USER AND MENTANENCE MANUAL

OF

PORTABLE SINGLE CYLINDER NITROGEN TROLLEY WITH BOOSTER– (A3472)

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1. Packing List

The Supply consists of:

Pack- 1 : Portable Single Cylinder Nitrogen Trolley with Booster

Pack- 2 : Hose

Pack- 3 : Document Basket containing User Manual, Calibration Certificates & Catalogs.

2. Do's & Don'ts List (Reference Circuit Diagram)

Portable Single Cylinder Nitrogen Trolley with Booster is a High Pressure system and requires handling by trained personnel. Kindly go through the User Manual in detail before operating the equipment.

Do's

1. Before starting the test make sure that Nitrogen boosting cylinders must be filled with Dry Nitrogen gas.

2. Before starting the test make sure Vent Valve should be in CLOSE position, if not please take it on CLOSE position, while rotating it anticlockwise.

3. Booster Outlet valve, Pressure regulator (Outlet) should be in open condition.

4. Make sure that all joints with Hoses are properly tightened before starting the test.

5. Please ensure that the drive Air must be @ 6 kg/cm^2 (Min.)

Don'ts

1. Don't disconnect Test-Unit without venting the test pressure.

3. Nitrogen boosting cart technical specifications

Technical Specifications		
S.no.	**Name of Characteristic**	**Value of Characteristic**
1	Drive Pressure (Air/N2)	6 kg/cm^2 Min.
2	Purity of Drive Air/Nitrogen	40 Micron
3	Drive Flow Required (Air/Nitrogen)	**60 SCFM**
4	Output Pressure Range (for Pressure Testing)	**3200 PSI**
5	Working Media	Nitrogen
6	Machine Pressure Range	**0-3200 PSI**
8	Outlet Gas flow rate	**Variable (As per requirement)**
9	Movement Control of Trolley	**Portable on 4 wheel**
10	Boosting Range	Input Pressure 100 PSI Output pressure 6000PSI (Variable & Controllable
11	Drive Air pressure Gauge Range	230 PSI , Lest count 10 PSI
12	Input Cylinder pressure Gauge Range	4060PSI , Lest count 50 PSI
13	Outlet pressure Gauge Range	5800 PSI , Lest count 200 PSI
14	Gauge Type / Material /Design	Analogue / SS 316/ Bourdon tube design, Overpressure protection 15%
15	Charging Hose	Length 15 Meter , Dia. : 1/4" Inch , Hose Working pressure 300 bar , End Connection: SS
16	Trolley MOC	MS Powder coated , Powder coating thickness 60-80 Micron

4). Nitrogen boosting cart system detail

Neometrix has developed Nitrogen boosting cart for boosting of Nitrogen from low pressure cylinder up to 6000 PSI Whole system is divided into Three parts:-

A. **Air Drive Section**: - Dry & Filter Air /Nitrogen 6 Kg/cm^2 is required for drive the Nitrogen boosting cart.

Please Note
When Vent Valve **is close the Booster shall operate and shall BOOST the Nitrogen. Use Drive air Valve to start and stop Booster**

Drive air section consists of

I. **Drive air regulator: -** We can control drive air pressure using below shown regulator by rotating it clock wise pressure will increase & we can decrease pressure by rotating it anticlockwise direction.

II. **Drive air Open/Close Valve:** - We can Open or close drive air supply by using below valve. Booster will run if drive air valve is in open condition.

B. **N2 Boosting Section**: This section comprises of Haskel Gas Booster to boost the Low pressure N2 gas to 3200 PSI pressure , can be seen over High Pressure Gauge to monitor the outlet pressure. Working pressure of system as 6000 PSI.

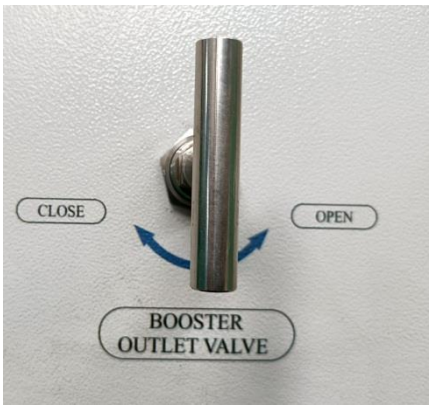
Please Note

Air Drive Valve, Booster Inlet Valve and Drive Air Regulator should be in open condition

B. N2 Boosting Section consists of

I. Booster Inlet Valve: - It is use to supply Low pressure inlet to Booster.

II. **Booster Outlet Valve: -** It is use to supply High pressure outlet from Booster.



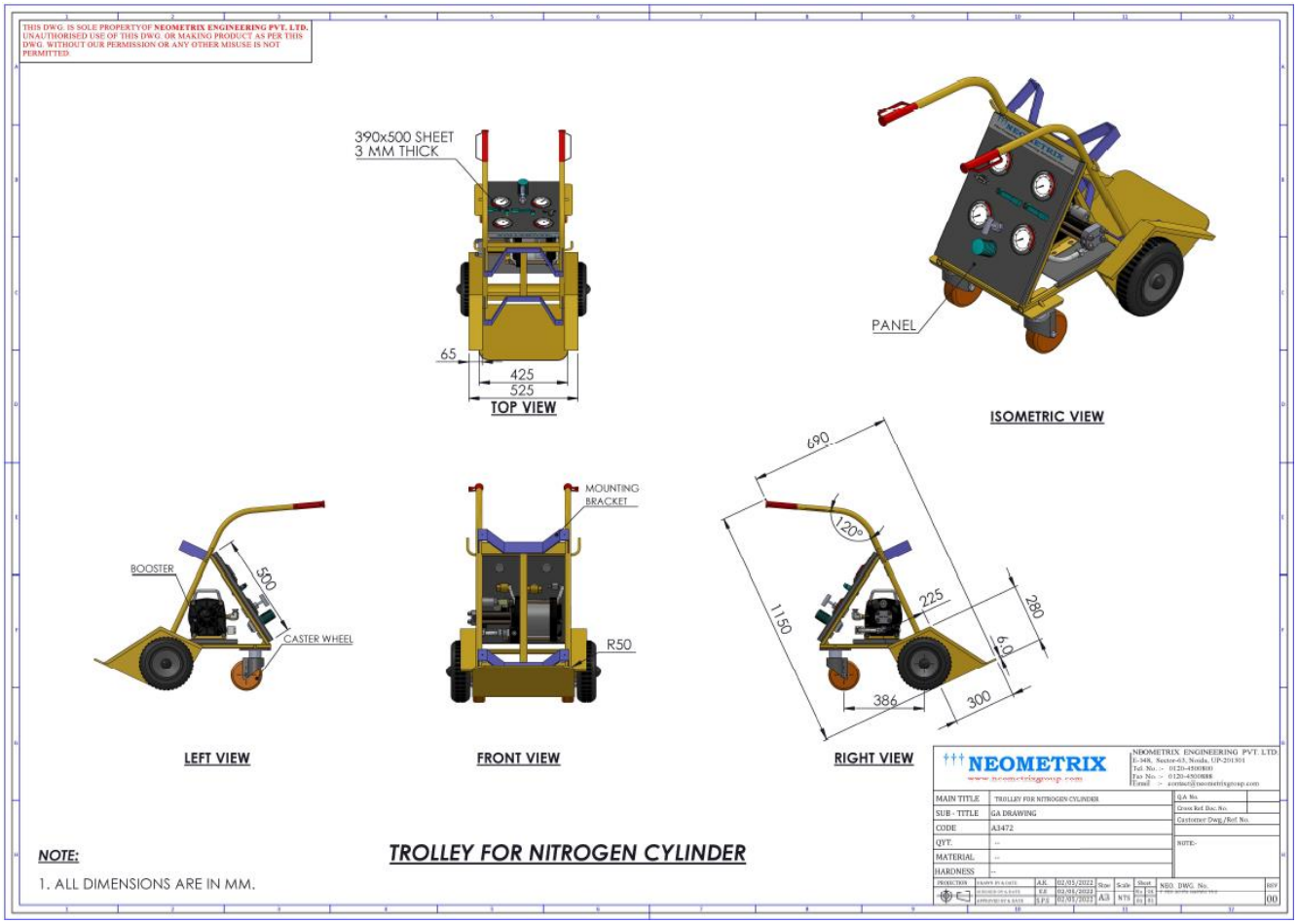
III. **Pressure Regulator: -** It is use to regulate High pressure outlet from Booster.

5). Hydraulic Testing System Dimensions

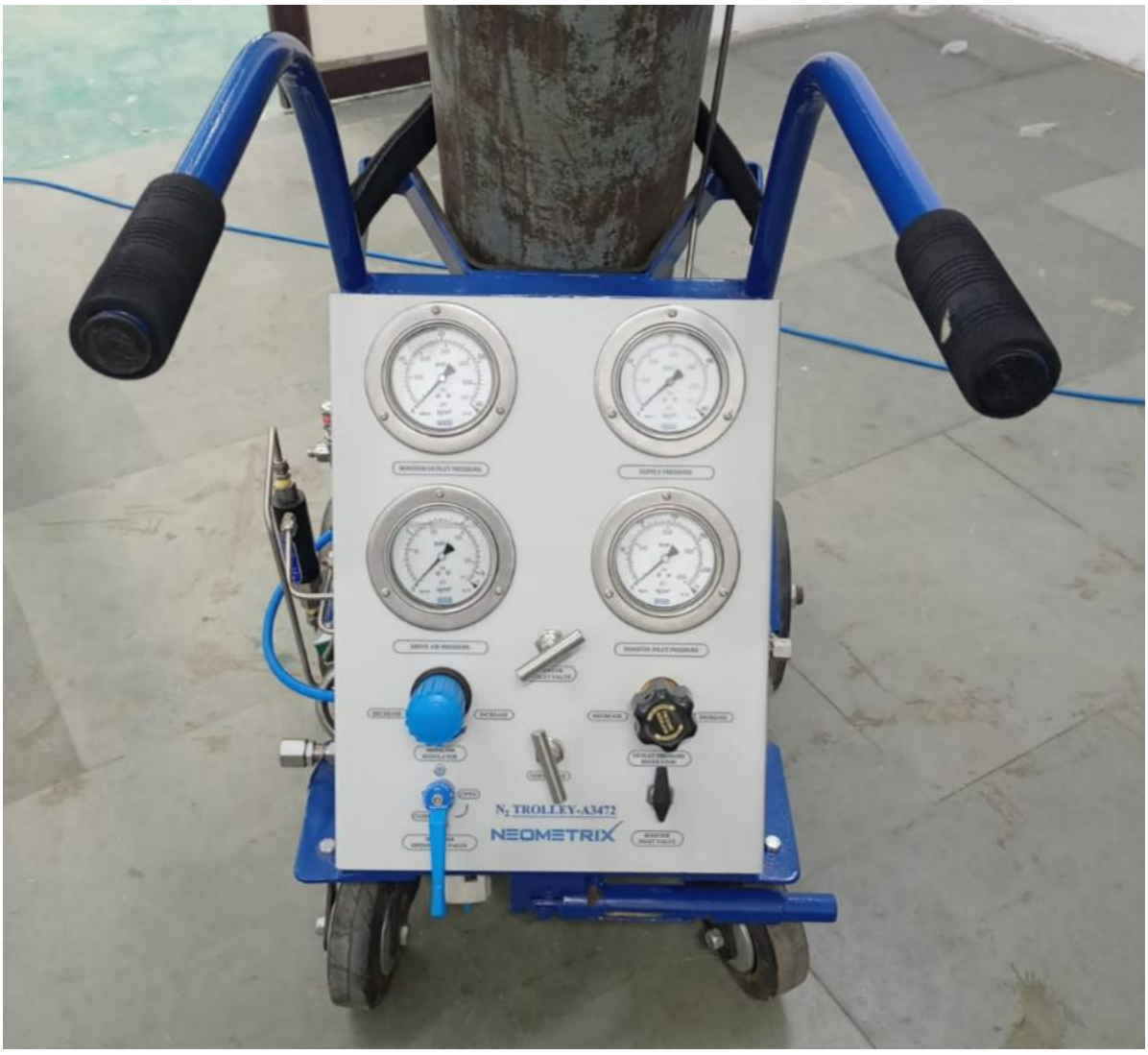
LENGTH – 690mm

WIDTH – 645mm

HEIGHT – 1150mm


THIS DWG. IS SOLE PROPERTYOF NEOMETRIX ENGINEERING PVT. LTD. UNAUTHORISED USE OF THIS DWG. OR MAKING PRODUCT AS PER THIS DWG. WITHOUT OUR PERMISSION OR ANY OTHER MISUSE IS NOT PERMITTED
390x500 SHEET
3 MM THICK
65
425
525
TOP VIEW
PANEL
ISOMETRIC VIEW
BOOSTER
500
CASTER WHEEL
LEFT VIEW
MOUNTING
BRACKET
R50
FRONT VIEW
690
120°
1150
225
280
60
386
300
RIGHT VIEW
NEOMETRIX
NEOMETRIX ENGINEERING PVT. LTD.
MAIN TITLE
TROLLEY FOR NITROGEN CYLINDER
SUB - TITLE
GA DRAWING
CODE
A3472
QYT.
MATERIAL
HARDNESS
NOTE:
A3
00
NOTE:
1. ALL DIMENSIONS ARE IN MM.
TROLLEY FOR NITROGEN CYLINDER

6). Hydraulic Testing System - Photograph showing User Interface Points




AIR DRIVE
INLET PORT


HIGH PRESSURE
OUTLET PORT

7. Unpacking & Installation

1. Upon receipt of the system, visually inspect the shipping carton for signs of damage or mishandling. Immediately contact the carrier for an inspection if the shipping carton is damaged or evidence of mishandling exists.

2. Carefully remove the outer crafting materials. Care must be taken during unpacking to avoid enclosure damage or scratching.

3. Inspect the system for dents, scratches, or other evidence of mishandling during shipment. Request an immediate inspection from the carrier if damage is evident.

4. Connect the Boosting System with Industrial N2 supply hose & Nitrogen cylinder should be filled with Dry N2 gas

5. Connect Outlet Test Hose to UUT

6. Check all Hose connections should be fully tightened.

8. Operation Procedure (Reference Circuit Diagram and Panel)

Step- 1 After Filling the N2 cylinder Open the Drive Air Inlet Valve , close vent valve

Step- 2 Rotate Drive air regulator anti clockwise to fully close it.

Step- 3 Open the Ball Valve in Air Line .

Step- 4 Rotate Drive air regulator clockwise to start Booster, see pressure gauge to see outlet pressure developed by booster.

You can regulate the pressure with the valve of Valve .

When the Test is being done, you can vent the pressure with the valve of Valve .

9. Major Bill of Material

Sl No.	PART NO.	ITEM DESCRIPTION	ITEM SPECIFICATIONS	QTY
1	2A2858P0001	Filter	Grade of Filtration: 40 micron meter End connection: 1/2'' BSP Female Working Pressure: 10 Bar Operating Medium: Air	1
2	2A2858P0002	Pressure Regulator	End connection: 1/2'' BSP Female Working Pressure: 10 Bar Operating Medium: Air, Regulating range 0-7 bar	1
3	2A2858P0003	Pressure Gauge	Dial size: 4 " Pressure range: 0-16 bar Scale: Both Bar and PSI Measuring System:SS316L Movement: Stainless steel Dial: White aluminum Pointer: Black Aluminum Accuracy:1%of FS Connection: 1/2"BSP(M) Back connection , Panel mounted Glycerin filling: Yes Operating Medium: Air	1
4	2A2858P0004	Ball valve	Connection: 1/2"BSP (F) Working Pressure: 10 bar Operating Medium: Air	2
	2A2858P0005	Cylinder	Volume 40 liters , working pressure 200 bar	5

6	2A2858P0006	Pressure Gauge	Dial size: 4 " Pressure range: 0-280 bar Scale: Both Bar and PSI Measuring System:SS316L Movement: Stainless steel Dial: White aluminum Pointer: Black Aluminum Accuracy:1%of FS Connection: 1/2"BSP(M) Back Connection , Panel mounted Glycerin filling: Yes Operating Medium: N2	2
5	2A2858P0007	Ball valve	1/4'' Tube od , Working pressure 300 bar , MOC SS 316	1
7	2A2858P0008	Air Amplifier	Max inlet Pressure (psi): 4500 Outlet Pressure (psi): 4500 Stall Formula: 30*Pa Max Compression Ratio: 25:1 Inlet Port: 1/4 NPT Outlet Port: 1/4 NPT Max Air Drive: 150	1
7	2A2858P0009	Air driven Gas Booster	Ratio: 75:1 Min GAS supply pressure: 250 psi Max GAS supply pressure: 11,250 psi Max rated GAS outlet pressure: 11,250 psi Static outlet stall pressure formula: 75 Pa (Pa = air drive pressure) Min AIR drive pressure: 20 psi Max AIR drive pressure: 150 psi	1
8	2A2858P0010	Pilot Switch	Max Sense Pressure 10000 NO Range 2500-10000 Sensing Port 1/4 NPT Air In Port 1/8 NPT Air Out Port 1/4 NPT	1

11	2A2858P0011	Pressure gauge	Dial size: 4" Pressure range: 0-400 bar Scale: Both Bar and PSI Measuring system:SS316L Movement: Stainless steel Dial: White Aluminum Pointer: Black Aluminum Accuracy:1%of FS Connection: 1/2"BSP(M) BACK CONNECTION ,PANEL MOUNTED Glycerin filling: Yes Operating Medium: NITROGEN	2
9	2A2858P0012	Safety Relief valve	SET @ 405 bar , End connection 1/4'' Tube OD	1
2	2A2858P0013	Pressure Regulator	End connection: 1/4'' NPT Female Working Pressure: 6000 PSI Operating Medium:N2, Regulating range 0-6000 PSI	1
10	2A2858P0014	High Pressure Needle Valve	Working Pressure: 6000 psi (400 Bar) Connection Type: 1/4" Tube od Operating Medium: N2	2
12	2A2858P0015	Hose	High Pressure Hose 0.5'' Dia. Medium:N2 Working Pressure: 700 BAR , Length 15 meter	1
13	2A2858P0016	Panel and Trolley	As per Drawing , Made of MS Powder coated	1

Recommended list of spares for Scheduled Maintenance:

1) Booster Seal Kit. : 1 Set

10.) System- Safety Features

1. All the Joints should be fully tightened.
2. Please don't touch any high pressure hose & Tubes during Testing.
3. Before starting the test make sure that NUT must be fully tightened
4. Don't touch any component during testing.
5. Don't change setting of internal Pressure regulator.

11. Sales /Service/Support Contact Details

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