

End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

USER MANUAL OPERATION AND MAINTENANCE



Document Prepared and Published By

NEOMETRIX ENGINEERING PVT LTD

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Pressure Loss And Leak Test Rig -
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www.neometrixgroup.com

Dear User,

Neometrix is grateful for this opportunity provided to us to offer our products & services to you. We sincerely hope that you will be delighted to use our system and give us more opportunities to serve you.

Neometrix is very focused on Aviation and Railway industries and offers complete range of systems & services which can be of immense use to you. We specialize in Hydraulic/ Servo Hydraulic Test Rigs, Fuel System Test Rigs, Pneumatic System Test Rigs, Oxygen/ Special Gases system Test Rigs, Very High Pressure Systems, Electronic & Electrical Test Rigs. Our services include among others, the followings:

- State of the art Test Rig Design, Development, Fabrication, Installation, Commissioning, Training & Support.
- Refurbishment/ Up gradation of the Existing Test Rigs.
- Maintenance (AMC) contracts of Existing Test Rigs.
- Operations Contract for the Test Rigs.
- Setting up of complete Testing Infrastructure including civil infrastructure.

The following pages talk about some of our systems in brief. Please feel free to contact us for details of any particular system of your interest.

Neometrix is committed to offer its best solutions & services to you all the times

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and wish to become your preferred supplier for these services.

With Best Regards,

Shailendra Pratap Singh
CEO

Warnings:

1. Make sure that all electronic products are earth-grounded, to ensure Personal safety and proper operation.



2. All sensors are very sensitive; please never try to touch them.

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1. Neometrix Engineering Introduction:

Neometrix Engineering Pvt. Ltd. is a complete engineering solutions company based in New Delhi/ Noida.

We specialize in CUSTOM BUILT Turnkey Engineering Solutions.

We have expertise in various engineering domains like Hydraulics, Servo Hydraulics, ATF (Fuel), Mechanical, Pneumatic, Oxygen/ Helium (High Purity Gases), Electronics/ Electrical Test Benches, and Complete PC Based Automation Solutions.

We have experts in Mechanical Engineering, Chemical Engineering, Electrical/ Instrumentation Engineering, Software, Civil Engineering, Aeronautical engineering and other engineering fields.

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The company has a team of ~30 highly qualified engineers and has an experience of more than 75 successfully delivered projects. We are very closely working with **HAL, RDSO, Railways, Defense Establishments, Labs and Private Industries.**

The founders are graduates from IIT Kanpur and the company remains very closely linked with IITs. We utilize the expertise available there as and when required.

We have an exclusive relationship with Parker USA (www.parker.com) for supplying Hydraulic Systems to HAL. Parker is world leader in Hydraulics (Fluid Motion & Control).

We have an exclusive relationship with Haskel USA (www.haskel.com) for supplying very high pressure systems. Haskel is world leader in very High Pressure products.

We are alliance partners of **National Instruments USA** (www.ni.com), world leader in PC Based Test Measurement and Automation.

With such alliances and our own engineering capabilities, we are in a position to deliver you state of the art world class Test Rig.

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

Pressure Loss Test and leak Test Rig 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 oil tank must be filled.
2. Before starting the test make sure Suction Valve OPEN position, if not please take it on OPEN position.

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

Don'ts

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

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3. Introduction of the Test Rig:

PRESSURE LOSS TEST AND LEAK TEST RIG is designed to test the performance of **HEAT EXCHANGERS OF SECONDARY POWER SYSTEM (SPS)** of Light combat Aircraft-Tejas for Cooling of Hydraulic oil, Gear Box oil.

SPS consists of following two heat exchangers:

- 1) Hydraulic Oil-IDG Oil-Fuel Cooler(HE-1)
- 2) GBX oil-Hyd. Oil-Fuel Cooler (HE-2)

H.E-1 & H.E-2 have three circuit, Hydraulic oil circuit, Gear Box oil/IDG oil circuit & Aviation Fuel circuit.

PRESSURE LOSS TEST AND LEAK TEST RIG consist three following circuits to test the pressure loss and Leak Test

- 1. HYDRAULIC OIL POWER PACK**
- 2. GEAR BOX OIL POWER PACK**
- 3. AVIATION OIL POWER PACK**

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1. HYDRAULIC OIL POWER PACK

Technical Specifications		
S.no.	Name of Characteristic	Value of Characteristic
1	Motor Power	Input Voltage 415 V, Three Phase
2	Max Flow	90 LPM
4	Output Pressure Range (for Pressure Testing)	Up to 70 bar
5	Working Media	Hydraulic
6	Machine Pressure Range	0-70 bar
7	Outlet flow rate	Variable (As per requirement)
9	Inlet pressure Gauge Range	100 BAR
10	Outlet pressure Gauge Range	100 BAR
11	Gauge Type / Material /Design	Analogue / SS 316/ Bourdon tube design, Overpressure protection 15%
12	Supply Hose	Length 6 Meter, Dia.: 1/4" Inch, Hose Working pressure 150 bar, End Connection: OF QDC coupling.
13	SKID MOC	MS Powder coated , Powder coating thickness 60-80 Micron

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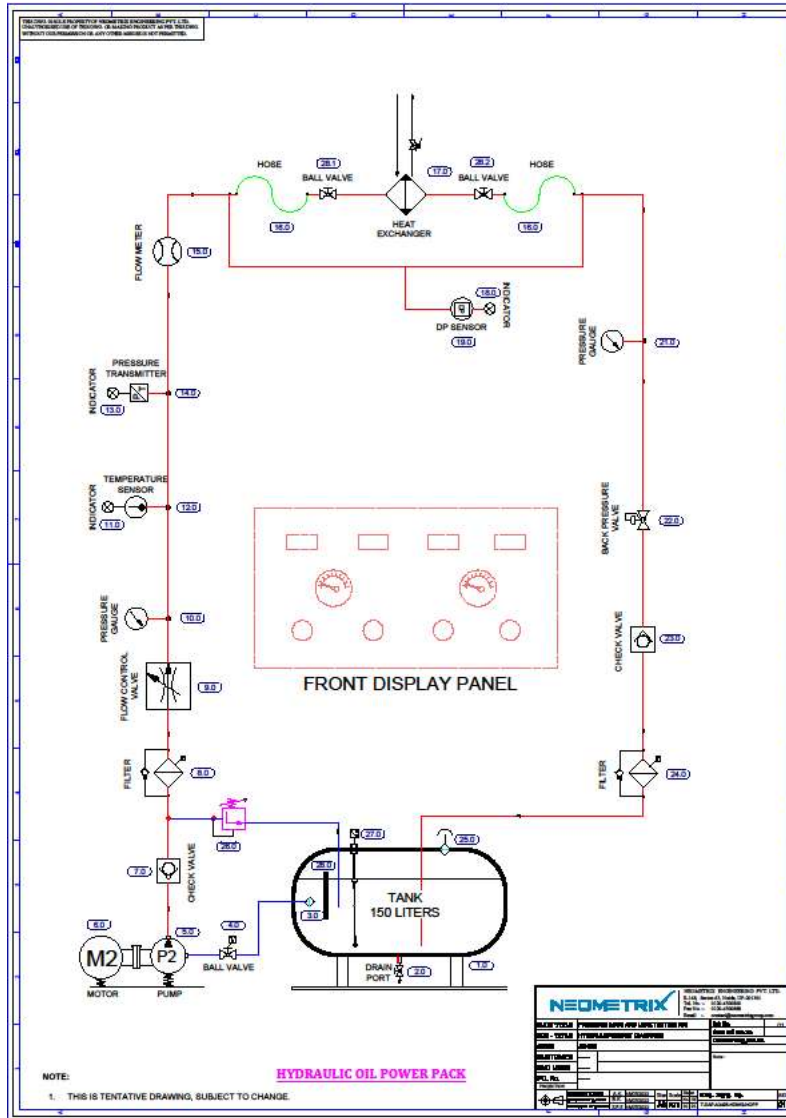
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T-PED-A3495-BOM-REV-02							
TEST EQUIPMENT AND MATERIALS IN HYDRAULICS OIL POWER PACK							
S. No	Nx Part No	Circuit Code	Item Name	Item Specification	Make	Model	Qty.
1	2A3495P0001	1	Hydraulic Oil Reservoir	MOC : SS 304 Useable Tank Volume: 150 Ltr, For Hydraulic Oil MIL-H-5606E,	Neometrix	Fabricated	1
2	2A3495P0001	2	Tank Drain Cock	MS with plug, 1/2" BSPF,	Festo	QH 1/2	1
3	2A3495P0002	3	Suction Strainer	Pump Suction Strainer, Filtration:149 Micron,	Hydroline	SC3-030	1
4	2A3495P0003	4	Suction ball Valve	Pump Suction line Ball Valve with limit switch , MS Size: 1.1-1/2" BSPF , with Limit Switch	Cair	VP-WP-01	1
5	2A3495P0004	5	Pump	Flow: 0-90 lpm, 0-70 Bar Fixed Displacement Pump Type- VANE Pump	Vickers	35V-25-A-1C-22	1
6	2A3495P0005	6	Electric Motor	15 kW(20HP) Three Phase, 4 Pole Induction Motor, Speed - 1450 RPM, foot cum Flange Mounting	SIEMENS	1LE75011DB4351 A4	1
7	2A3495P0006		Bell housing and Coupling	suitable for above motor + pump	Neometrix	Standard	1
8	2A3495P0007	7,23	Check Valve	Maximum Operating Pressure 100 bar, Cracking Pressure 0.5 bar/1.5 BAR Connection G1	Rexroth	S20A05-1X	2
9	2A3495P0008	8	Pressure Line Filter	10 Micron Flow-100 LPM Max Pressure 100 bar, connection 1" BSP(F)	Argo hytos	HD 172-156	1
10	2A3495P0009	9	Flow Control Valve	Flow range of 0-125 LPM, MOC :- SS 304 PERSSURE :- up to 100 BAR	FLUTEC	DV- SERIES	1
11	2A3495P0010	10, 21	Analog Pressure Gauge	Range 0 - 100 Kg/cm2 with psi, Nominal size: 100 mm, Measuring system: SS 316 L Movement: stainless steel, Case: SS with case vent, Window safety Glass, Dial: White aluminium Pointer: Black Aluminium, Accuracy: 1% of FS, Con: 1/2" BSP(M)	WIKA	233.50.100	2
12	2A3495P0011	11	Digital Temperature Indicator	Range: 0-100 °C Resolution: 0.01 °C	MASIBUS	IBUS/ 409-G-N-U1	1
13	2A3495P0012	12	Temperature Sensor	Temperature Range-(0-200) Degree Celsius , Output: 4-20mA/ 0-10V DC	Artech	TX-05	1
14	2A3495P0013	13,14	Pressure Transducer with Digital Display Unit	Range 0 - 100 Bar, Signal output: 4-20 mA 2wire, Power supply: 8 36 VDC Accuracy: 0.25% of BFSL, Display unit Resolution: 0.01 Kg/cm2(g)	WIKA	S-20	1
15	2A3495P0014	15	Flow meter with Digital Display Unit	Range: 0-100 LPM Screwed 1/2" BSP (M) ±1% of the reading End Connections Linearity Display unit Resolution: 0.01 LPM	ROCKWIN	TFM 1020 BS	1
16	2A3495P0015	16, 20	Flexible hose	Pressure Range: 0-150 Kg/cm2(g) Size: 19mm ID-6 m Long with end connection of QDC coupling of 5600 Series (NPT) -steel /EQUIVALENT Female part	Parker	U.K. IAZ series	2
17	2A3495P0016	18,19	Differential Pressure Transducer with Digital Display Unit	Line Pressure: 0-100 Kg/cm2 Differential Pressure Range: 0-10 Kg/cm2 End connection Thread specification: M16 x 2mm pitch (External Thread) Display unit resolution: 0.01 Kg/cm2(g)	SIEMENS	7MF4433	1
18	2A3495P0017	22	Back Pressure Valve	Flow Control Valves - 1"BSPF Flow range of 0-125 LPM. MOC :- SS 304 PERSSURE :- up to 100 BAR	FLUTEC	DV- SERIES	1
19	2A3495P0018	24	Return FILTER	Flow to 150 LPM, BYPASS STANDARD 1 BAR MAX TEMP-UP TO 80 °C	Hydroline	HFR	1
20	2A3495P0019	25	Filler Breather	40 Micron Filtration	Hydroline	FSB25	1
21	2A3495P0020	26	Pressure Relief Valve	Set Pressure Upto 0-70 Bar	REXROTH	DBDH 20 P1X/100	1

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2. GEAR BOX OIL POWER PACK

Technical Specifications		
S.no.	Name of Characteristic	Value of Characteristic
1	Motor Power	Input Voltage 415 V, Three Phase
2	Max Flow	50 LPM
4	Output Pressure Range (for Pressure Testing)	Up to 50 bar
5	Working Media	Hydraulic
6	Machine Pressure Range	0-50 bar
7	Outlet flow rate	Variable (As per requirement)
9	Inlet pressure Gauge Range	70 BAR
10	Outlet pressure Gauge Range	70 BAR
11	Gauge Type / Material /Design	Analogue / SS 316/ Bourdon tube design, Overpressure protection 15%
12	Supply Hose	Length 6 Meter, Dia.: 1/4" Inch, Hose Working pressure 150 bar, End Connection: OF QDC coupling.
13	SKID MOC	MS Powder coated , Powder coating thickness 60-80 Micron

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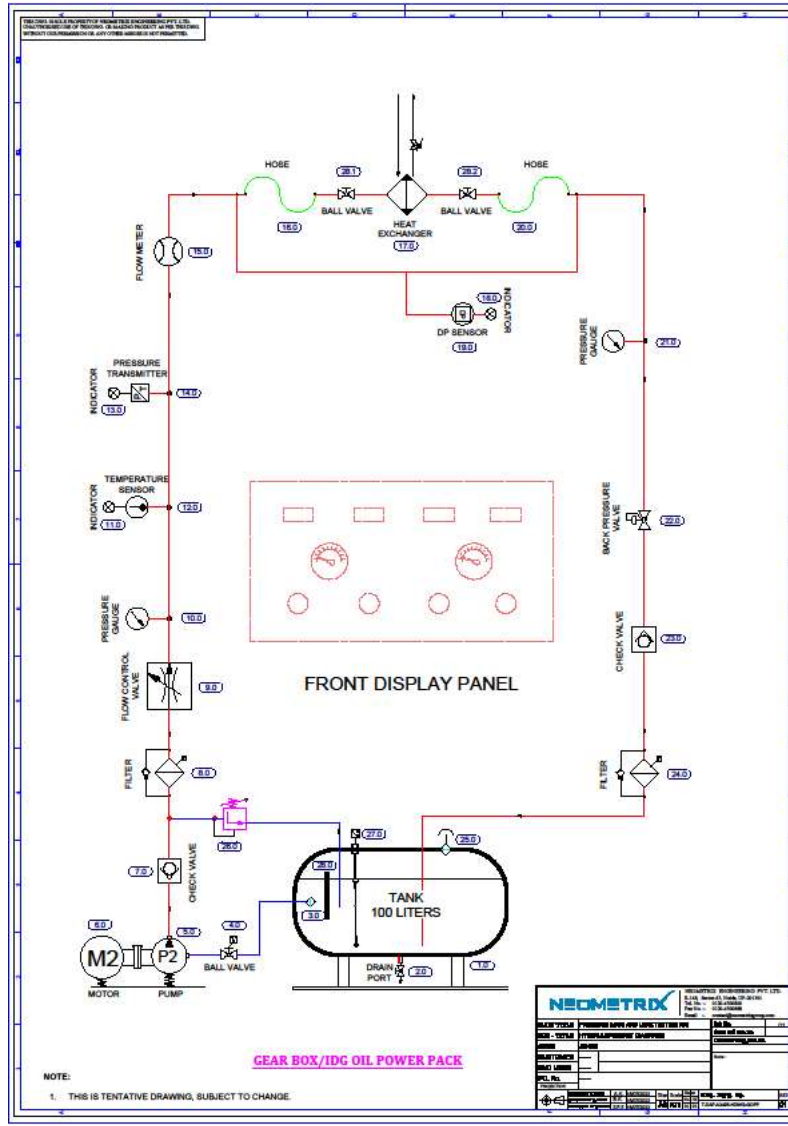
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TEST EQUIPMENT AND MATERIALS IN GEAR BOX OIL / IDG OIL POWER PACK

S. No.	Nx Part No	Circuit Code	Item Name	Item Specification	Make	Model	Qty.
22	2A3495F0001	1	Hydraulic Oil Reservoir	SS 304 , Tank Volume: 100 Ltr, Hydraulic Oil MIL-L-23699	Neometrix	Fabricated	1
23	2A3495P0001	2	Tank Drain Cock	MS with plug, 1/2" BSPF,	Festo/Parker	Q 1/2	1
24	2A3495P0002	3	Suction Strainer	Pump Suction Strainer, Filtration:149 Micron,	Hydroline	SC3-030	1
25	2A3495P0003	4	Suction ball Valve	Pump Suction line Ball Valve, MS Size: 1 1-1/2" BSPF	Festo/Parker/Cait	VP-WP-01	1
26	2A3495P0021	5	Pump	Flow: 0-50 lpm, 0-50 Bar Fixed Displacement Pump Type- VANE PUMP	Vickers	25V-14-A-1C-22	1
27	2A3495P0022	6	Electric Motor	5.5 kW(7.5 HP) Three Phase, 4 Pole Induction Motor, IE2 Speed - 1450 RPM, foot cum Flange Mounting, Frame Size: 132S	SIEMENS	1LE7503-1CB03-5AA4	1
28	2A3495P0023		Bell housing and Coupling	suitable for above motor + pump	Neometrix	Standard	1
29	2A3495P0024	7,23	Check Valve	Maximum Operating Pressure 100 bar, Cracking Pressure 0.5 bar/1.5 BAR Connection G1	Rexroth/Polyhy drome	S20A05-1X	2
30	2A3495P0025	8	Pressure Line Filter	10 Micron Max Pressure 100 bar, connection 3/4" BSP(F) Working Flow: 50 lpm with spare Element (V3.0520-06)	Argo hytos	HD-069-156	1
31	2A3495P0026	9	Flow Control Valve	Flow range of 0-50 LPM. MOC :- SS 304 PERSSURE :- up to 100 BAR	FLUTEC	DV- SERIES	1
24	2A3495P0027	10, 21	Analog Pressure Gauge	Range 0 - 70 Kg/cm2 with psi, Nominal size: 100 mm, Measuring system: SS 316 L Movement: stainless steel, Case: SS with case vent, Window safety Glass, Dial: White aluminium Pointer: Black Aluminium, Accuracy: 1% of FS, Con: 1/2" BSP(M) Back with 3 hole front flange Glycerin Filling : Yes)	WIKA	233.50.100	2
26	2A3495P0028	11	Digital Temperature Indicator	range: 0-100 °C Resolution: 0.01 °C	MASIBUS	IBUS/ 409-G-N-U1	1
25	2A3495P0029	12	Temperature Sensor	Temperature Range-(0-200) Degree Celsius	Artech	TX-05	1
27	2A3495P0030	13, 14	Pressure Transducer with Digital Display Unit	Range 0 - 50 Bar, Signal output: 4-20 mA 2wire, Power supply: 8- 36 VDC Accuracy: 0.25% of BFSL, Display unit Resolution: 0.01	WIKA	S-20	1
28	2A3495P0031	15	Flow meter with Digital Display Unit	Range: 0-50 LPM End Connections Screwed 1/2" BSP (M) Linearity ±1% of the reading Display unit Resolution: 0.01 LPM	ROCKWIN	TFM 1020 BS	1
29	2A3495P0032	16, 20	Flexible hose	Pressure Range: 0-150 Kg/cm2(g) Size: 19mm ID-6 m Long with end connection of QDC coupling of 5600 Series (NPT) -steel /EQUIVALENT Female part	Parker + Holmbry	U.K. IAZ series	2
30	2A3495P0033	18, 19	Differential Pressure Transducer with Digital Display Unit	Line Pressure: 0-50 Kg/cm2 Differential Pressure Range: 0-10 Kg/cm2 End connection Thread specification: M16 x 2mm pitch (External Thread) Display unit resolution: 0.01 Kg/cm2(g)	SIEMENS	7MF4433	1
31	2A3495P0034	22	Back Pressure Valve	Flow Control Valves - 1" BSPF Flow range of 0-50 LPM. MOC :- SS 304 PERSSURE :- up to 100 BAR	FLUTEC	DV- SERIES	1
32	2A3495P0035	24	RETURN LINE FILTER	Flow to 150 LPM, BYPASS STANDARD 1 BAR MAX TEMP-UP TO 80 °C, FILTER-25 MICRONS	Hydroline	HFR	1
33	2A3495P0036	25	Filler Breather	40 Micron Filtration	Hydroline	FSB25	1
34	2A3495P0037	26	Pressure Relief Valve	Set Pressure Upto 0-50 Bar	REXROTH	DBDH 20 P1X	1

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1. AVIATION OIL POWER PACK

Technical Specifications		
S.no.	Name of Characteristic	Value of Characteristic
1	Motor Power	Input Voltage 415 V, Three Phase
2	Max Flow	30 LPM
4	Output Pressure Range (for Pressure Testing)	Up to 30 bar
5	Working Media	Hydraulic
6	Machine Pressure Range	0-30 bar
7	Outlet flow rate	Variable (As per requirement)
9	Inlet pressure Gauge Range	70 BAR
10	Outlet pressure Gauge Range	70 BAR
11	Gauge Type / Material /Design	Analogue / SS 316/ Bourdon tube design, Overpressure protection 15%
12	Supply Hose	Length 6 Meter, Dia.: 1/4" Inch, Hose Working pressure 150 bar, End Connection: OF QDC coupling.
13	SKID MOC	MS Powder coated , Powder coating thickness 60-80 Micron

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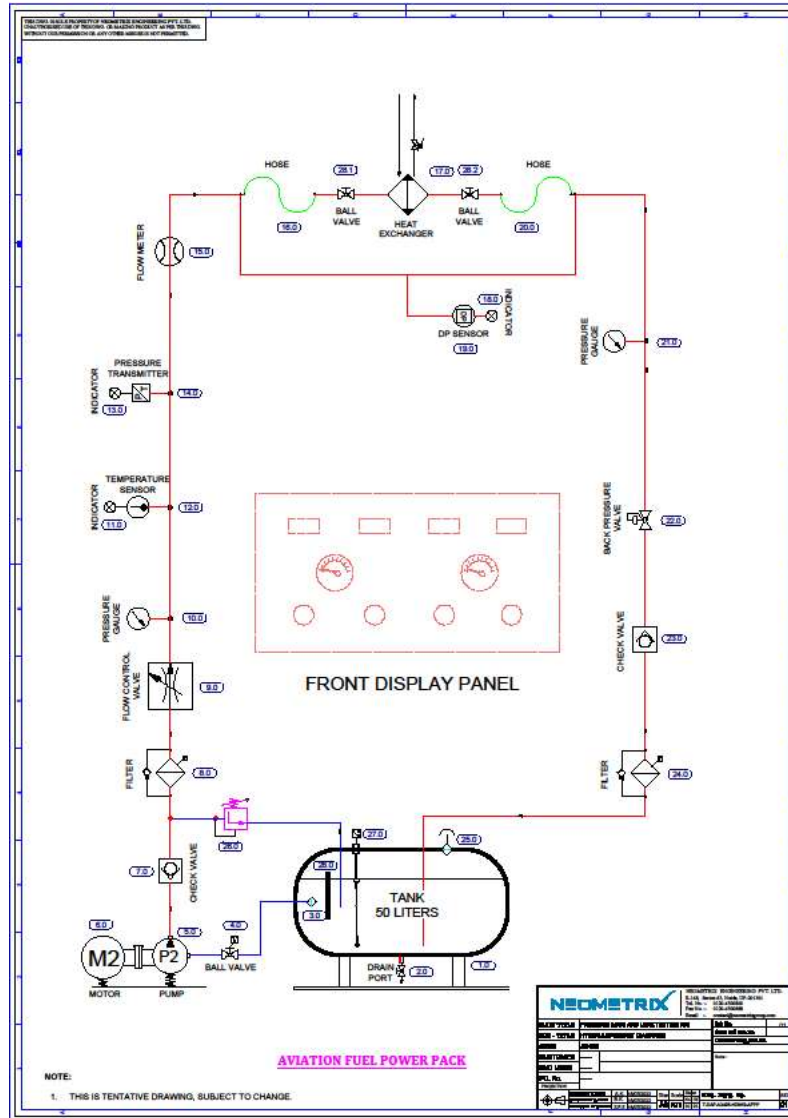
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TEST EQUIPMENT AND MATERIALS IN AVIATION FUEL POWER PACK							
S. No.	Nx Part No	Circuit Code	Item Name	Item Specification	Make	Model	Qty.
37	2A3495F0001	1	Hydraulic Oil Reservoir	SS 304 , Tank Volume: 50 Ltr, Hydraulic Oil DERD 2494	Neometrix	Fabricated	1
38	2A3495P0001	2	Tank Drain Cock	M5 with plug, 1/2" BSPF,	Festo	QH-1/2	1
39	2A3495P0002	3	Suction Strainer	Pump Suction Strainer, Filtration:149 Micron,	Hydroline	SC3-030	1
40	2A3495P0038	4	Suction ball Valve	Pump Suction line Ball Valve with Limit Switch MS Size: 1.1-1/2" BSPF	Cair	1-1/2"	1
41	2A3495P0039	5	Pump	Working Pressure:0-30 Bar Fixed Displacement Pump	Roto Fluid	FIGB-F03	1
42	2A3495P0040	6	Electric Motor	3.7 kW(5 HP) Three Phase, 4 Pole Induction Motor, IE2 Speed - 1450 RPM, foot Mounting	SIEMENS	1LE75031B235A A4	1
43	2A3495P00041		Bell housing and Coupling	suitable for above motor + pump	Neometrix	Standard	1
44	2A3495P00042	7,23	Check Valve	Maximum Operating Pressure 100 bar, Cracking Pressure 0.5 bar/1.5 BAR Connection G1	Rexroth	S20A1.0	2
45	2A3495P00025	8	Pressure Line Filter	10 Micron Max Pressure 30 bar, connection 3/4" BSP(F), working Flow : 30 LPM with spare Element	Argo hytos	HD 069 156	1
46	2A3495P00044	9	Flow Control Valve	Flow range of 0-30 LPM. MOC :- SS 304 PRESSURE :- up to 100 BAR	FLUTEC	DV- SERIES	1
47	2A3495P0045	10, 21	Analog Pressure Gauge	range 0 - 70 kg/cm2 with psi, nominal size: 100 mm, measuring system: SS 316 L Movement: stainless steel, Case: SS with case vent, Window safety Glass, Dial: White aluminium Pointer: Black Aluminium, Accuracy: 1% of FS, Con: 1/2" BSP(M) Back with 3 hole front flange Glycerin Filling : Yes	WIKA	233.50.100	2
48	2A3495P0046	11	Digital Temperature Indicator	range: 0-100 °C Resolution: 0.01 °C	MASIBUS	IBUS/ 409-G-N-U1	1
49	2A3495P0047	12	Temperature Sensor	Temperature Range: (0-200) Degree Celsius	Artech	TX-05	1
50	2A3495P0048	13, 14	Pressure Transducer with Digital Display Unit	Range 0 - 30 Bar, Signal output: 4-20 mA 2wire, Power supply: 8- 36 VDC Accuracy: 0.25% of BFSL, Display unit Resolution: 0.01 Kg/cm2(g)	WIKA	S-20	1
51	2A3495P0049	15	Flow meter with Digital Display Unit	Range: 0-30 LPM End Connections Screwed 1/2" BSP (M) Linearity ±1% of the reading Display unit Resolution: 0.01 LPM	ROCKWIN	TFM 1020 BS	1
52	2A3495P0050	16, 20	Flexible hose	Pressure Range: 0-150 Kg/cm2(g) Size: 19mm ID-6 m Long with end connection of QDC coupling of 5600 Series (NPT) -steel /EQUIVALENT Female part	Parker	U.K. IAZ series	2
53	2A3495P0051	18, 19	Differential Pressure Transducer with Digital Display Unit	Line Pressure: 0-30 Kg/cm2 Differential Pressure Range: 0-10 Kg/cm2 End connection Thread specification: M16 x 2mm pitch (External Thread) Display unit resolution: 0.01 Kg/cm2(g)	SIEMENS	7MF4433	1
54	2A3495P0052	22	Back Pressure Valve	Flow Control Valves - 1" BSPF Flow range of 0-30 LPM. MOC :- SS 304 PRESSURE :- up to 100 BAR	FLUTEC	DV- SERIES	1
55	2A3495P0053	24	FILTER	Flow to 30 LPM, BYPASS STANDARD 1 BAR MAX TEMP-UP TO 80 °C, FILTER-25 MICRONS	Hydroline	HFR	1
56	2A3495P0054	25	Filler Breather	40 Micron Filtration	Hydroline	FSB25	1
57	2A3495P0055	26	Pressure Relief Valve	Set Pressure Upto 0-30 Bar	REXROTH	DBDH 20 P1X	1

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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

Spare List:

SPARE COMPONENTS							
S. No.	Nx Part No	Circuit Code	Item Name	Item Specification	Make	Model	Qty.
53	2A3495P0012		Temperature Sensor	Temperature Range-(0-200) Degree Celsius	Artech	TX-05	1
54	2A3495P0011		Digital Temperature Indicator	range: 0-100 °C Resolution: 0.01 °C	MASIBUS	IBUS/ 409-G-N-U1	1
55	2A3495P0013		Pressure Transducer with Digital Display Unit	Range 0 - 100 Bar, Signal output: 4-20 mA 2wire, Power supply: 8-36 VDC Accuracy: 0.25% of BFSL, Display unit Resolution: 0.01 Kg/cm2(g)	WIKA	S-20	1
56	2A3495P0014		Flow meter with Digital Display Unit	Range: 0-100 LPM End Connections Screwed 3/8" BSP (M) Linearity ±1% of the reading Display unit Resolution: 0.01 LPM	ROCKWIN	TFM 1020 BS	1
57	2A3495P0016		Differential Pressure Transducer with Digital Display Unit	Line Pressure: 0-100 Kg/cm2 Differential Pressure Range: 0-10 Kg/cm2 End connection Thread specification: M16 x 2mm pitch (External Thread) Display unit resolution: 0.01 Kg/cm2(g)	SIEMENS	7MF4433	1
58	2A3495P0029		Temperature Sensor	Temperature Range-(0-200) Degree Celsius	Artech	TX-05	1
59	2A3495P0028		Digital Temperature Indicator	range: 0-100 °C Resolution: 0.01 °C	MASIBUS	IBUS/ 409-G-N-U1	1
60	2A3495P0030		Pressure Transducer with Digital Display Unit	Range 0 - 50 Bar, Signal output: 4-20 mA 2wire, Power supply: 8-36 VDC Accuracy: 0.25% of BFSL, Display unit Resolution: 0.01 Kg/cm2(g)	WIKA	S-20	1
61	2A3495P0031		Flow meter with Digital Display Unit	Range: 0-50 LPM End Connections Screwed 3/8" BSP (M) Linearity ±1% of the reading Display unit Resolution: 0.01 LPM	ROCKWIN	TFM 1020 BS	1
62	2A3495P0033		Differential Pressure Transducer with Digital Display Unit	Line Pressure: 0-50 Kg/cm2 Differential Pressure Range: 0-10 Kg/cm2 End connection Thread specification: M16 x 2mm pitch (External Thread) Display unit resolution: 0.01 Kg/cm2(g)	SIEMENS	7MF4433	1
63	2A3495P0047		Temperature Sensor	Temperature Range-(0-200) Degree Celsius	Artech	TX-05	1
64	2A3495P0046		Digital Temperature Indicator	range: 0-100 °C Resolution: 0.01 °C	MASIBUS	IBUS/ 409-G-N-U1	1
65	2A3495P0048		Pressure Transducer with Digital Display Unit	Range 0 - 30 Bar, Signal output: 4-20 mA 2wire, Power supply: 8-36 VDC Accuracy: 0.25% of BFSL, Display unit Resolution: 0.01 Kg/cm2(g)	WIKA	S-20	1
66	2A3495P0049		Flow meter with Digital Display Unit	Range: 0-30 LPM End Connections Screwed 3/8" BSP (M) Linearity ±1% of the reading Display unit Resolution: 0.01 LPM	ROCKWIN	TFM 1020 BS	1
67	2A3495P0051		Differential Pressure Transducer with Digital Display Unit	Line Pressure: 0-30 Kg/cm2 Differential Pressure Range: 0-10 Kg/cm2 End connection Thread specification: M16 x 2mm pitch (External Thread) Display unit resolution: 0.01 Kg/cm2(g)	SIEMENS	7MF4433	1

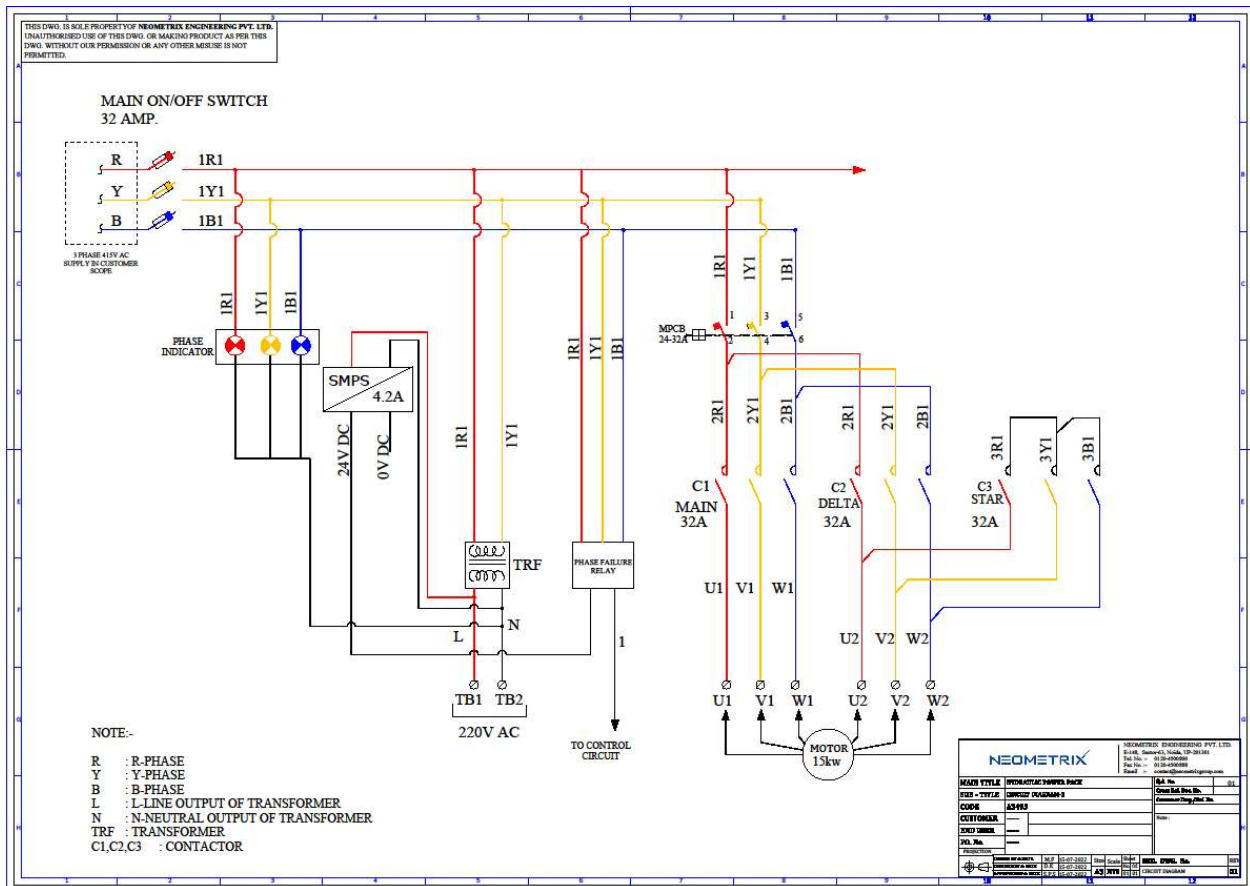
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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

7. ELECTRICAL WIRING DIAGRAM

7.1. HYDRAULIC POWER PACK

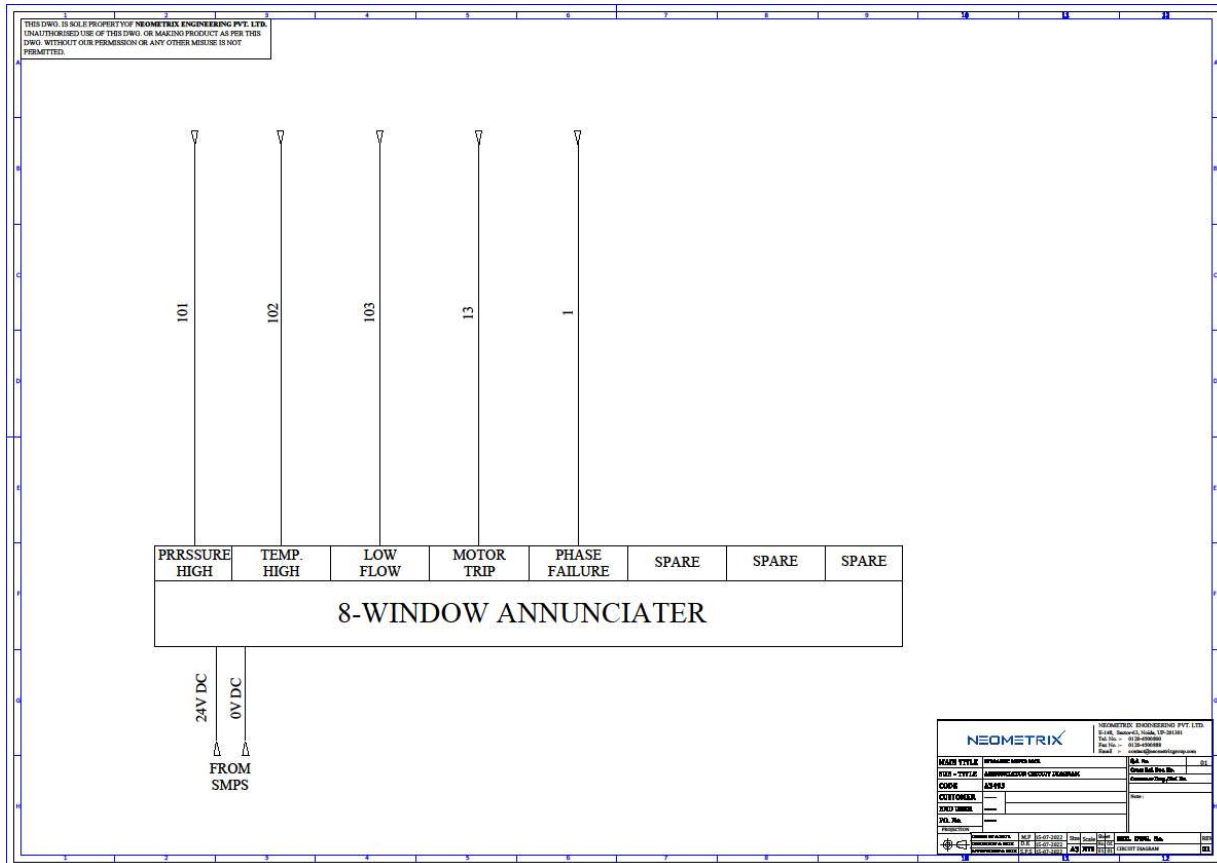
7.1.A-POWER WIRING



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

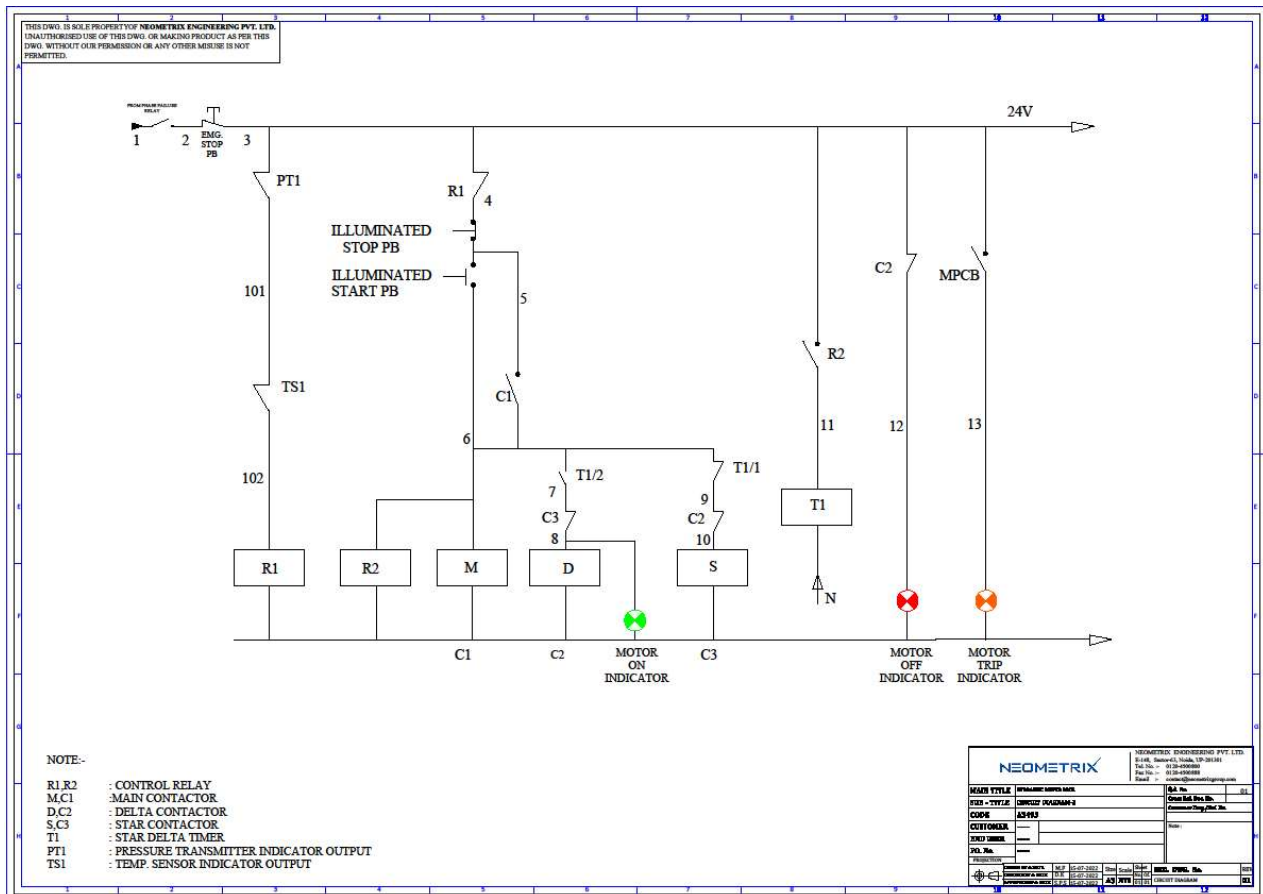
7.1.B-ANNUNCIATOR WIRING



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

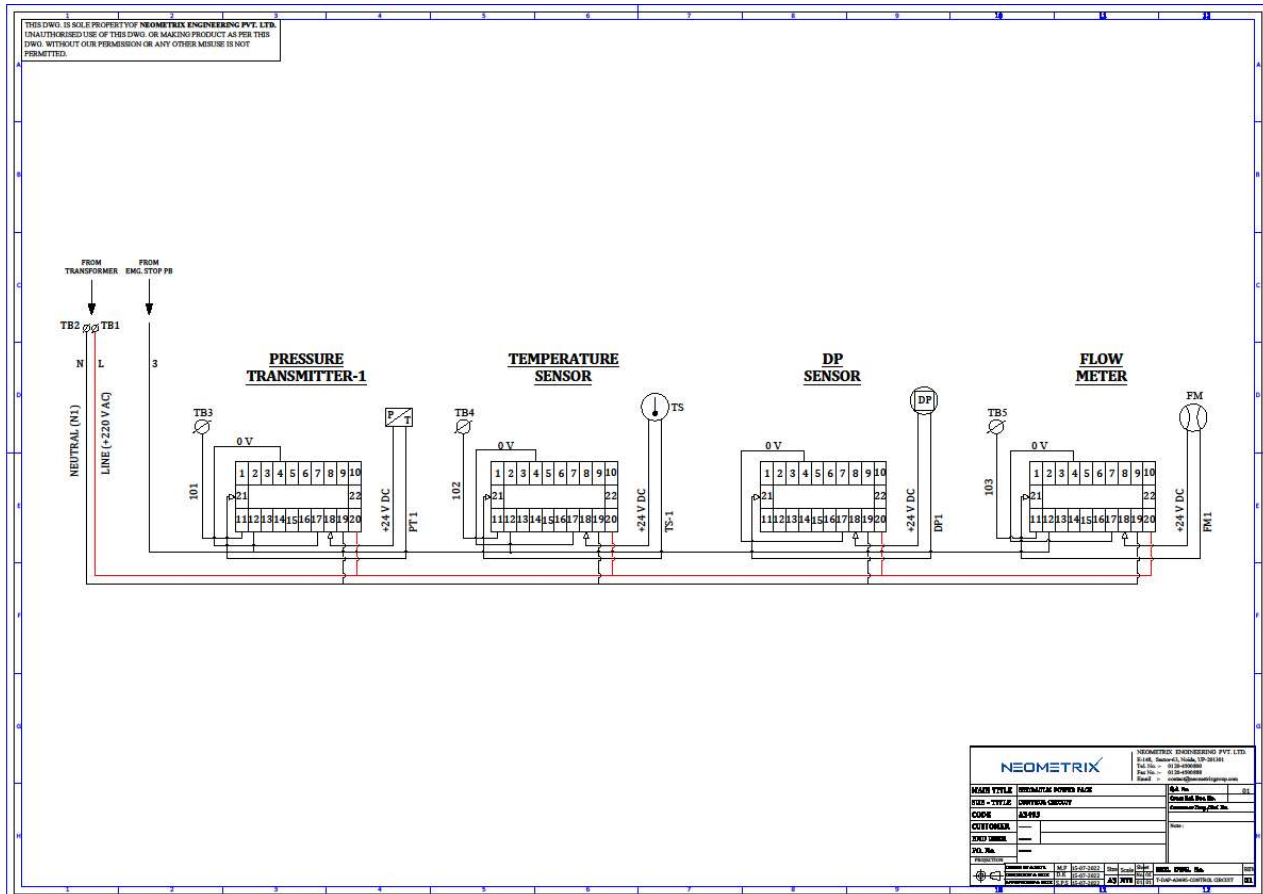
7.1.C-CONTROL WIRING



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

7.1.D-DIGITAL INDICATOR WIRING

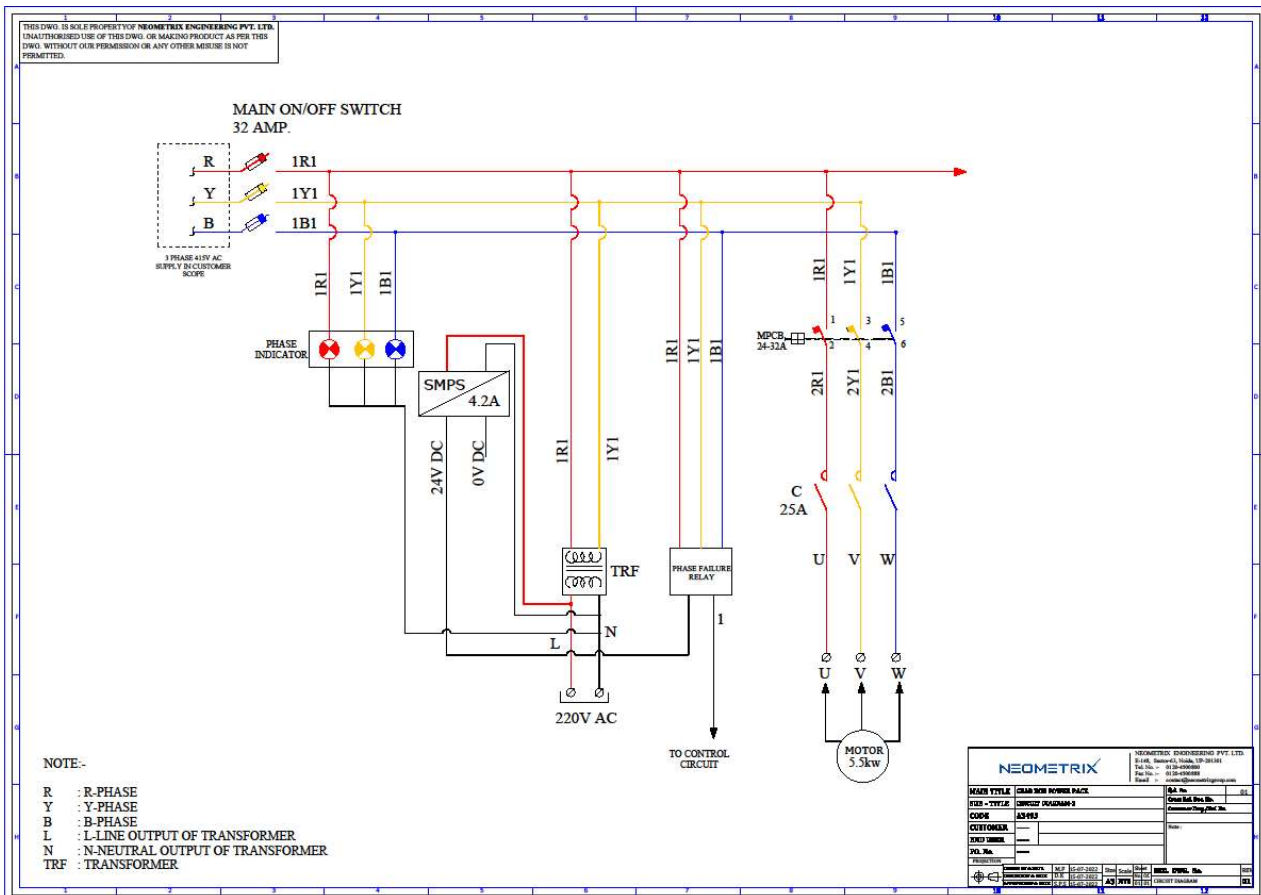


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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

7.2.GEAR BOX OIL POWER PACK

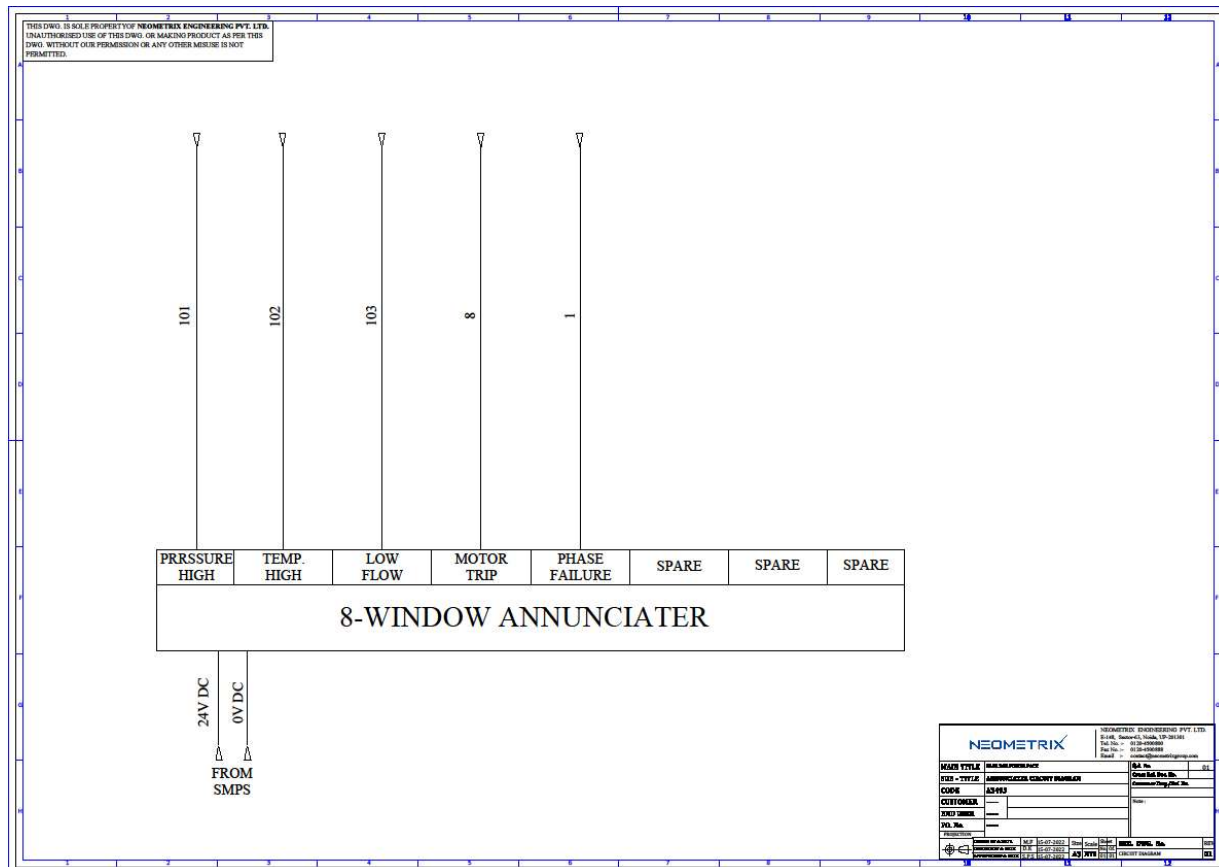
7.2.A.POWER WIRING



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

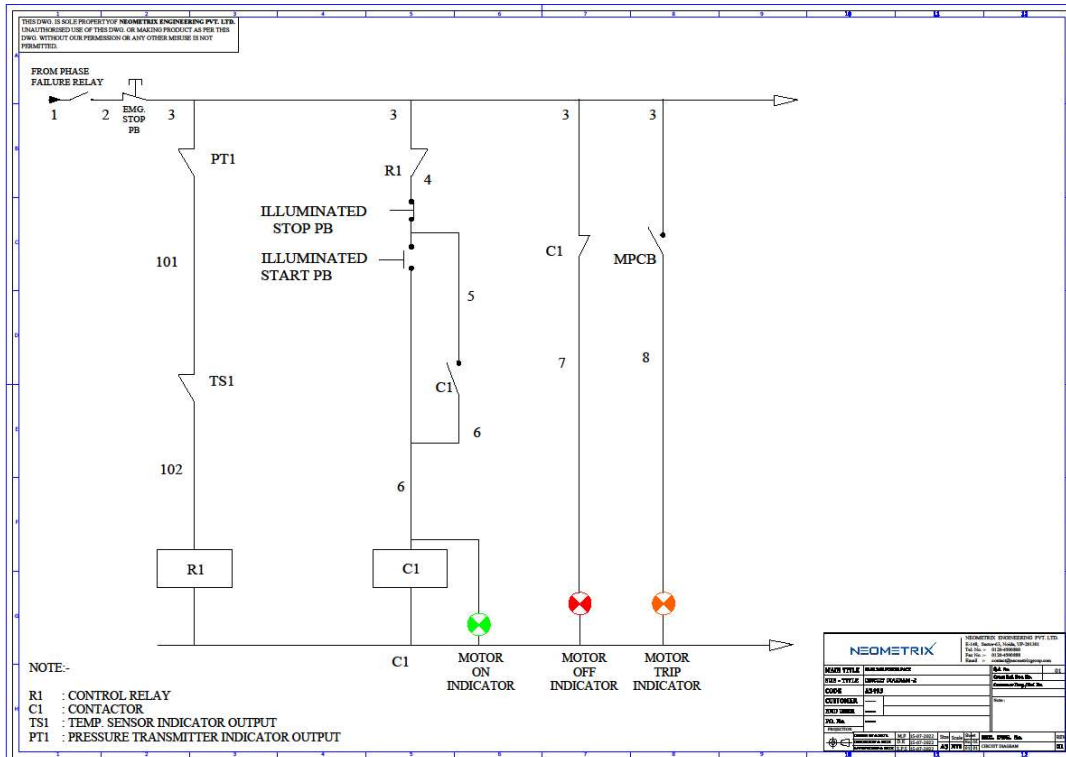
7.2.B. ANNUNCIATOR WIRING



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

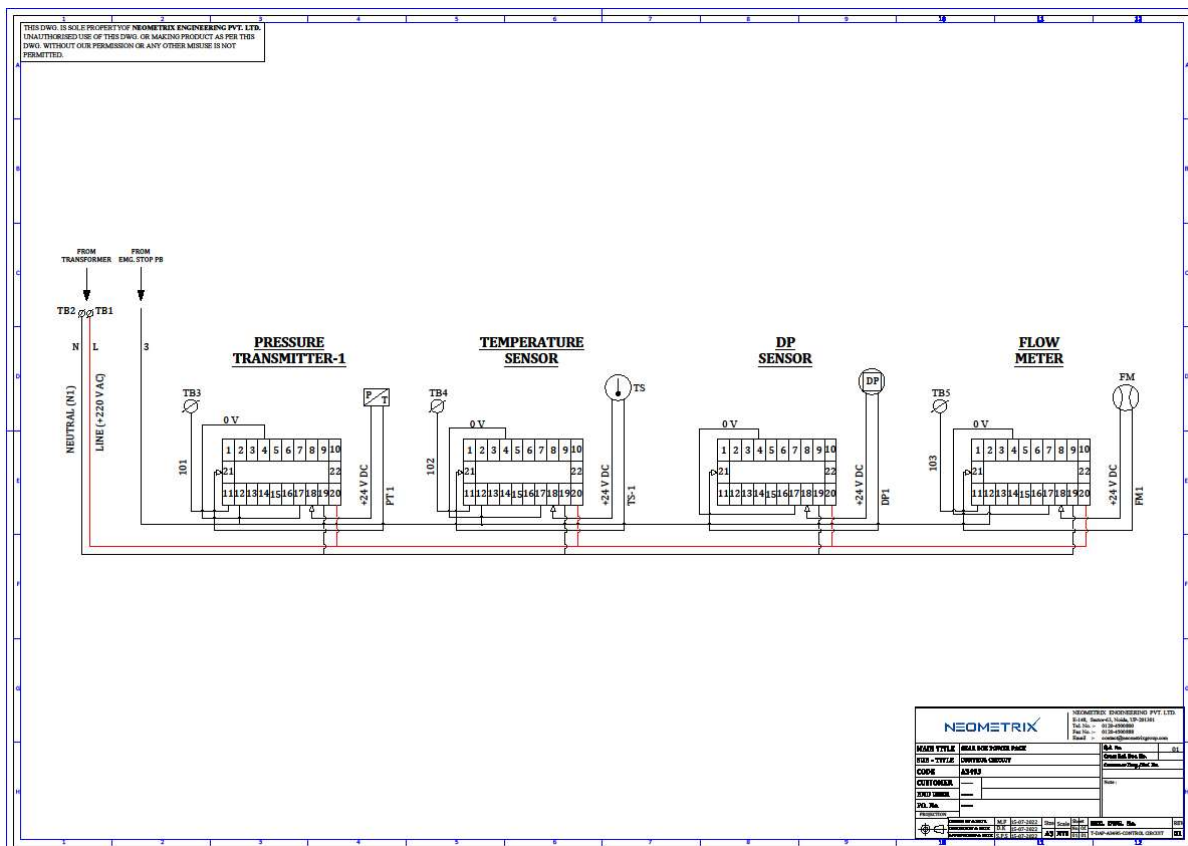
7.2.C. CONTROL WIRING



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

7.2.D. DIGITAL INDIACATOR WIRING



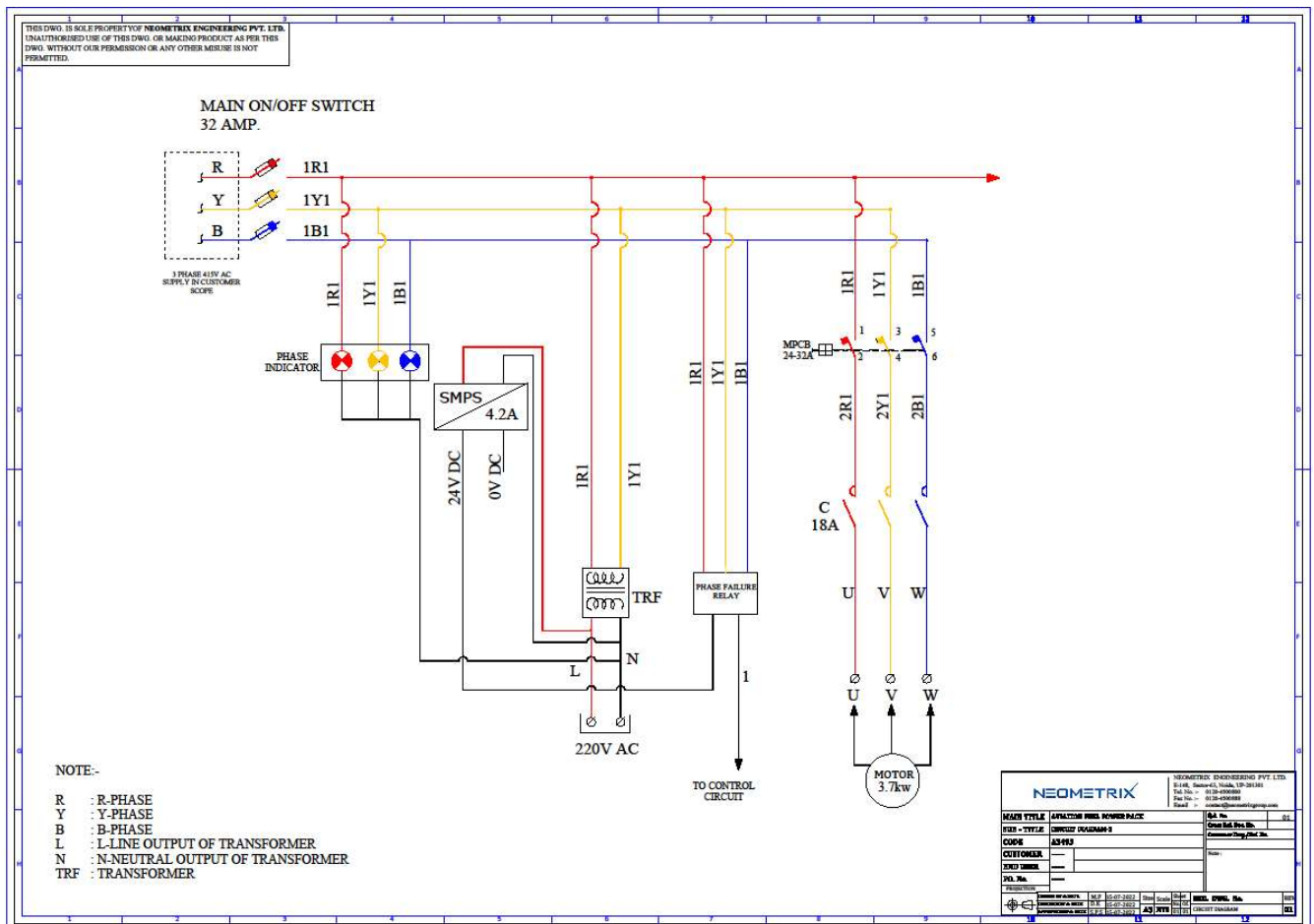
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End Customer Details	User Manual For	Enquiry Details
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7.3 AVIATION FUEL POWER PACK

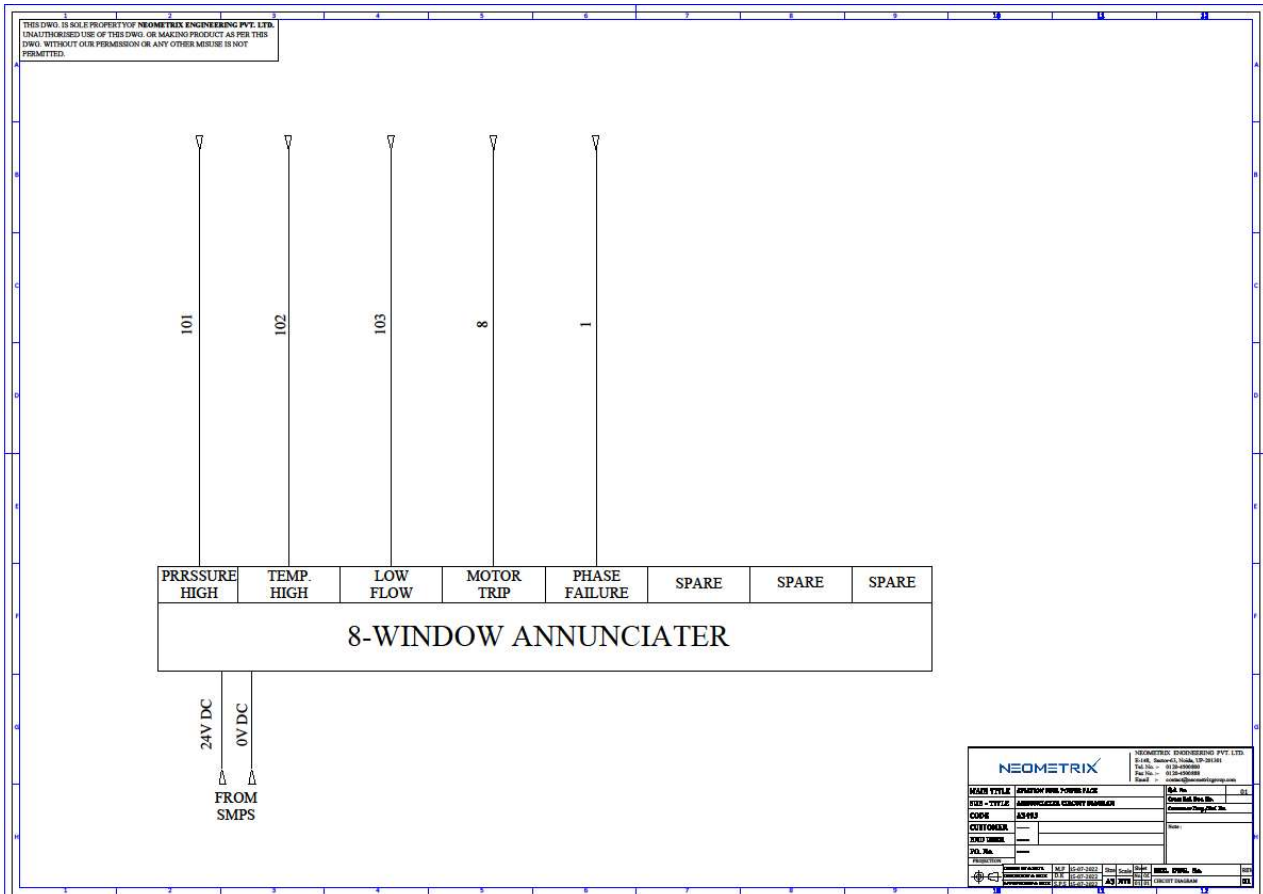
7.3.A-POWER WIRING



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

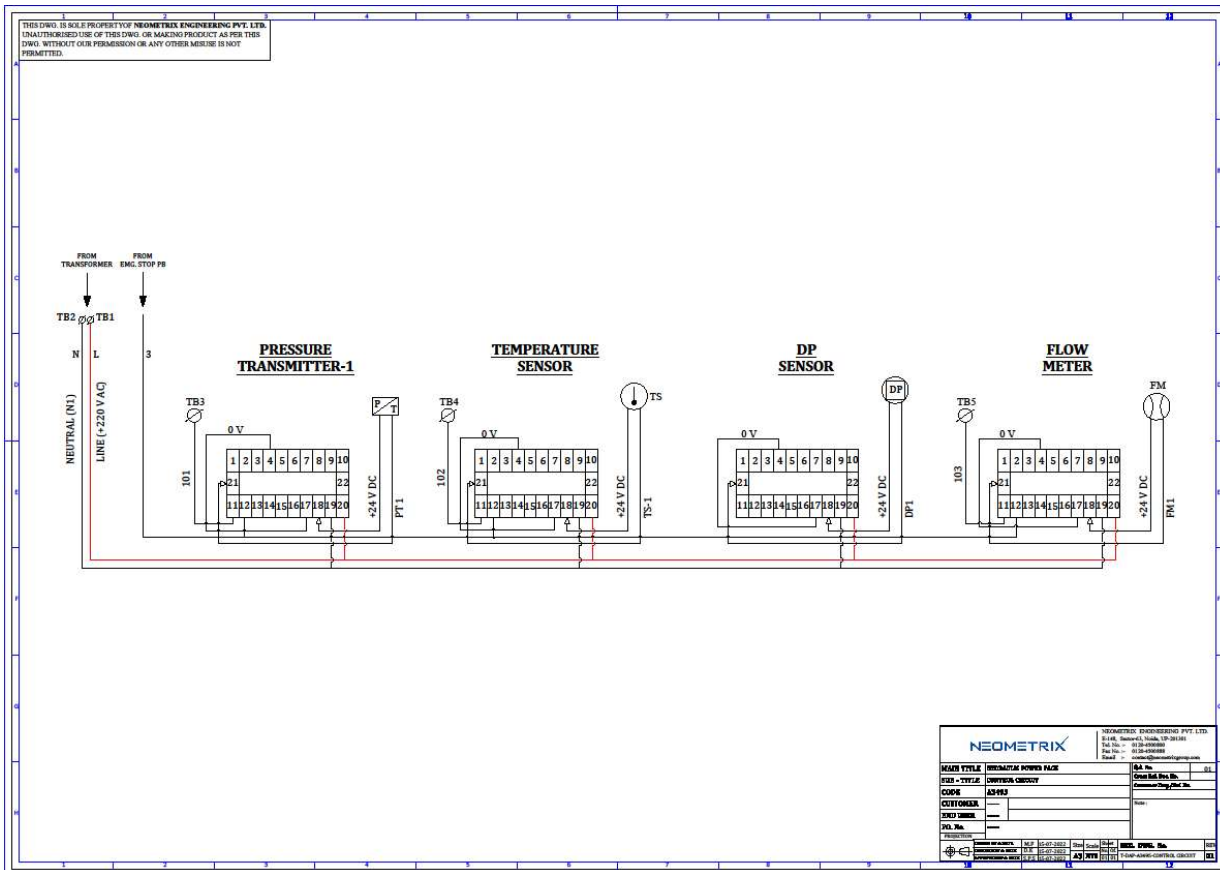
7.3.B- ANNUNCIATOR WIRING



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

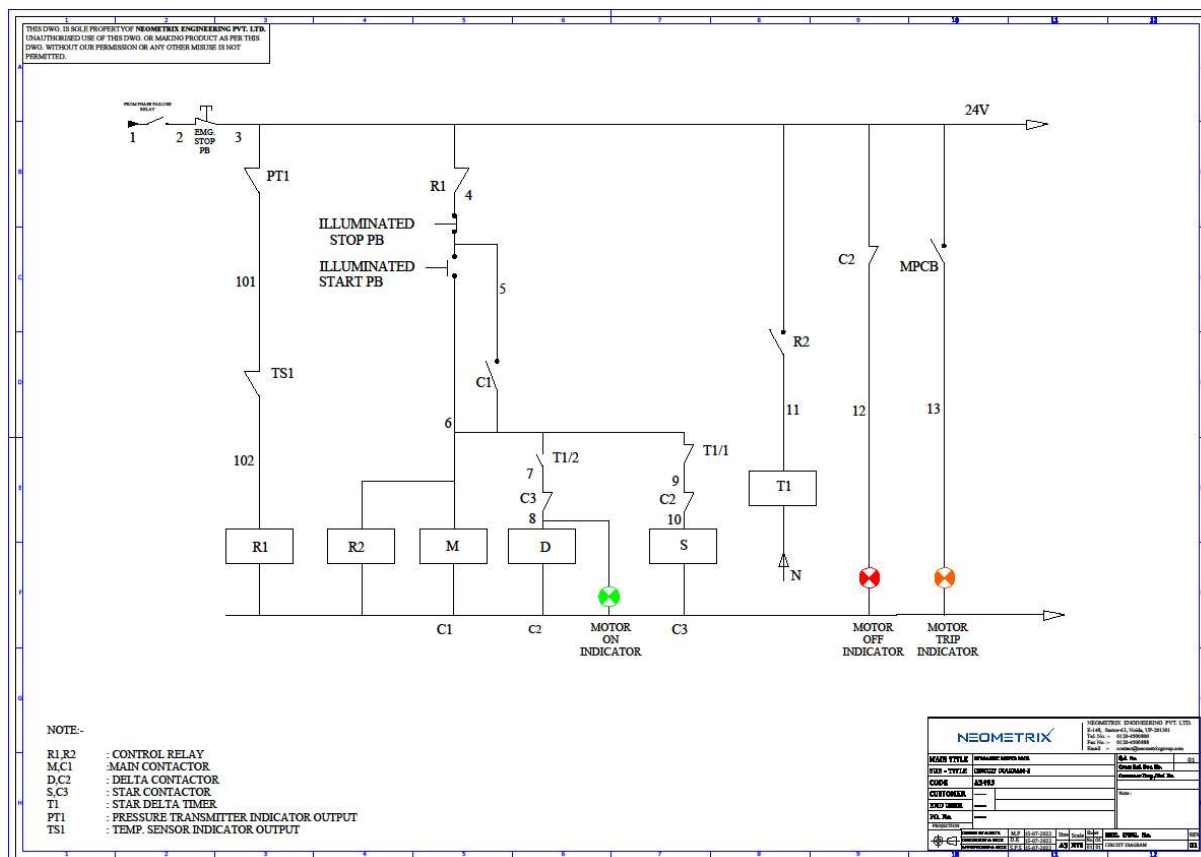
7.3.C. DIGITAL INDICATOR WIRING



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

7.3.D- CONTROL WIRING



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8. TROUBLESHOOTING GUIDELINES

8.1-MOTOR TRIPPING

- If there is tripping alarm on annunciator display then Acknowledge the alarm by clicking “ack” button and then reset the alarm by “reset” button.
- Check the power supply of motor. Proper power supply should be available at motor terminals.
- Check the wire connection of motor and all the wire should be properly connected. Wire should not touch to each other.
- Check the Over Load setting of MPCB.
- Check the voltage of supply between phase to phase and phase to neutral.
- Check for Phase Sequence

8.2-PHASE FAILURE RELAY

- If there is Phase Failure alarm seen in annunciator display. Acknowledge the alarm by “ack” button and then reset the alarm by “reset” button.
- Check the phase sequence of power supply and if proper phase supply is not available then interchange the phase sequence of power supply between any two phase.
- Check the voltage supply between two phase and phase to neutral.

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- If phase supply is proper then check the working of Phase Failure Relay. Check its wiring and there should be no short circuit between wire.

8.3- ALARM ACKNOWLEDGE AND RESET

- If high pressure, high temperature and low potential flow alarm are coming. First of all check the annunciator display and check the alarm. Acknowledge the alarm by clicking on “ack” button then reset the alarm by “reset” button.

8.4- DIGITAL DISPLAY

- If there is any fault in Digital Indicator then check the power supply first. And the match the value with analog meter for its proper working.

8.5- CONTROL PANEL

- If panel is not giving supply and system is not getting power. Check the main MPCB working. Check all the wiring and connection. All the switchgear items checked according to its connection.

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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

9. MAINTENANCE SCHEDULE

The maintenance schedule should be done Quarterly Basis.

- Motor connection should be checked and connection should be made tight if any loose connection found.
- Check the insulation of motor and its voltage supply at its input point.
- Check the connection of control panel. Connection of wiring should be tightened. If found any wire faulty then it should be changed.
- Check the connection of Digital Indicator pressure transmitter and temperature transmitter and tighten the loose connection if found.
- Check the working of Flow meter and Digital Indicator and also check its wiring and power connection with proper power supply.
- Check the proper earthing of control panel and test rig.
- Check the working and connection of Switchgear item. If any faulty wire found then it should be changed.

NOTE:-

- Check all the connection and proper supply before running the system.
- Please follow the user manual book for troubleshooting. Without studying user manual don't touch the system. It will lead to cause fault in system.
- Always use proper safety for troubleshooting.

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End Customer Details	User Manual For	Enquiry Details
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CALIBRATION CERTIFICATE



ASIAN TECHNOLOGY

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CALIBRATION CERTIFICATE

Customer name And Address	M/S: Pyramid Controls System Pvt. Ltd., 14/6 Mathura Road, Faridabad, Haryana.	Service request No. & date A/02/04/08/22 & 04-08-22
		ULR no. 0022492230013001F
		Cert. No. AT23000015001
		Date of Receipt of DUC: 04/08/2022
		Date of calibration: 04/08/2022
		Date of issue: 04/08/2022
		Suggested due date: 04/08/2023

Instrument Details			
Instrument name	Pressure Gauge	S. No. -	9080488X
Make / Model No.	Wika / ---	Location	---
Range / Size	0 to 70 kg/cm ²	Accuracy	---
Leak Count	1 kg/cm ²	Visual Inspection	OK
I.D. No.	PC-02		

Detail of reference standards & Major Equipment's used			
Equipment Name	Dix Pressure Gauge		
Make	SKD Instruments		
Model / S.K. No.	S198103		
Certificate No.	KRCM/02/2022/W0002		
Calibration Validity	20-03-2023		
Calibration by	Kelvin		

Environmental Condition	Temperature	(23±2)°C	Calibration Reference	ISIRI 6:1(2003)
	Relative Humidity	(38±20)%	Work Instruction	AT/WI-41M


Calibration Results			
Serial No.	Nominal Value In (kg/cm ²)	Observed Value in (kg/cm ²)	Uncertainty At 95% C.I. (coverage factor k=2)
01	0	0.003	±0.6 bar
02	10	10.019	
03	20	20.037	
04	30	30.051	
05	40	40.119	

Remarks: Bar converts to kg/cm²

(1) Customer equipment uses traceable, non-destructive national standards.
 (2) The reported expanded uncertainty of measurement is expressed as a coverage factor k=2, which implies that the coverage probability corresponds to approximately 95%. (3) The above results are valid for the use of standards. The serial no. of use instrument: (4) This certificate is valid only for the particular item calibrated for calibration. (5) Next calibration due date will be requested by the customer.

Calibrated By
(Calibration Eng./TM)
(MAGHIPATI)
Form No. QF-47

Approved By
(Eng./TM)
(NEERAJ KAGGI)
Page No. 1 of 1




-----End of Report-----

LAB.: F.C.A-3014, S.G.M. NAGAR, NEAR RAJA CHOWK, N.I.T. FARIDABAD-121 001 (HARYANA)
Customer Care : 9654550258, E-mail : asiantech2011@gmail.com

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ASIAN TECHNOLOGY

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CALIBRATION CERTIFICATE

Customer name And Address	M/S: Pyramid Controls System Pvt. Ltd. 14/6 Mathura Road, Faridabad, Haryana.	Service request No. & date ULR no. Cert. No.	A/05/04/08/02 or 04/08/22 CC 225923090013002P AT22000013002
		Date of Receipt of DUC	04/08/2022
		Date of calibration	05/08/2022
		Date of issue	05/08/2022
		Suggested due date	04/08/2023

Instrument Details			
Instrument name	Pressure Gauge	S. No.	9091398 Y
Make / Model No.	Wika /	Location	
Range / Size	0 to 100 kg/cm ²	Accuracy	
Least Count	2 kg/cm ²	Visual Inspection	OK
ID. No.	PG-05		

Detail of reference standards & Major Equipment's used			
Equipment Name	D61, Pressure Gauge		
Make	R&D Instruments		
Model / SR. No.	31782103		
Certificate No.	KR/03/2022/866002		
Calibration Validity	29/03/2023		
Calibration by	Rishi		

Environmental Condition	Temperature	Calibration Reference	DIN 86-1(2003)
	38.89 ± 0.5	Work Instruction	AT/WI-11R
	Relative Humidity		
	50.88 ± 0.5		


Calibration Results			
Serial No.	Nominal Value In (kg/cm ²)	Observed Value In (kg/cm ²)	Uncertainty At 95% C.I. (coverage factor k=2)
01.	0	0.00	10.6 bar
02.	20	20.02	
03.	40	40.12	
04.	80	80.18	
05.	100	100.25	

Remarks: For complete up to date details refer to the certificate and standards.
 * If used equipment for 12 months or more then it shall be recalibrated.
 * If the observed uncertainty of measurement is not as the standard uncertainty of measurement in the above coverage factor k=2, then the coverage probability corresponds to approximately 95%. If the above results are used at any time of mid or in the stated conditions measurement (1) these results may differ from the particular item submitted for calibration. (2) New calibration due date given as per agreed by the customer.

Calibrated By
(Signature) (Date)
(M/ABHAPATI)
Form No: QI/17

Approved By
(Signature)
(NEERAJ KUMAR)
Page No. 1 of 1

----- End of Report -----



LAB.: F.C.A.-3614, S.G.M. NAGAR, NEAR RAJA CHOWK, N.I.T. FARIDABAD-121 001 (HARYANA)
Customer Care : 8854550258, E-mail : asiantech2011@gmail.com

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ASIAN TECHNOLOGY

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CALIBRATION CERTIFICATE

Customer name And Address:	M/S: Pyramid Controls System Pvt. Ltd. 146 Mathura Road, Faridabad, Haryana.	Service request No. & date I.I.R. no. Cert. No. Date of Receipt of I.I.R. Date of calibration Date of issue Suggested due date
		A/0204/08/22 & 04/08/22 CC/22492200015303P AT/2205015003 04/08/2022 03/08/2022 06/08/2022 04/08/2023

Instrument Details			
Instrument name	Pressure Gauge	S. No.	90202503-2-2
Make / Model No.	Wika / ---	Location	
Range / Size	0 to 70 kg/cm ²	Accuracy	
Least Count	1 kg/cm ²	Visual Inspection	OK
I.D. No.	PG-01		

Detail of reference standards & Major Equipment's used			
Equipment Name	Dig. Pressure Gauge	S. No.	---
Make	R&D Instruments	Location	
Model / SR No.	51782193	Accuracy	
Certificate No.	NR/07/2022/869002	Visual Inspection	
Calibration Validity	23/03/2023		
Calibration by	Kelvin		

Environmental Condition	Temperature (25.7) °C	Calibration Reference	DoD16-1(2005)
	Relative Humidity (50.20) %	Work Instruction	AI/WI-418

Calibration Results			
Serial No.	Nominal Value In (kg/cm ²)	Observed Value In (kg/cm ²)	Uncertainty At 95% C.I. (coverage factor k=2)
01.	0	0.000	±0.6 bar
02.	10	10.008	
03.	20	20.032	
04.	40	40.051	
05.	70	70.113	

Remarks: See serials to kg/cm².
 (1) Standard uncertainty is calculated as necessary, unless otherwise specified.
 (2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by coverage factor k=2, which for a coverage factor of k=2 corresponds to a approximate 95% confidence level. The above results are valid on the date and under the stated conditions shown herein. (4) This certificate is valid only for the specific item(s) listed for calibration. (5) Note calibration is a size given or required by the certificate.

Calibrated By
(Signature Page 41M)
(NAME) A-1
Form No. QF-47

Approved By
(Signature)
(NAME) A-1
Page No. 1 of 1




End of Report

LAB.: F.C.A.-3814, S.G.M. NAGAR, NEAR RAJA CHOWK, N.I.T. FARIDABAD-121 001 (HARYANA)
 Customer Care : 9054550256, E-mail : asiantech2011@gmail.com


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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022



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CALIBRATION CERTIFICATE

Customer name And Address	M/S: Pyramid Controls System Pvt. Ltd. 14/6 Mathura Road, Faridabad, Haryana.	Service request No. & date I.I.R no. Cert. No. Date of Receipt of D.O.C Date of calibration Date of issue Suggested due date
		A/05/04/08/22 & 04/08/22 CY221922000015007F AT22000615007 04/08/2022 05/08/2022 06/08/2022 04/08/2023

Instrument Details			
Instrument name	Pressure Gauge	S. No.	50015001
Make / Model No.	Wites /	Location	----
Range / Size	0 to 100 kg/cm ²	Accuracy	----
Lens Count	7 kg/cm ²	Visum inspection	OK
I.D. No.	PG-08		

Detail of reference standards & Major Equipment's used			
Equipment Name	Dig. Pressure Gauge		
Make	R&D Instruments		
Model / SR No.	517821/03		
Certificate No.	ICRC/02/2022/86/002		
Calibration Validity	29/05/2025		
Calibration by	Kelvin		


Environmental Condition	Temperature	Calibration Reference	DKDRS (2005)
	29.42°C	Work Instruction	AT/WI-41M
	Relative Humidity		
	50.4201%		

Calibration Results			
Serial No.	Nominal Value in (kg/cm ²)	Observed Value in (kg/cm ²)	Uncertainty At 95% C.L. (coverage factor k=2)
01.	0	3.00	±0.6 bar
02.	36	30.03	
03.	40	40.18	
04.	80	80.27	
05.	100	100.33	

Remarks: This certificate is kg/cm²
 * (1) It is the responsibility of the client to provide traceable and environmental standards.
 * (2) This report is especially a responsibility of measurement results of the calibration certificate validity of this instrument multiplied by coverage factor k = 2. It does not the coverage uncertainty determined as specified in ISO 9001:2015. The above results are valid at the time of calibration under the stated conditions as mentioned. This certificate is valid only for the particular item submitted for calibration. If Next calibration date date given as requested by the customer.

Calibrated By
(Signature) (Engg. /T/M)
(M.A.HIPATY)
Form No- Q2-07

Approved By
(Signature)
(NELLRANI, JAGI)
Page No. 1 of 1




---End of Report---

LAB.: P.C.A.-3614, S.G.M. NAGAR, NEAR RAJA CHOWK, N.I.T. FARIDABAD-121 001 (HARYANA)
 Customer Care : 9654550258, E-mail : asiantech2011@gmail.com


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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022



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CALIBRATION CERTIFICATE

Customer name and Address	M/S: Pyramid Controls System Pvt. Ltd. 14/6 Mithura Road, Faridabad, Haryana.	Service request No. & date LLR no. Cer. No. Date of Receipt of DUC Date of calibration Date of issue Suggested due date	A/03/0-08/22 & 04/08/22 CC2339220900150050 AT22000015006 04/08/2022 05/08/2022 06/08/2022 04/08/2023
---------------------------------	--	---	--

Instrument Details			
Instrument name	Pressure Gauge	S. No.	90010320
Make / Model No.	Wika / ---	Location	-----
Range / Size	0 to 100 kg/cm ²	Accuracy	-----
Test. Const.	2 kg/cm ²	Visual Inspection	OK
I.D. No.	PG-07		

Detail of reference standards & Major Equipment's used			
Equipment Name	Dig. Pressure Gauge		
Make	R&D Instruments		
Model / SR No.	51782103		
Certificate No.	KRCOC/2022/R60012		
Calibration validity	2003-2023		
Calibration by	Kulva		

Environmental Condition	Temperature: 23.51 °C Relative Humidity: 45.126 %	Calibration Reference Work Instruction	DKDR6-1(2003) AT-WI-11M
-------------------------	--	---	----------------------------


Calibration Results			
Serial No.	Nominal Value In (kg/cm ²)	Observed Value in (kg/cm ²)	Uncertainty At 95% C.L. (coverage factor k=2)
E1	0	0.00	10.6 bar
E2	20	19.99	
E3	40	39.97	
E4	80	79.95	
E5	100	99.91	

REQUIREMENTS: AS PER NEOMETRIX SYSTEMS
 (1) Standard equipment used for calibration is traceable to national standards.
 (2) The reported extended uncertainty of measurement is calculated using the standard algorithm of measurement, applied by using guide number 2 such that the coverage probability corresponds to approximately 95%. (3) The above results are valid at the time of issue under the specified conditions shown herein. (4) This certificate is valid only for the particular user's limited by indication on test calibration due date given on pages of this document.

Calibrated By
(Calibration Engr. / I/M)
(M/KR/PAL)
Form No. AT-42

Approved By
(M/L/M)
(NIBRCA/JYA/GL)
Page No. 2 of 2


---End of Report---



LAB.: P.C.A.-3614, S.G.M. NAGAR, NEAR RAJA CHOWK, N.I.T. FARIDABAD-121 001 (HARYANA)
 Customer Care : 9654550258, E-mail : asiantech2011@gmail.com


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End Customer Details	User Manual For	Enquiry Details
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CALIBRATION CERTIFICATE

Customer name And Address		M/S: Pyramid Controls System Pvt. Ltd. 14/6 Mathura Road, Faridabad, Haryana.		Service request No. & date		A03/04/2022 & 04/05/22	
				U.L.R. no.		CT22397500601508NF	
				Carr. No.		A122H0015608	
				Date of Receipt of DUC		04/08/2022	
				Date of calibration		05/08/2022	
				Date of issue		06/08/2022	
				Suggested due date		03/08/2023	

Instrument Details			
Instrument name	Pressure Transmitter	S. No.	1A00ZYWT138
Make / Model No.	Wika / 700	Location	
Range / Size	0 to 60 Bar	Accuracy	
Leads/Coil	N/A	Visual Inspection	OK
I.D. No.	PT-01		

Detail of reference standards & Major Equipment's used			
Equipment Name	Dig. Pressure Gauge	Dig. Multimeter (6 & 12 Digit)	
Make	RAD Instruments	Fluke	
Model / SR No.	51982105	7587002	
Certificate No.	KR1207022186902	CC-237921300066082F	
Calibration Validity	29/01/2023	30-11-2022	
Calibration by	Kulvin	Khalid Calibration Lab	

Environmental Condition	Temperature	25±3°C	Calibration Reference	
	Relative Humidity	50±10%	Calibration Procedure	CP-56


Calibration Results				
Serial No.	Std. Value in (Bar)	LUC Output Value in (Bar)	Converted Value in (Bar)	Uncertainty At 95% C.L. (Coverage Factor K=2)
01.	0.0	1.000	0.00	±0.6 bar
02.	100.0	8.002	15.927	
03.	200.0	12.071	30.041	
04.	300.0	16.018	45.067	
05.	400.0	20.021	60.079	

Remarks:

- (1) Standard requires a specified accuracy and range & main reference standards.
- (2) The average standard uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by coverage factor k = 2 and 95% coverage probability corresponds approximately 95%. (3) The above results are valid for the time of calibration and the next calibration interval. (4) If any certificate is required only to the purchaser item is valid for calibration. (5) New calibration due date given as requested by the customer.

Calibrated By
Calibration Engr. / TMD
(MUKHTIYAGT)
Form No: QF-17

Approved By
(MUKHTIYAGT)
(NEERAJTYAGT)
Page No: For 1



End of Report

LAB.: F.C.A-3614, S.G.M. NAGAR, NEAR RAJA CHOWK, N.I.T. FARIDABAD-121 001 (HARYANA)
Customer Care : 9654550268, E-mail : asiantech2011@gmail.com


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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022



ASIAN TECHNOLOGY

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CALIBRATION CERTIFICATE

Customer name And Address	M/S: Pyramid Controls System Pvt. Ltd. 146 Mathura Road, Faridabad, Haryana.	Service request No. & date	A/03/14/08/22 & 04/08/22
		U.I.R. no.	CG2239230069 (5010)
		Corr. No.	A/12000015810
		Date of Receipt of DUC	04/08/2022
		Date of calibration	05/08/2022
		Date of issue	06/08/2022
		Suggested due date	04/08/2023

Instrument Details			
Instrument name	Pressure Transmitter	S. No.	1 ADD W95 WBER
Make / Model No.	Wika / ---	Location	----
Range / Size	0 to 40 Bar	Accuracy	----
Test Case	N/A	Visual Inspection	OK
I.D. No.	PT-03		

Detail of reference standards & Major Equipment's used			
Equipment Name	Dig. Pressure Gauge	Dig. Multimeter (6 & 12 Dig)	
Make	R&D Instruments	Fluke	
Model / S.R.No.	51782103	2381302	
Certificate No.	KRUC/2022/307002	CC237922160000083F	
Calibration Validity	2403/2023	04/16/2022	
Calibration by	Kevin	Kevin (Calibration Tech)	

Environmental Condition			
Temperature	23±0.5°C	Calibration Reference	----
Relative Humidity	20-20%	Calibration Procedure	CP-56


Calibration Results				
Serial No.	Std. Value in (bar)	LUC Output Value in (kPa)	Converted Value in (bar)	Uncertainty At 95% C.I. (coverage factor k=2)
01.	0.0	4.060	0.00	±0.6 bar
02.	100.0	8.061	0.010	
03.	200.0	12.063	0.020	
04.	300.0	16.065	0.030	
05.	400.0	20.067	0.040	

Remarks:

- * Calibration equipment is found to be in conformance with the international standards.
- * (1) The reported expansion uncertainty is stated as the standard uncertainty of measurement multiplied by coverage factor k=2 stated for the coverage. Accuracy tolerance is reported in % of (1) The above results are valid in the line of and under the stated conditions unless stated. (2) If a notification is to be made to the provider from subsequent for calibration. (3) Next calibration due date given is requested by the customer.

Calibrated By
(Calibration Engg./TLM)
(M. J. P. P. A. J.)
Form No. QT-07

Approved By
(M/TM)
(N. K. J. P. Y. A. G.)
Page No. 1 of 1




Final Report

LAB.: F.C.A.-3614, S.G.M. NAGAR, NEAR RAJA CHOWK, N.I.T. FARIDABAD-121 001 (HARYANA)
Customer Care : 9654560258, E-mail : asiantech2011@gmail.com


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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022



ASIAN TECHNOLOGY

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CALIBRATION CERTIFICATE

Customer name And Address	M/S: Pyramid Controls System Pvt. Ltd. 146, Mathura Road, Faridabad, Haryana.	Service request No. & date I.P.R. No. Cen. No. Date of Receipt of D/C Date of calibration Date of issue Suggested due date	A/6304/08/22 & 04/08/22 CX223922000150127 AT20000121012 04/08/2022 05/08/2022 06/08/2022 04/08/2023
Instrument Details			
Instrument name	Pressure Transmitter	S. No.	1A013U0904
Make / Model No.	Wika / 400	Location	
Range / Size	0 to 100 Bar	Accuracy	
Leak Class	N/A	Visual Inspection	OK
L.D. No.	PI-05		
Detail of reference standards & Major Equipment's used			
Equipment Name	Dig. Pressure Gauge	E.g. Calibration/6&1/2/10g	
Make	R&D Instruments	Make	
Model / S.N. No.	DPG 300 / 50912102	Make	2881002
Certificate No.	KRCG/3012/R2005	Calibration No.	09/12/2022
Calibration Validity	2003/2021	Calibration Validity	09/12/2022
Calibrated by	Kelvin	Calibration Lab	Kemshi Calibration Lab
Environmental Condition	Temperature : 28.4°C Relative Humidity : 30.21%	Calibration Reference	Calibration Procedure : CP-56


Serial No.	Std. Value in (bar)	UI-47 Output Value in (mV)	Converted Value in (bar)	Uncertainty At 95% C.I., coverage factor K=2
01	0.0	4.000	0.000	±0.6 bar
02	100.0	8.004	25.025	
03	200.0	12.017	50.051	
04	300.0	16.027	75.131	
05	400.0	20.027	100.160	

Remarks:

- ⊛ All sections of instrument's requirements were checked against the reference standards.
- ⊛ The required extended uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by coverage factor k=2 such that it is coverage probability equivalent to approximately 95%. Ⓢ The above results are valid at the time of and under the stated conditions mentioned in this certificate. There is no liability to the purchaser from submitted calibration if the calibration is not used within the duration as specified by the customer.

Calibrated By:
(Calibration Engg./IMJ)
(MANKAPATI)
Form No. QT-13

Approved By:
(QA/IMJ)
(NEERANJAGI)
Page No. 1 of 1



-----End of Report-----

LAB.: F.C.A.-3614, S.G.M. NAGAR, NEAR RAJA CHOWK, N.I.T. FARIDABAD-121 001 (HARYANA)
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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

Hydraulic Testing System Dimensions

LENGTH – 1103 ±6 mm

WIDTH – 1250 ±6 mm

HEIGHT – 2000 ±6 mm

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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

11. Hydraulic Testing System - Photograph showing User Interface Points



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022



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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

12. 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 relief valve.**
- 6. Please ensure that door of the System must be close during testing.**

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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

13. 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 Outlet Test Hose to UUT
5. Check all Hose connections should be fully tightened.

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End Customer Details	User Manual For	Enquiry Details
BHEL VISAKHAPATNAM	TEST RIG FOR PRESSURE LOSS TEST & LEAK TEST	GEMC- 511687727113463, DATED : 02-JUN-2022

14. Sales /Service/Support Contact Details

Neometrix Engineering Pvt. Ltd.

E-148, Sector-63, NOIDA, UP-201301

Office: Phone: +91-120-4500800 (100Lines)

Fax: +91-1204500888 | Mob: +917777876876

email: contact@neometrixgroup.com

www.neometrixgroup.com

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