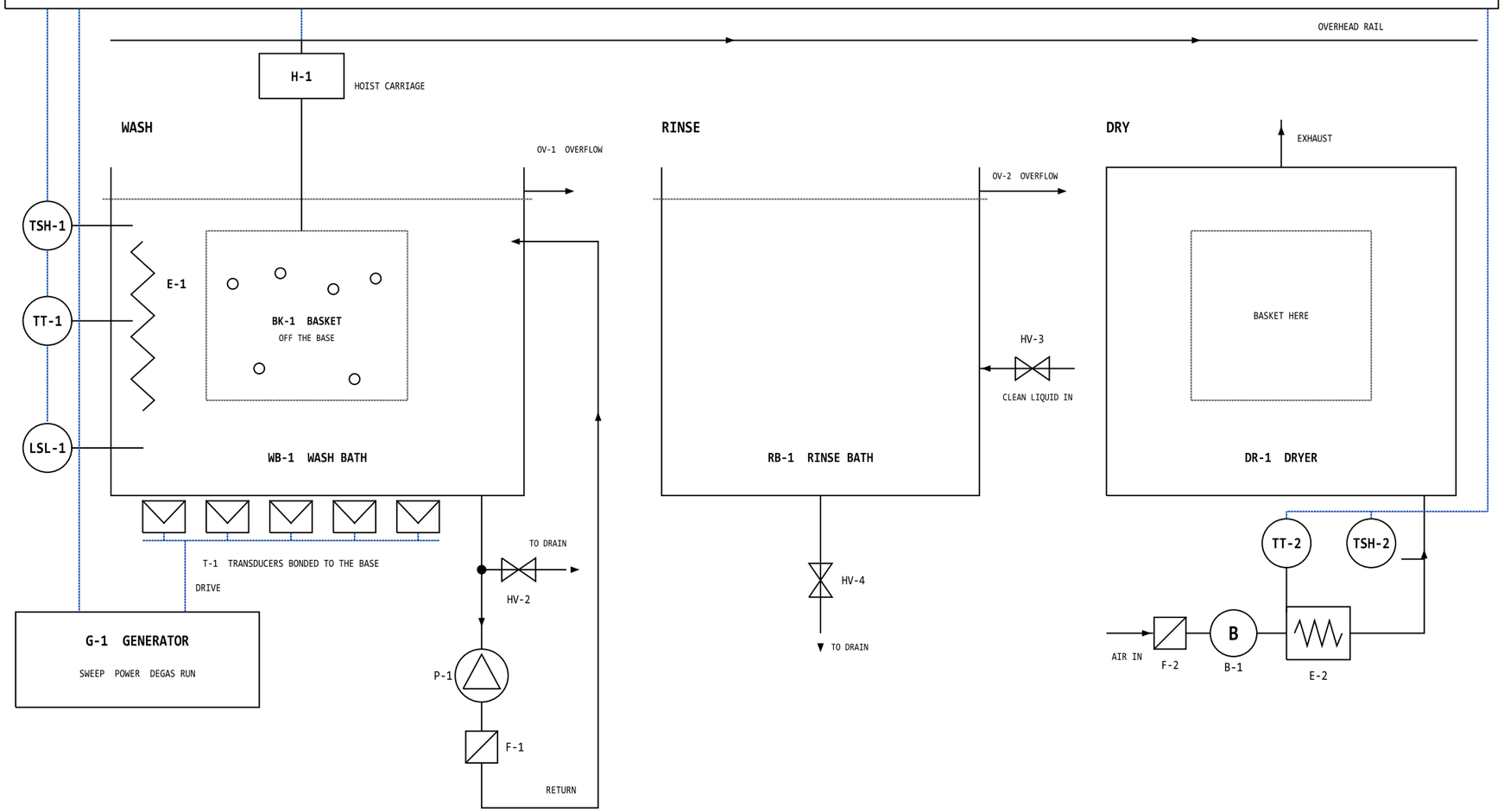
LCP-1 MACHINE CONTROLLER

CYCLE TIMER - DEGAS RUN - SWEEP - TEMPERATURE - INTERLOCKS - HOIST SEQUENCE - ONE RECORD FOR EACH BATCH



ULTRASONIC CLEANING MACHINE - PROCESS AND INSTRUMENT SCHEMATIC

NOT TO SCALE - TAGS ONLY, NO PROCESS VALUES

LEGEND

- PUMP
- TRANSDUCER
- XX-1 INSTRUMENT (TAG)
- HAND VALVE
- B BLOWER
- PROCESS LINE
- STRAINER OR FILTER
- BASKET (HELD OFF THE BASE)
- SIGNAL AND DRIVE
- HEATER
- CHECK VALVE
- LIQUID LEVEL

NOTES

1. REFERENCE SCHEMATIC OF AN ULTRASONIC CLEANING MACHINE WITH WASH, RINSE AND DRY STATIONS. TAGS ONLY: NO FREQUENCY, POWER, TEMPERATURE, TIME OR SIZE VALUE IS GIVEN.
2. THE CYCLE IS FILL, DEGAS, LOAD, CLEAN, RINSE, DRY. THE BASKET BK-1 IS CARRIED BETWEEN STATIONS BY THE HOIST CARRIAGE H-1 ON THE OVERHEAD RAIL.
3. DEGAS: WB-1 IS FILLED AND G-1 RUNS THE TRANSDUCERS T-1 WITH NOTHING IN THE BATH UNTIL THE DISSOLVED GAS HAS GONE. LCP-1 WILL NOT RELEASE THE LOAD UNTIL THE DEGAS RUN IS COMPLETE.
4. T-1 ARE BONDED TO THE BASE OF WB-1 IN AN EVEN PATTERN. G-1 SWEEPS ITS FREQUENCY SO THAT NO PART SITS IN A DEAD SPOT FOR THE WHOLE CYCLE.
5. BK-1 IS HELD OFF THE BASE AND THE LOAD IS SPACED SO THAT THE SOUND CAN PASS THROUGH IT. THE HOIST LOWERS AND RAISES IT WITHOUT A KNOCK.
6. E-1 HOLDS THE WORKING TEMPERATURE READ BY TT-1. TSH-1 CUTS E-1 ON OVER-TEMPERATURE. LSL-1 STOPS E-1 AND G-1 SO THAT NEITHER RUNS DRY.
7. P-1 AND F-1 CIRCULATE THE LIQUID AND TAKE OUT WHAT HAS COME OFF. OV-1 TAKES THE FLOATING OIL. HV-2 DRAINS WB-1 AT THE BASE.
8. RB-1 IS FED WITH CLEAN LIQUID THROUGH HV-3 AND OVERFLOWS AT OV-2, CARRYING AWAY THE DIRTY LIQUID AND THE DETERGENT. HV-4 DRAINS RB-1.
9. DR-1 DRIES THE LOAD WITH WARM AIR FROM B-1 AND E-2 THROUGH F-2. TT-2 READS THE AIR TEMPERATURE AND TSH-2 CUTS E-2 ON OVER-TEMPERATURE.
10. LCP-1 KEEPS ONE RECORD FOR EACH BATCH. THE SIGNALS DRAWN ARE THE ONES THAT HOLD OR RELEASE THE CYCLE. THE MACHINE IS FOR WATER-BASED SOLUTIONS, NOT FOR FLAMMABLE SOLVENTS.
11. TRANSDUCERS, GENERATOR, PUMP, FILTERS, HEATERS, BLOWER, HOIST AND CONTROLLER ARE CATALOGUE ITEMS, BOUGHT IN. FOR THE PROCESS SEE ASTM G131.

HOLDS AND RELEASES

CAUSE	EFFECT
LSL-1 LOW LEVEL IN WB-1	STOP E-1 AND G-1
TSH-1 BATH OVER-TEMPERATURE	CUT E-1, ALARM
G-1 DEGAS RUN NOT COMPLETE	NO RELEASE TO LOAD
TT-1 TEMPERATURE OUT OF BAND	HOLD THE CLEAN CYCLE
TSH-2 DRYER OVER-TEMPERATURE	CUT E-2, ALARM
H-1 HOIST AT ITS TRAVEL LIMIT	STOP THE HOIST

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED
ENGINEERED IN NOIDA - INDIA

ULTRASONIC CLEANING MACHINE - REFERENCE CONFIGURATION

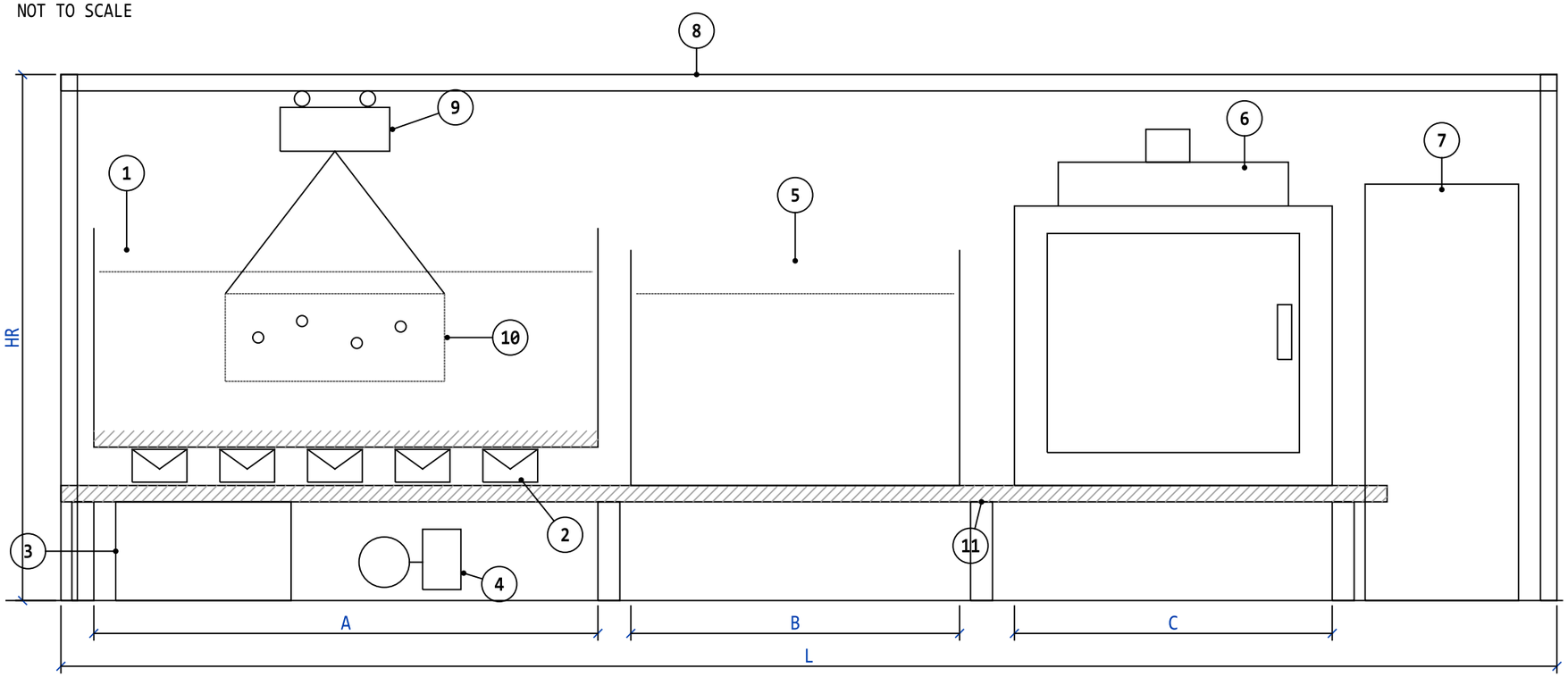
PROCESS AND INSTRUMENT SCHEMATIC

WASH, RINSE AND DRY STATIONS WITH HOIST AND BASKET

DWG NO	SCALE @ A3	SHEET	REV
NMX-UCM-87-001	NTS	1 OF 2	A
DATE	UNITS	DRAWN	STATUS
02-11-2026	TAGS ONLY	NMX-DO	REFERENCE

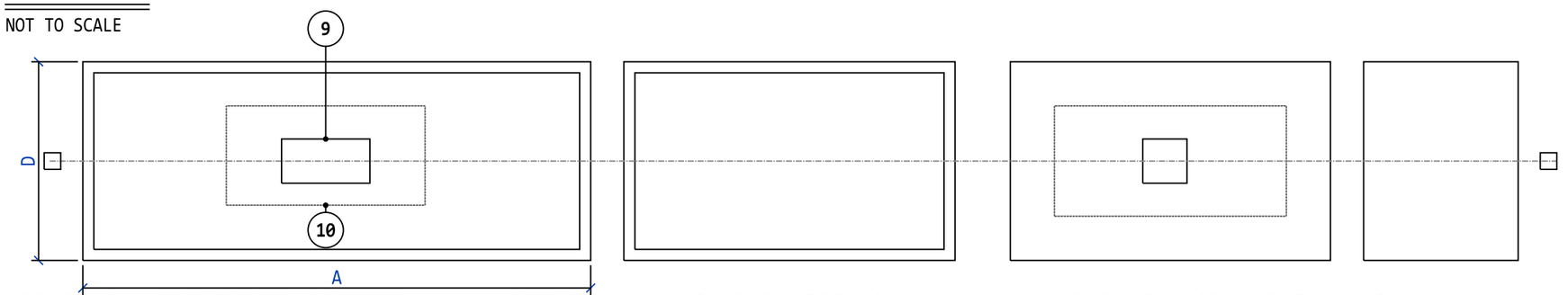
FRONT ELEVATION

NOT TO SCALE



PLAN

NOT TO SCALE



NOTES

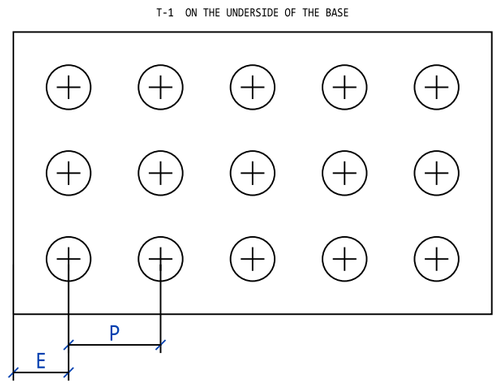
1. REFERENCE ARRANGEMENT OF A WASH, RINSE AND DRY LINE WITH AN OVERHEAD HOIST. THE LETTERS ARE DIMENSIONS SET BY DESIGN: NO SIZE, POWER, FREQUENCY OR TEMPERATURE VALUE IS GIVEN.
2. L IS THE OVERALL LENGTH. A, B AND C ARE THE LENGTHS OF THE WASH BATH, THE RINSE BATH AND THE DRYER. D IS THE DEPTH ACROSS THE LINE. HR IS THE HEIGHT TO THE RAIL.
3. DETAIL A: THE TRANSDUCERS T-1 ARE BONDED UNDER THE BASE AT AN EVEN PITCH P WITH AN EDGE DISTANCE E, SO THAT THE SOUND SPREADS ACROSS THE WHOLE BATH.
4. DETAIL B: THE BASKET IS HELD A DISTANCE H ABOVE THE BASE AND THE LOAD IS SPACED. THE HEATER E-1 STANDS AGAINST THE WALL, ALWAYS COVERED. OV-1 TAKES THE FLOATING OIL.
5. DETAIL C: SOUND IN A BATH FORMS STANDING WAVES, WITH PEAKS THAT CLEAN WELL AND NODES THAT BARELY CLEAN. THE SWEEP OF G-1 MOVES THEM. W IS THE SPACING OF THE NODES.
6. THE BATHS AND THE FRAME ARE STAINLESS, FOR WATER-BASED SOLUTIONS. CATALOGUE ITEMS ARE BOUGHT IN. THE CYCLE AND THE SIGNALS ARE ON SHEET 001.

ITEMS

ITEM	DESCRIPTION
1	WASH BATH WB-1
2	TRANSDUCERS T-1
3	GENERATOR CABINET G-1
4	PUMP P-1 AND FILTER F-1
5	RINSE BATH RB-1
6	DRYER DR-1
7	CONTROL CABINET LCP-1
8	OVERHEAD RAIL
9	HOIST CARRIAGE H-1
10	BASKET BK-1
11	FRAME

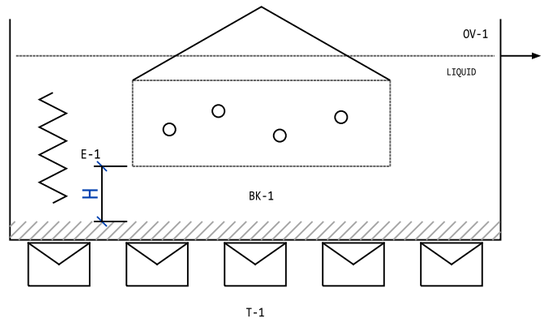
DETAIL A - TRANSDUCER PATTERN

NOT TO SCALE



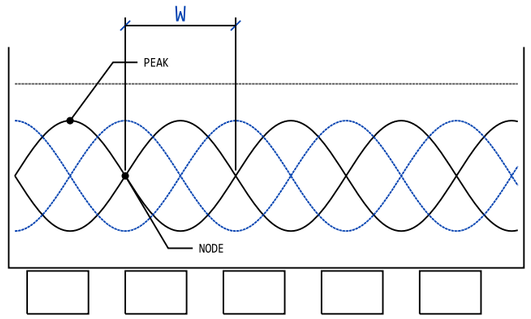
DETAIL B - WASH BATH SECTION

NOT TO SCALE



DETAIL C - STANDING WAVES

NOT TO SCALE



SOLID: BEFORE THE SWEEP
BLUE: AFTER THE SWEEP

THE SWEEP MOVES THE PEAKS AND THE NODES

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED

ENGINEERED IN NOIDA - INDIA

ULTRASONIC CLEANING MACHINE - REFERENCE CONFIGURATION

GENERAL ARRANGEMENT AND DETAILS

WASH, RINSE AND DRY LINE, TRANSDUCER PATTERN, BATH SECTION

DWG NO	SCALE @ A3	SHEET	REV
NMX-UCM-87-002	NTS	2 OF 2	A
DATE	UNITS	DRAWN	STATUS
02-11-2026	TAGS ONLY	NMX-DO	REFERENCE