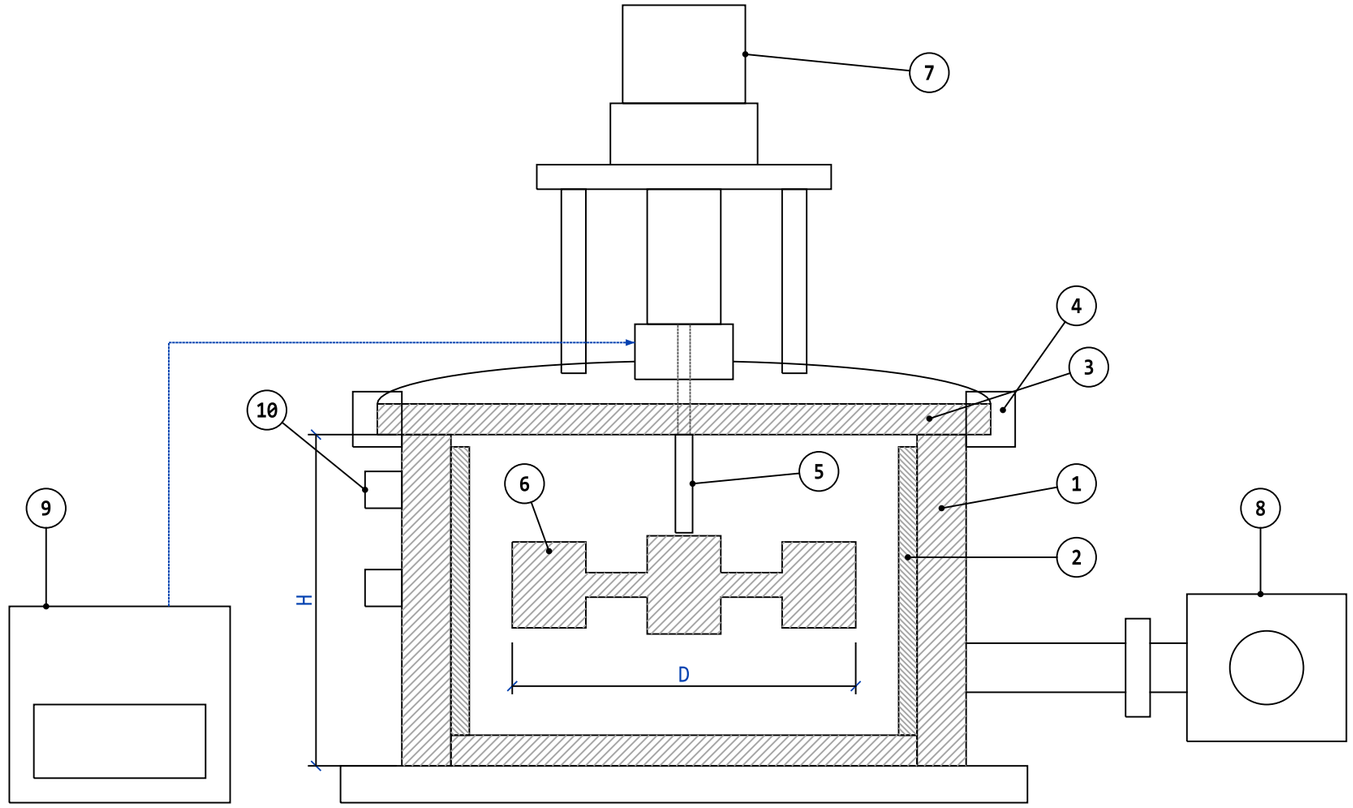
SECTION - ROTOR SPIN TEST FACILITY

NOT TO SCALE



THE ROTOR HANGS FROM A FLEXIBLE SPINDLE IN A CHAMBER FROM WHICH THE AIR IS REMOVED; THE DRIVE SITS ON THE LID; THE HOSE, DRAWN DASHED, FEEDS THE SPINDLE BEARINGS
THE LINER AND THE OUTER RINGS ARE BUILT FOR THE ENERGY AT THE TOP SPEED; THE LID LOCKS HOLD THE LID UNTIL THE ROTOR HAS STOPPED
D IS THE DIAMETER OF THE ROTOR; H IS THE HEIGHT OF THE CHAMBER

NOTES

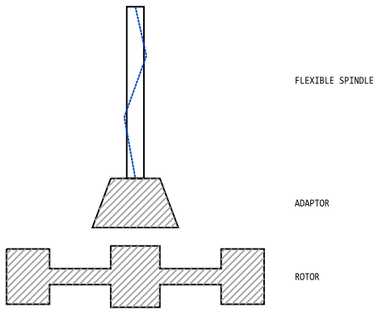
1. REFERENCE ARRANGEMENT OF A ROTOR SPIN TEST FACILITY. LETTERS ARE DIMENSIONS SET BY DESIGN: NO SPEED, ENERGY, MASS, PRESSURE OR SIZE VALUE IS GIVEN.
2. THE SECTION SHOWS THE SPIN CHAMBER WITH ITS OUTER RINGS AND ITS CONTAINMENT LINER, THE LID WITH ITS TWO LOCKS, THE FLEXIBLE SPINDLE HANGING THROUGH THE LID WITH THE ROTOR ON IT, THE DRIVE ON ITS PEDESTAL, THE VACUUM PUMP AND THE OIL SKID. D IS THE DIAMETER OF THE ROTOR AND H THE HEIGHT OF THE CHAMBER.
3. DETAIL A: THE LONG, SLENDER SPINDLE AND THE ADAPTOR THAT SEATS THE ROTOR. DETAIL B: THE LINER IN SECTION, FREE TO TURN, WITH THE OUTER RINGS BEHIND IT.
4. DETAIL C: THE LID LOCK, HELD FOR THE RUN AND RELEASED ONLY WHEN THE SPEED SIGNAL SS-1 SAYS THE ROTOR HAS STOPPED.
5. THE CONTROL AND TRIP CHAIN AND THE CURVE OF ENERGY AGAINST SPEED ARE ON SHEET 002. THE CHAMBER, THE PUMPS, THE MOTOR, THE BEARINGS AND THE INSTRUMENTS ARE CATALOGUE ITEMS, BOUGHT IN. NOBODY STANDS NEAR AN OPEN CHAMBER WITH A ROTOR IN IT.

ITEMS

ITEM	DESCRIPTION
1	SPIN CHAMBER
2	CONTAINMENT LINER
3	LID
4	LID LOCK
5	FLEXIBLE SPINDLE
6	ROTOR UNDER TEST
7	DRIVE, MOTOR AND STAGE
8	VACUUM PUMP
9	OIL SKID
10	INSTRUMENT PORT

DETAIL A - THE SPINDLE

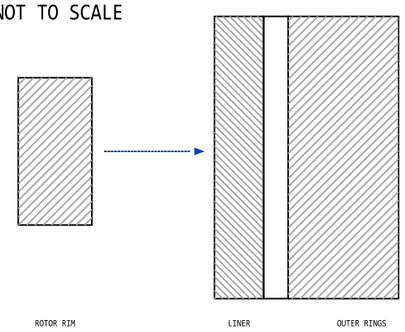
NOT TO SCALE



THE ROTOR HANGS FROM A LONG, SLENDER SPINDLE THAT BENDS A LITTLE; THE ADAPTOR SEATS EACH ROTOR THE SAME WAY EVERY TIME

DETAIL B - THE LINER

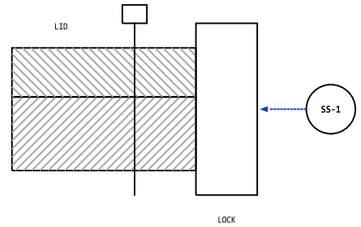
NOT TO SCALE



THE LINER TAKES THE PIECES AND THE SPIN THEY CARRY, AND THE OUTER RINGS HOLD THE LINER; THE LID AND ITS LOCKS ARE PART OF THE SAME DESIGN

DETAIL C - THE LID LOCK

NOT TO SCALE



THE LOCK HOLDS THE LID FOR THE RUN AND IS RELEASED ONLY WHEN THE SPEED SIGNAL SS-1 SAYS THE ROTOR HAS STOPPED

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED
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ROTOR SPIN TEST FACILITY - REFERENCE CONFIGURATION

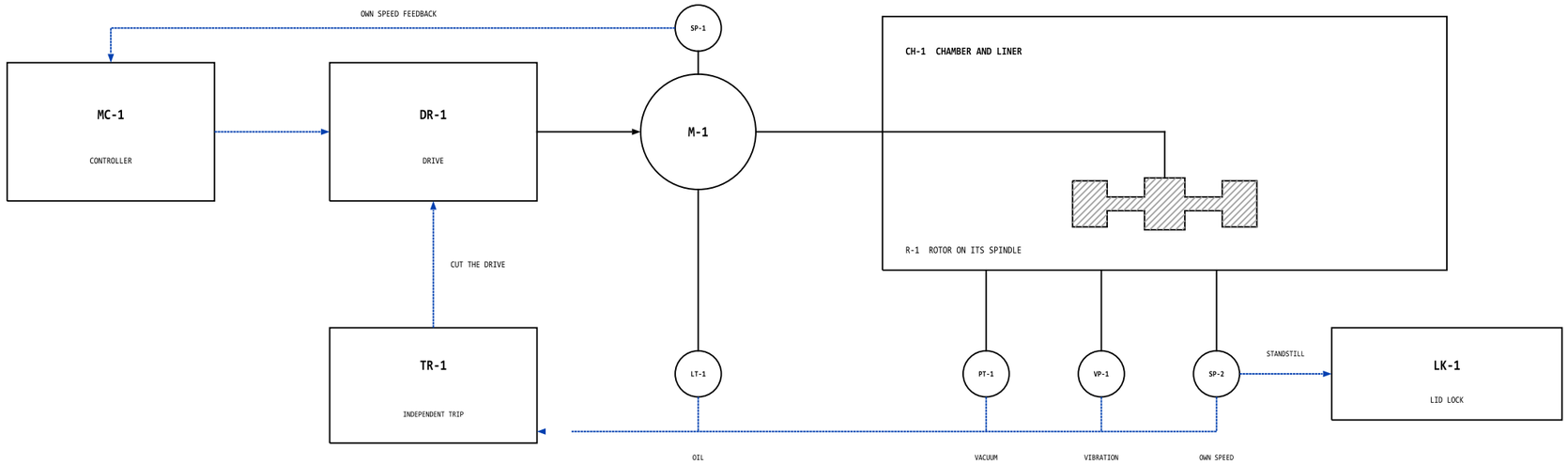
ARRANGEMENT AND DETAILS

THE CHAMBER, THE SPINDLE, THE LINER AND THE LID LOCK

DWG NO	SCALE @ A3	SHEET	REV
NMX-RST-106-001	NTS	1 OF 2	A
DATE	UNITS	DRAWN	STATUS
16-11-2026	TAGS ONLY	NMX-DO	REFERENCE

CONTROL AND TRIP CHAIN - ROTOR SPIN TEST FACILITY

NOT TO SCALE



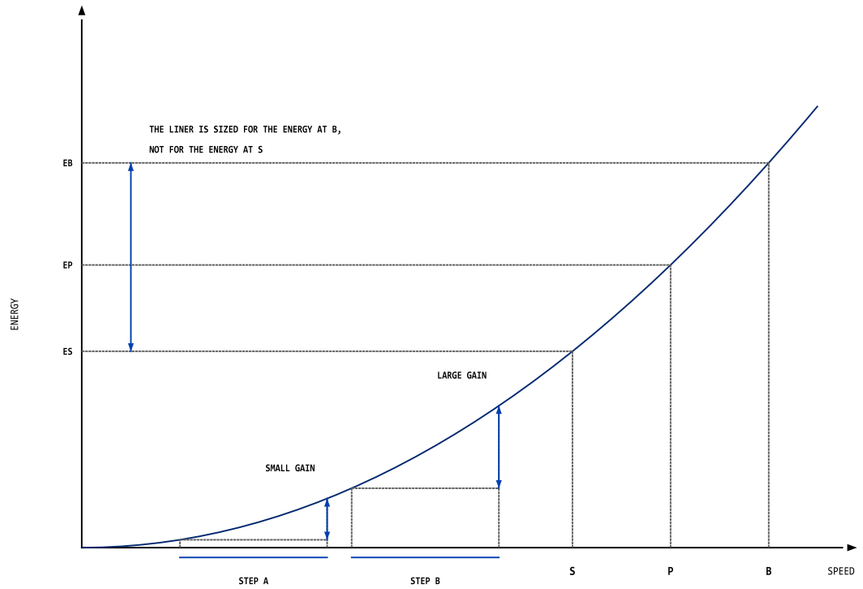
THE CONTROLLER MC-1 SETS THE RAMP OF THE DRIVE DR-1 AND THE MOTOR M-1, FROM ITS OWN SPEED FEEDBACK SP-1
THE TRIP TR-1 IS A CIRCUIT OF ITS OWN: IT TAKES ITS OWN SPEED SENSOR SP-2, THE VIBRATION PROBE VP-1, THE CHAMBER PRESSURE PT-1 AND THE OIL SENSOR LT-1
AND CUTS THE DRIVE WITHOUT ASKING THE CONTROLLER; THE LID LOCK LK-1 IS RELEASED ONLY ON A STANDSTILL SIGNAL FROM SP-2
THE CHAMBER CH-1 HOLDS THE ROTOR R-1 ON ITS SPINDLE; THE LINER AND THE LID LOCK KEEP WHAT LETS GO IN THE CHAMBER

NOTES

1. REFERENCE CONTROL AND TRIP CHAIN OF A ROTOR SPIN TEST FACILITY. TAGS AND LETTERS ONLY: NO SPEED, ENERGY, MASS, PRESSURE OR SIZE VALUE IS GIVEN.
2. THE CONTROLLER MC-1 SETS THE RAMP OF THE DRIVE DR-1 AND THE MOTOR M-1 FROM ITS OWN SPEED FEEDBACK SP-1. THE TRIP TR-1 IS A CIRCUIT OF ITS OWN: IT TAKES ITS OWN SPEED SENSOR SP-2, THE VIBRATION PROBE VP-1, THE CHAMBER PRESSURE PT-1 AND THE OIL SENSOR LT-1, AND CUTS THE DRIVE WITHOUT ASKING THE CONTROLLER.
3. THE LID LOCK LK-1 IS RELEASED ONLY ON A STANDSTILL SIGNAL FROM SP-2. THE CHAMBER CH-1 AND ITS LINER HOLD WHAT THE ROTOR R-1 CAN RELEASE.
4. DETAIL A: ENERGY AGAINST SPEED. STEP A AND STEP B ARE EQUAL STEPS OF SPEED, AND STEP B BUYS MORE ENERGY. S, P AND B MARK THE WORKING SPEED, A PROOF OVERSPEED AND A BURST TEST. THE LINER IS SIZED FOR THE ENERGY AT B, NOT AT S.
5. THE CURVE IS COMPUTED FROM THE STORED ENERGY OF A SPINNING ROTOR, IN UNITS OF THE ENERGY AT THE WORKING SPEED. A PICTURE OF THE IDEA, NOT A MEASUREMENT.
6. THE ARRANGEMENT AND THE DETAILS ARE ON SHEET 001. THE CHAMBER, THE PUMPS, THE MOTOR, THE BEARINGS AND THE INSTRUMENTS ARE CATALOGUE ITEMS, BOUGHT IN. NOBODY STANDS NEAR AN OPEN CHAMBER WITH A ROTOR IN IT.

DETAIL A - ENERGY AGAINST SPEED

NOT TO SCALE - COMPUTED



S IS THE WORKING SPEED, P A PROOF OVERSPEED AND B THE SPEED OF A BURST TEST; ES, EP AND EB ARE THE ENERGY AT EACH
EQUAL STEPS OF SPEED BUY MORE AND MORE ENERGY: THE ENERGY GOES WITH THE SQUARE OF THE SPEED, SO SPEED SQUARES THE ENERGY
THE CURVE IS COMPUTED FROM THE STORED ENERGY OF A SPINNING ROTOR, IN UNITS OF THE ENERGY AT S: A PICTURE OF THE IDEA

WHAT EACH STEP DOES

STEP	WHAT HAPPENS
1 DUTY	THE ROTORS, THE SPEEDS, THE TESTS AND THE RUNS ARE SET OUT
2 SPINDLE	SPINDLE AND ADAPTORS ARE MATCHED TO THE ROTOR FAMILY
3 CHAMBER	CHAMBER, LID AND VACUUM ARE SIZED SO THE DRIVE CAN REACH SPEED
4 DRIVE	MOTOR, SPEED-UP STAGE AND OIL ARE MATCHED TO THE RAMP
5 CONTAIN	LINER, LID LOCK AND TRIPS ARE BUILT AS ONE CHAIN
6 PROVE	A PROVING ROTOR IS SPUN IN STEPS AND EVERY TRIP IS TRIED

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED
ENGINEERED IN NOIDA - INDIA

ROTOR SPIN TEST FACILITY - REFERENCE CONFIGURATION

CONTROL CHAIN AND THE CURVE

THE CONTROL AND TRIP CHAIN AND THE ENERGY AGAINST THE SPEED

DWG NO	SCALE @ A3	SHEET	REV
NMX-RST-106-002	NTS	2 OF 2	A
DATE	UNITS	DRAWN	STATUS
16-11-2026	TAGS ONLY	NMX-DO	REFERENCE