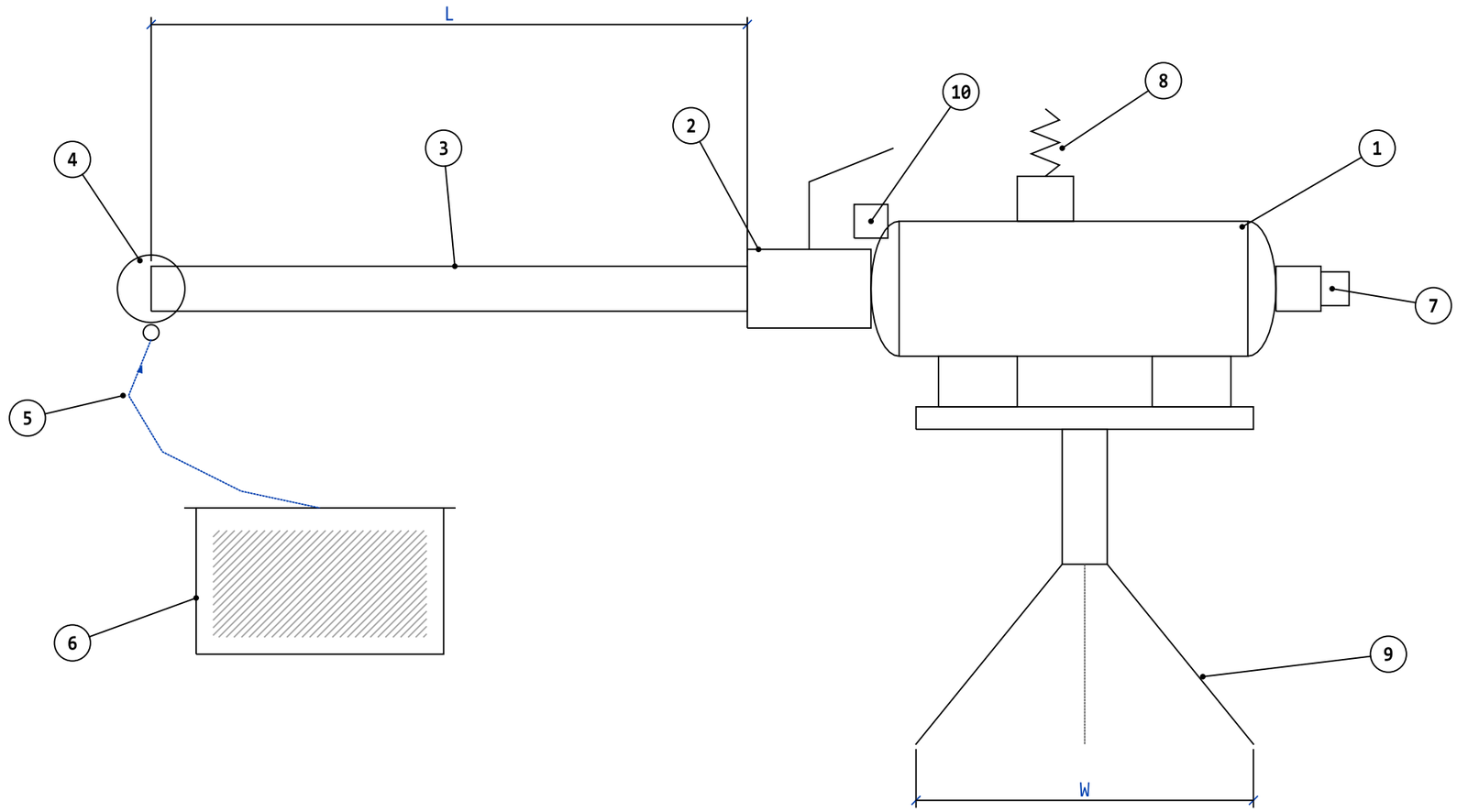
SIDE ELEVATION - STAND-MOUNTED THROWER

NOT TO SCALE



STORED AIR DRIVES THE HEAD OUT OF THE TUBE; THE HEAD DRAGS THE LINE OUT OF ITS CONTAINER, DRAWN DASHED
THE RESERVOIR HAS ITS OWN RELIEF VALVE; THE SAFETY CATCH HOLDS THE QUICK-RELEASE VALVE SHUT
L IS THE LENGTH OF THE TUBE; W IS THE SPREAD OF THE LEGS

NOTES

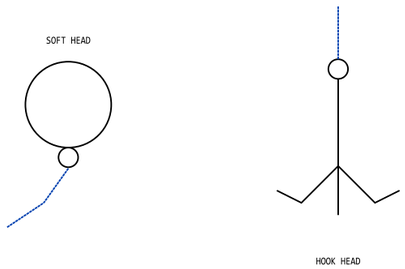
1. REFERENCE ARRANGEMENT OF A STAND-MOUNTED PNEUMATIC LINE THROWER. LETTERS ARE DIMENSIONS SET BY DESIGN: NO DISTANCE, PRESSURE, MASS, TIME OR SIZE VALUE IS GIVEN.
2. THE SIDE ELEVATION SHOWS THE AIR RESERVOIR IN ITS CRADLES ON A TRIPOD STAND, THE QUICK-RELEASE VALVE WITH ITS LEVER AND SAFETY CATCH, THE RELIEF VALVE, THE CHARGING CONNECTION, THE THROW TUBE WITH THE HEAD IN ITS MOUTH, AND THE LINE, DRAWN DASHED, RUNNING DOWN TO ITS CONTAINER. L IS THE LENGTH OF THE TUBE AND W THE SPREAD OF THE LEGS.
3. DETAIL A: A SOFT HEAD AND A HOOK HEAD, EACH JOINED TO ITS LINE BY A JOINT STRONGER THAN THE LINE.
4. DETAIL B: THE QUICK-RELEASE VALVE IN SECTION. CLOSED, IT HOLDS THE AIR IN THE RESERVOIR; OPEN, THE AIR GOES AT ONCE INTO THE TUBE BEHIND THE HEAD.
5. DETAIL C: THE LINE CONTAINER IN SECTION. THE LINE LIES IN LAYERS AND LEAVES FROM THE CENTRE IN THE ORDER IT WENT IN, WITH NOTHING TO SNAG IT.
6. THE AIR CIRCUIT, THE CURVE OF RANGE AGAINST AIR AND THE STEPS ARE ON SHEET 002. THE RESERVOIR, THE VALVES, THE TUBE, THE LINE AND THE SEALS ARE CATALOGUE ITEMS, BOUGHT IN. THE THROWER IS NEVER POINTED AT A PERSON.

ITEMS

ITEM	DESCRIPTION
1	AIR RESERVOIR
2	QUICK-RELEASE VALVE
3	THROW TUBE
4	HEAD
5	LINE
6	LINE CONTAINER
7	CHARGING CONNECTION
8	RELIEF VALVE
9	TRIPOD STAND
10	SAFETY CATCH

DETAIL A - THE HEADS

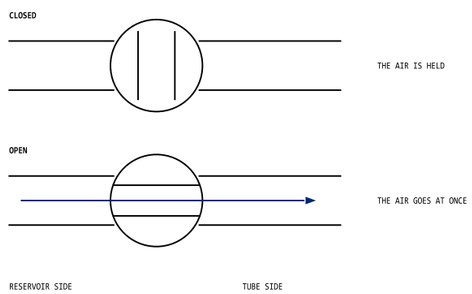
NOT TO SCALE



EACH HEAD IS JOINED TO ITS LINE BY A JOINT
STRONGER THAN THE LINE; THE SOFT HEAD IS
WEIGHTED, AND THE HOOK HEAD CATCHES ON THE FAR SIDE

DETAIL B - THE QUICK-RELEASE VALVE

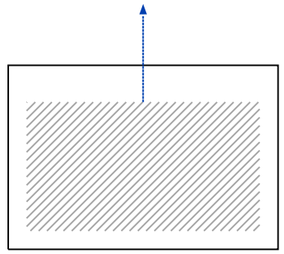
NOT TO SCALE



OPEN, THE AIR GOES INTO THE TUBE BEHIND THE HEAD
AND A QUICK VALVE GIVES THE HEAD ITS SPEED

DETAIL C - THE LINE CONTAINER

NOT TO SCALE



THE LINE LIES IN LAYERS AND LEAVES FROM
THE CENTRE IN THE ORDER IT WENT IN,
WITH NOTHING TO SNAG IT

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED
ENGINEERED IN NOIDA - INDIA

PNEUMATIC LINE THROWER - REFERENCE CONFIGURATION

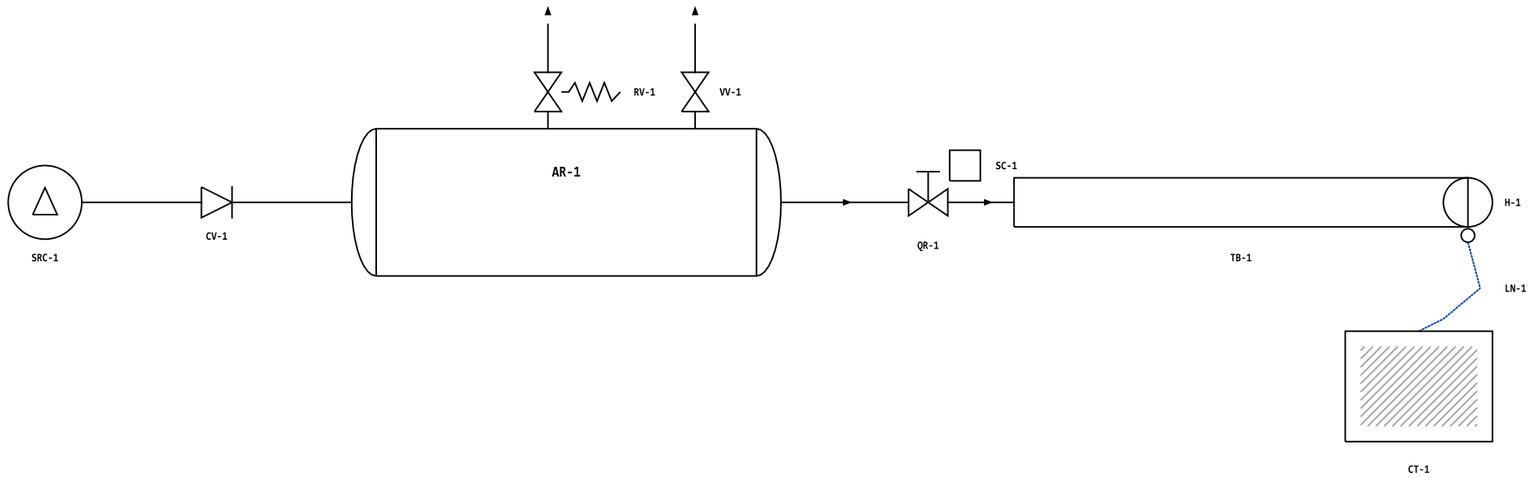
ARRANGEMENT AND DETAILS

THE THROWER, THE HEADS, THE VALVE AND THE LINE CONTAINER

DWG NO	SCALE @ A3	SHEET	REV
NMX-PLT-105-001	NTS	1 OF 2	A
DATE	UNITS	DRAWN	STATUS
16-11-2026	TAGS ONLY	NMX-DO	REFERENCE

AIR CIRCUIT - STAND-MOUNTED THROWER

NOT TO SCALE



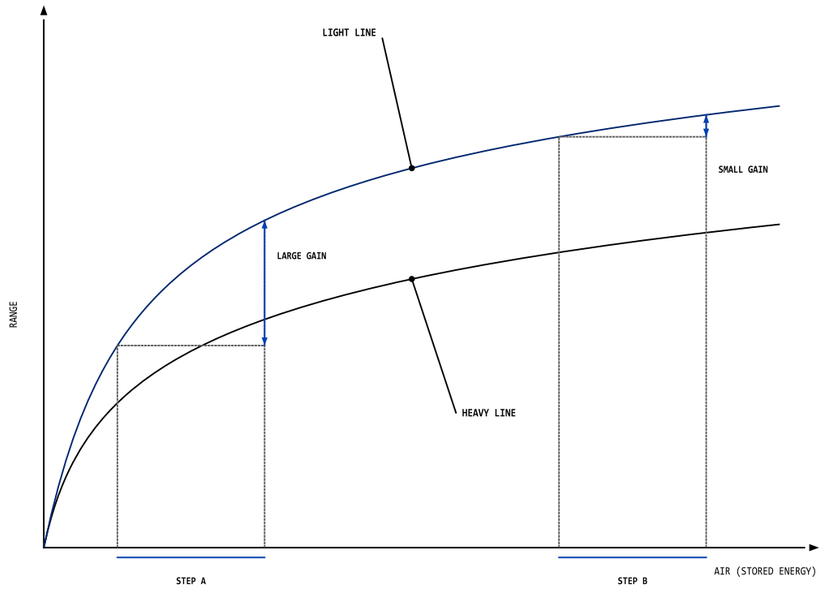
THE SOURCE SRC-1 FILLS THE RESERVOIR AR-1 THROUGH THE CHECK VALVE CV-1; THE RELIEF VALVE RV-1 LETS THE EXCESS GO
THE VENT VALVE VV-1 EMPTIES THE RESERVOIR BEFORE THE THROWER IS PUT AWAY
THE SAFETY CATCH SC-1 HOLDS THE QUICK-RELEASE VALVE QR-1 SHUT; OPENED, QR-1 LETS THE AIR INTO THE TUBE TB-1 BEHIND THE HEAD H-1
THE LINE LN-1 LEAVES ITS CONTAINER CT-1 BEHIND THE HEAD; HEAVY LINE IS AIR, THE BLUE DASHED LINE IS THE THROWN LINE

NOTES

1. REFERENCE AIR CIRCUIT OF A STAND-MOUNTED PNEUMATIC LINE THROWER. TAGS AND LETTERS ONLY: NO DISTANCE, PRESSURE, MASS, TIME OR SIZE VALUE IS GIVEN.
2. THE AIR CIRCUIT: THE SOURCE SRC-1, A HAND PUMP, A CYLINDER OR A COMPRESSOR, FILLS THE RESERVOIR AR-1 THROUGH THE CHECK VALVE CV-1. THE RELIEF VALVE RV-1 IS SET BELOW THE RATING OF THE RESERVOIR AND THE VENT VALVE VV-1 EMPTIES IT.
3. THE SAFETY CATCH SC-1 HOLDS THE QUICK-RELEASE VALVE QR-1 SHUT. WHEN IT IS OPENED THE AIR GOES AT ONCE INTO THE THROW TUBE TB-1 BEHIND THE HEAD H-1, AND THE HEAD DRAGS THE LINE LN-1 OUT OF ITS CONTAINER CT-1.
4. DETAIL A: RANGE AGAINST THE AIR FOR A LIGHT LINE AND A HEAVY LINE. THE SAME STEP OF AIR, STEP A AND STEP B, BUYS A LARGE GAIN EARLY AND A SMALL GAIN LATE, AND THE HEAVY LINE SETS A LOWER CEILING.
5. THE CURVES ARE COMPUTED FROM A SIMPLE MODEL: A HEAD DRAGGING A LINE OUT OF A FIXED CONTAINER, WITH AIR DRAG ON THE HEAD AND ON THE LINE, IN UNITS OF THE LIGHT LINE'S RANGE AT THE MOST AIR. A PICTURE OF THE IDEA, NOT A MEASUREMENT.
6. THE ARRANGEMENT AND THE DETAILS ARE ON SHEET 001. THE RESERVOIR, THE VALVES, THE TUBE, THE LINE AND THE SEALS ARE CATALOGUE ITEMS, BOUGHT IN. THE THROWER IS NEVER POINTED AT A PERSON.

DETAIL A - RANGE AGAINST THE AIR

NOT TO SCALE - COMPUTED



THE SAME STEP OF AIR BUYS A LARGE GAIN AT FIRST AND A SMALL GAIN LATER, FOR A LIGHT LINE
AND THE HEAVY LINE SETS A LOWER CEILING WHATEVER THE AIR: THE LINE SETS THE RANGE
THE CURVES ARE COMPUTED FROM A SIMPLE MODEL OF A HEAD DRAGGING A LINE OUT OF A FIXED CONTAINER: A PICTURE OF THE IDEA

WHAT EACH STEP DOES

STEP	WHAT HAPPENS
1 DUTY	THE GAP, THE LANDING AREA AND THE LINE THAT FOLLOWS ARE SET OUT
2 RESERVOIR	RESERVOIR, RELIEF VALVE AND QUICK-RELEASE VALVE ARE MATCHED TO HEAD AND LINE
3 TUBE	THE TUBE AND THE HEAD ARE MATCHED; THE JOINT IS STRONGER THAN THE LINE
4 LINE	THE LINE AND ITS CONTAINER ARE CHOSEN TOGETHER, AS LIGHT AS THE JOB ALLOWS
5 BUILD	RESERVOIR, VALVES, TUBE AND CONTAINER ARE BUILT, FITTED AND CHECKED
6 PROVE	PRESSURE TEST, RELIEF VALVE CHECK AND REPEATED PROVING THROWS

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED
ENGINEERED IN NOIDA - INDIA

PNEUMATIC LINE THROWER - REFERENCE CONFIGURATION

AIR CIRCUIT AND THE CURVE

THE AIR CIRCUIT AND THE RANGE AGAINST THE AIR

DWG NO	SCALE @ A3	SHEET	REV
NMX-PLT-105-002	NTS	2 OF 2	A
DATE	UNITS	DRAWN	STATUS
16-11-2026	TAGS ONLY	NMX-DO	REFERENCE