT;
THE COMPRESSOR CP-1 DRAWS FROM THE BAG THROUGH THE FILTERS FL-1 AND THE DRYER DR-1 TO THE PURIFIER PF-1; THE ANALYSER AN-1 CHECKS THE GAS BEFORE THE STORE ST-1, AND RG-1 AND MU-1 FEED THE PROCESS

## DETAIL A - THE GAS BAG

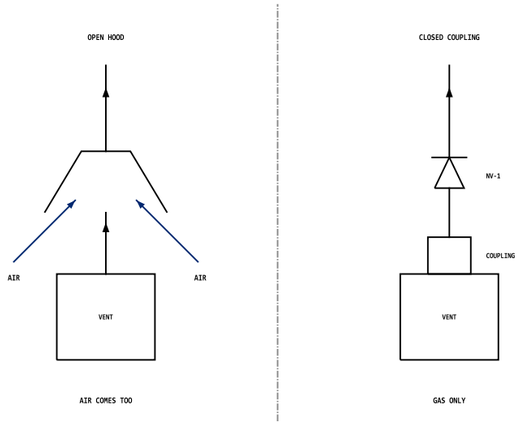
NOT TO SCALE




THE BAG HOLDS A BURST NEAR ROOM PRESSURE; THE COMPRESSOR STARTS AS THE BAG FILLS AND STOPS BEFORE IT IS FLAT, SO THE LINE IS NEVER PULLED BELOW ROOM PRESSURE AND AIR IS NOT DRAWN IN THROUGH THE JOINTS

## DETAIL B - CAPTURE AT THE SOURCE

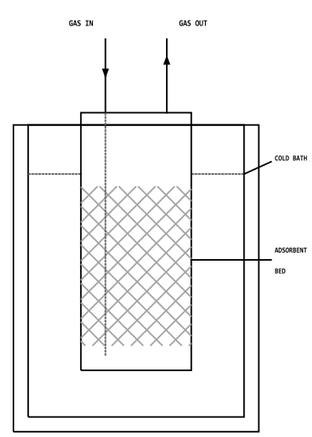
NOT TO SCALE




AN OPEN HOOD DRAWS THE ROOM IN WITH THE GAS; A CLOSED COUPLING WITH A NON-RETURN VALVE KEEPS THE GAS CLOSE TO THE PURITY IT LEFT WITH, AND WHAT IS NOT MIXED IN HERE DOES NOT HAVE TO BE TAKEN OUT LATER

## DETAIL C - THE COLD ADSORBER

NOT TO SCALE




THE DRIED GAS PASSES A BED HELD COLD IN A BATH OF LIQUID NITROGEN; AIR IS HELD BY THE BED AND HELIUM PASSES ON. WHEN THE BED IS FULL IT IS WARMED AND PURGED, AND SOME HELIUM GOES OUT WITH THE AIR

## NOTES

1. REFERENCE ARRANGEMENT OF A HELIUM RECOVERY AND PURIFICATION SYSTEM. TAGS AND LETTERS ONLY: NO SIZE, FLOW, PRESSURE, PURITY, TEMPERATURE, COUNT OR TIME VALUE IS GIVEN.
2. THE ARRANGEMENT SHOWS THE FLOW FROM THE TEST POINTS THROUGH THE HEADER, THE MONITOR, THE GAS BAG, THE COMPRESSOR, THE FILTERS, THE DRYER, THE PURIFIER AND THE ANALYSER TO THE STORE AND BACK TO THE PROCESS.
3. DETAIL A: THE GAS BAG AND ITS LEVELS. DETAIL B: CAPTURE AT THE SOURCE, AN OPEN HOOD AGAINST A CLOSED COUPLING. DETAIL C: THE COLD ADSORBER. NO PERSON IS DRAWN.
4. THE SEQUENCE AND THE CURVES ARE ON SHEET 002. THE COMPRESSOR, THE ANALYSERS AND THE ADSORBENT ARE CATALOGUE ITEMS, BOUGHT IN. THE SYSTEM DOES NOT CHOOSE THE PURITY THE PROCESS NEEDS.

## ITEMS

| ITEM | DESCRIPTION |
|---|---|
| 1 | TEST POINTS AND NON-RETURN VALVES |
| 2 | INLET MONITOR AM-1, DIVERT DV-1 |
| 3 | GAS BAG GB-1 IN ITS FRAME |
| 4 | LEVEL SENSOR LS-1, RELIEF RV-1 |
| 5 | RECOVERY COMPRESSOR CP-1 |
| 6 | FILTERS FL-1 |
| 7 | DRYER DR-1, TWO VESSELS |
| 8 | PURIFIER PF-1 IN ITS COLD BATH |
| 9 | ANALYSER AN-1 |
| 10 | STORAGE CYLINDERS ST-1 |
| 11 | RETURN REGULATOR RG-1 |
| 12 | MAKE-UP MU-1 |

**REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION**

**NEOMETRIX DEFENCE LIMITED**

ENGINEERED IN NOIDA - INDIA

**HELIUM RECOVERY SYSTEM - REFERENCE CONFIGURATION**

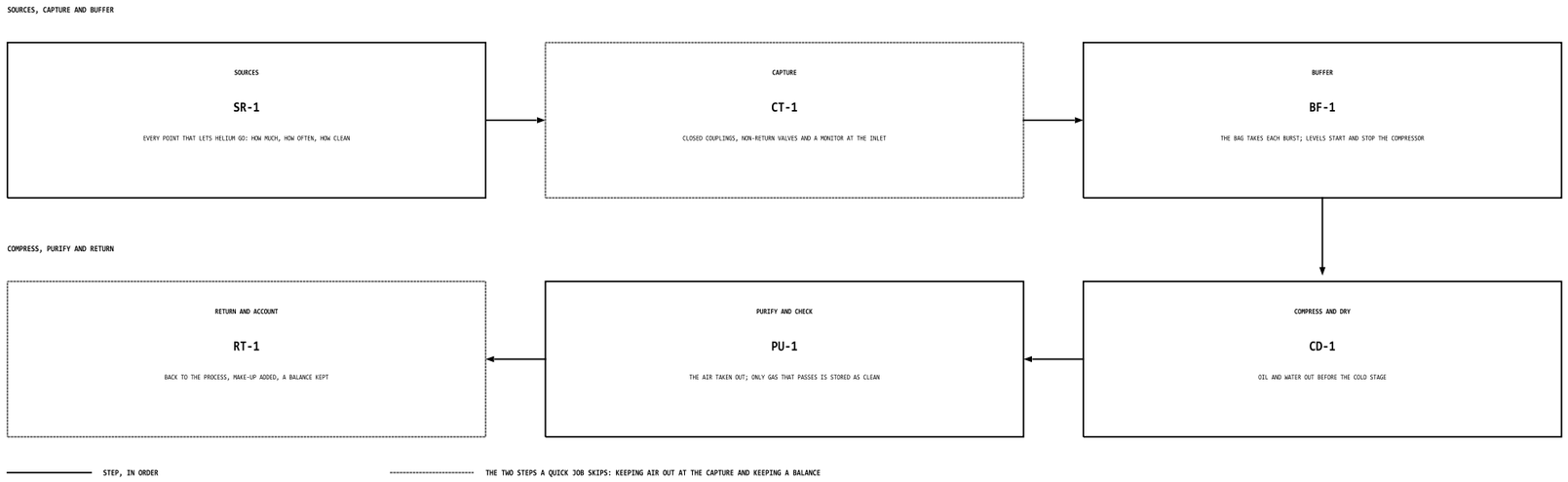
**ARRANGEMENT AND DETAILS**

FLOW FROM SOURCE TO STORE AND THREE DETAILS

| DWG NO | SCALE @ A3 | SHEET | REV |
|---|---|---|---|
| NMX-HRV-124-001 | NTS | 1 OF 2 | A |
| DATE | UNITS | DRAWN | STATUS |
| 26-11-2026 | TAGS ONLY | NMX-DO | REFERENCE |

# SEQUENCE OF WORK - HELIUM RECOVERY

NOT TO SCALE

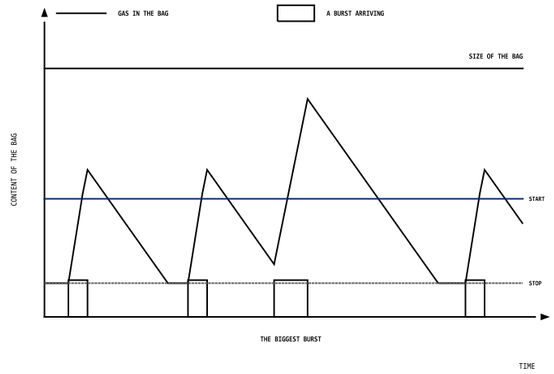



## NOTES

1. REFERENCE SEQUENCE AND CURVES OF A HELIUM RECOVERY AND PURIFICATION SYSTEM. TAGS AND LETTERS ONLY: NO SIZE, FLOW, PRESSURE, PURITY, TEMPERATURE, COUNT OR TIME VALUE IS GIVEN.
2. THE SEQUENCE: SOURCES SR-1, CAPTURE CT-1, BUFFER BF-1, COMPRESS AND DRY CD-1, PURIFY AND CHECK PU-1, AND RETURN AND ACCOUNT RT-1.
3. DETAILS A TO C ARE COMPUTED FROM SIMPLE RELATIONS IN RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT. THE ARRANGEMENT IS ON SHEET 001.
4. THE PURITY AND THE AMOUNT COME FROM THE PROCESS THAT USES THE GAS. THE SYSTEM DOES NOT CHOOSE THE PURITY AND CANNOT RECOVER GAS THAT HAS ALREADY LEFT INTO THE OPEN AIR.

## DETAIL A - THE BAG TAKES THE BURST

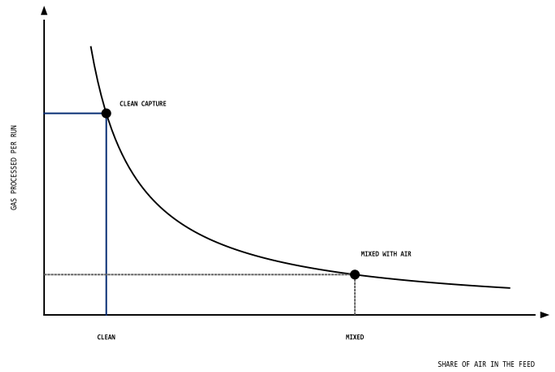
NOT TO SCALE - COMPUTED




GAS ARRIVES IN BURSTS AND THE COMPRESSOR DRAWS AT A STEADY RATE BETWEEN THE HIGH AND THE LOW LEVEL, SO THE BAG IS SIZED FOR THE BIGGEST BURST AND THE COMPRESSOR FOR THE AVERAGE; COMPUTED IN RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT

## DETAIL B - AIR SHORTENS THE RUN

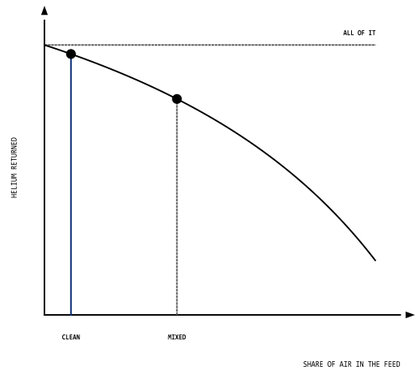
NOT TO SCALE - COMPUTED




AN ADSORBER HOLDS ONLY SO MUCH AIR, SO THE GAS IT CAN CLEAN BEFORE IT IS FULL FALLS AS THE SHARE OF AIR RISES, AND IT MUST BE REGENERATED THAT MUCH SOONER; COMPUTED IN RELATIVE UNITS: A PICTURE OF THE IDEA, NOT A MEASUREMENT

## DETAIL C - AIR COSTS HELIUM

NOT TO SCALE - COMPUTED




EACH REGENERATION VENTS SOME HELIUM WITH THE AIR, AND MORE AIR MEANS MORE OF THEM, SO LESS COMES BACK; COMPUTED, RELATIVE UNITS: A PICTURE, NOT A MEASUREMENT

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

**NEOMETRIX DEFENCE LIMITED**
ENGINEERED IN NOIDA - INDIA

**HELIUM RECOVERY SYSTEM - REFERENCE CONFIGURATION**

**SEQUENCE AND CURVES**

THE ORDER OF WORK AND THE CURVES OF THE IDEA

| DWG NO | SCALE @ A3 | SHEET | REV |
|---|---|---|---|
| NMX-HRV-124-002 | NTS | 2 OF 2 | A |
| DATE | UNITS | DRAWN | STATUS |
| 26-11-2026 | TAGS ONLY | NMX-DO | REFERENCE |