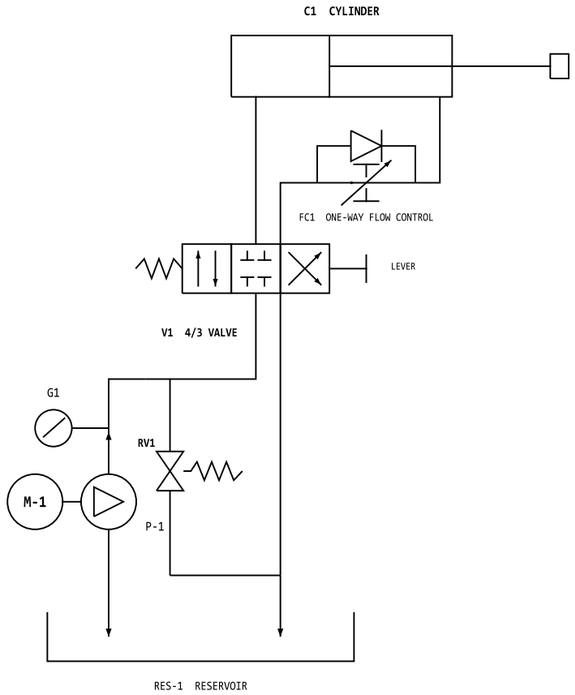
FLUID POWER TRAINING WORKSTATION - REFERENCE EXERCISE CIRCUITS

NOT TO SCALE - TAGS ONLY, NO PROCESS VALUES

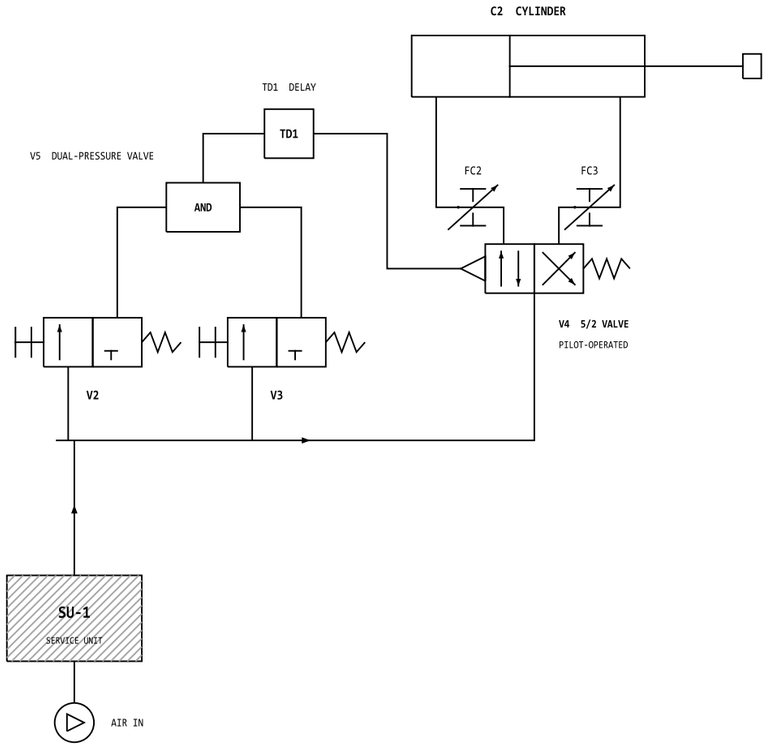
EXERCISE 1 - HYDRAULIC: SPEED CONTROL OF A CYLINDER



THE CYLINDER SLOWS WHEN FC1 IS CLOSED DOWN

THE PRESSURE STOPS RISING WHEN RV1 OPENS

EXERCISE 2 - PNEUMATIC: TWO-HAND AND A DELAY



THE CYLINDER MOVES ONLY WHEN V2 AND V3 ARE PRESSED

THE CYLINDER WAITS LONGER WHEN TD1 IS SET LONGER

NOTES

1. REFERENCE EXERCISE CIRCUITS OF A FLUID POWER TRAINING WORKSTATION, DRAWN IN THE STYLE OF THE GRAPHICAL SYMBOLS OF ISO 1219-1. TAGS ONLY: NO PRESSURE, FLOW, SIZE, TIME OR QUANTITY VALUE IS GIVEN.
2. EXERCISE 1: P-1, DRIVEN BY M-1, TAKES FLUID FROM RES-1. RV1 LIMITS THE PRESSURE AND G1 SHOWS IT. THE LEVER OF V1 SENDS FLUID TO ONE SIDE OF C1 OR THE OTHER, OR HOLDS IT.
3. FC1 IS A ONE-WAY FLOW CONTROL ON THE ROD SIDE: THE CHECK LETS FLUID IN FREELY AND THE RESTRICTION SETS HOW FAST IT LEAVES, SO THAT THE LEARNER SEES SPEED SET BY METERING OUT.
4. EXERCISE 2: SU-1 CLEANS AND REGULATES THE AIR. V2 AND V3 ARE PUSH-BUTTON VALVES. V5 PASSES AN OUTPUT ONLY WHEN BOTH ARE PRESSED, AND TD1 DELAYS IT BEFORE IT PILOTS V4.
5. V4 SENDS AIR TO ONE SIDE OF C2 OR THE OTHER, AND FC2 AND FC3 SET THE SPEED OF EACH STROKE.
6. EVERY HOSE AND TUBE ENDS IN A SELF-SEALING QUICK COUPLING, SO THAT A CIRCUIT IS CHANGED WITHOUT A SPILL. THE INSTRUCTOR SETS AND LOCKS RV1. A GUARD COVERS MOVING PARTS AND AN EMERGENCY STOP CUTS BOTH SUPPLIES.
7. THE ELECTRICAL AND CONTROLLER EXERCISES, THE FAULT-FINDING MODULE AND THE CUT-SECTION MODELS ARE ON SHEET 002. CATALOGUE ITEMS ARE BOUGHT IN.
8. FOR REFERENCE SEE ISO 1219-1 FOR THE SYMBOLS AND ISO 4413 AND ISO 4414 FOR THE SAFETY RULES OF HYDRAULIC AND PNEUMATIC SYSTEMS.

LEGEND

- FLUID LINE
- CYLINDER
- RESERVOIR
- RELIEF VALVE
- PUMP
- PRESSURE GAUGE
- FLOW CONTROL
- AIR SUPPLY
- CHECK VALVE
- SPRING RETURN
- MECHANICAL LINK

WHAT THE LEARNER SEES

CAUSE	EFFECT
RV1 OPENS	THE PRESSURE STOPS RISING
FC1 CLOSED DOWN	THE CYLINDER SLOWS
ONLY ONE OF V2, V3	THE CYLINDER DOES NOT MOVE
TD1 SET LONGER	THE CYLINDER WAITS LONGER
A HOSE IS PARTED	THE COUPLINGS SEAL

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED

ENGINEERED IN NOIDA - INDIA

FLUID POWER TRAINING WORKSTATION - REFERENCE CONFIGURATION

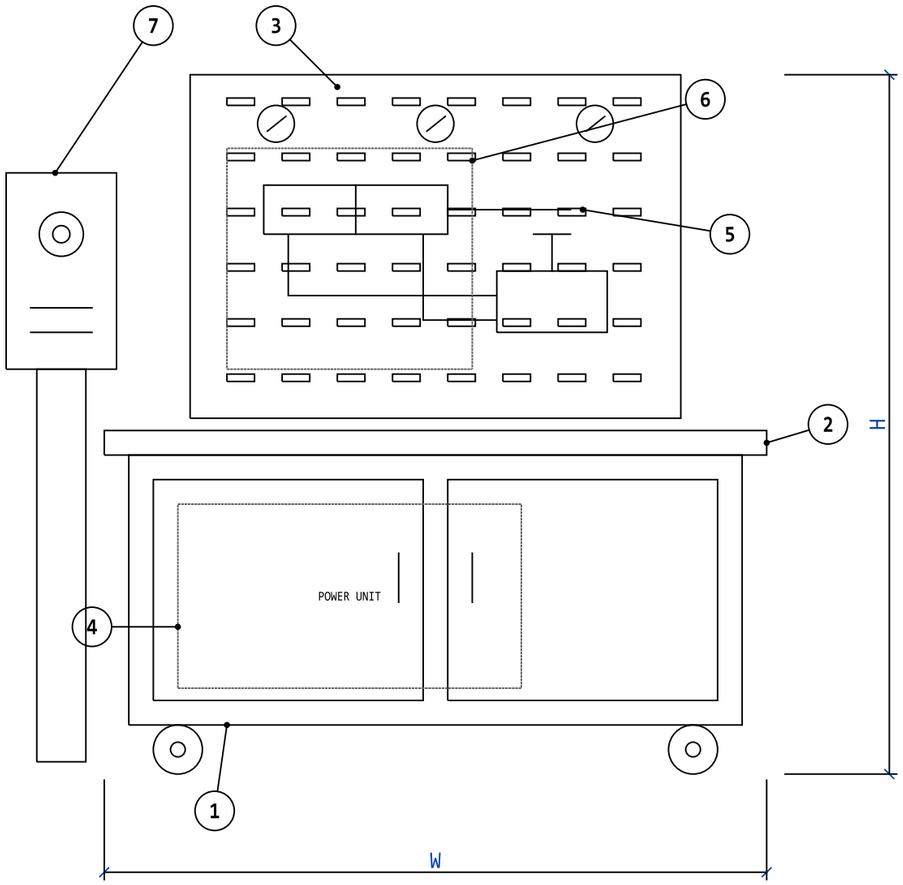
REFERENCE EXERCISE CIRCUITS

A HYDRAULIC CIRCUIT AND A PNEUMATIC CIRCUIT

DWG NO	SCALE @ A3	SHEET	REV
NMX-HPT-92-001	NTS	1 OF 2	A
DATE	UNITS	DRAWN	STATUS
04-11-2026	TAGS ONLY	NMX-DO	REFERENCE

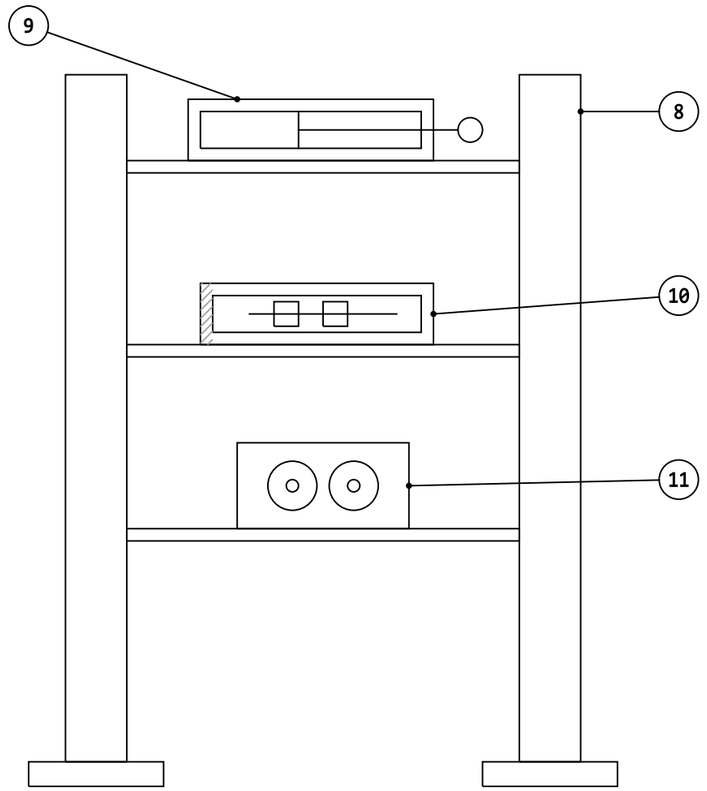
ELEVATION - WORKSTATION

NOT TO SCALE



ELEVATION - MODEL RACK

NOT TO SCALE



NOTES

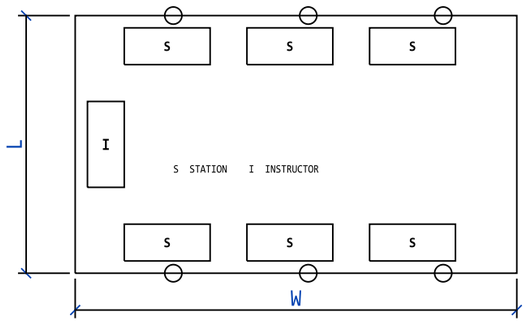
1. REFERENCE ARRANGEMENT OF A FLUID POWER TRAINING WORKSTATION AND OF ITS RACK OF CUT-SECTION MODELS. LETTERS ARE DIMENSIONS SET BY DESIGN: NO PRESSURE, FLOW, SIZE, TIME OR QUANTITY VALUE IS GIVEN.
2. H AND W ARE THE HEIGHT AND THE WIDTH OF THE WORKSTATION. IN DETAIL A, W AND L ARE THE WIDTH AND THE LENGTH OF THE ROOM, SET BY THE ROOM AND THE GROUP.
3. THE POWER UNIT STANDS IN THE CABINET, THE PANEL CARRIES THE CIRCUIT, A GUARD COVERS THE MOVING PARTS AND THE EMERGENCY STOP IS ON THE ELECTRICAL MODULE WHERE THE LEARNER CAN REACH IT.
4. DETAIL B: A SELF-SEALING COUPLING IS SHOWN PARTED AND COUPLED. WHEN IT IS PARTED THE POPPETS SEAT AND BOTH SIDES SEAL, SO THAT A CIRCUIT CAN BE CHANGED WITHOUT A SPILL.
5. DETAIL C: THE EXERCISES RUN FROM A MANUAL VALVE TO A CONTROLLER. EACH STEP EXPLAINS THE ONE BEFORE.
6. THE EXERCISE CIRCUITS, THE SYMBOLS AND WHAT THE LEARNER SEES ARE ON SHEET 001. CATALOGUE ITEMS ARE BOUGHT IN.

ITEMS

ITEM	DESCRIPTION
1	FRAME, CABINET AND CASTORS
2	WORK TOP
3	SLOTTED COMPONENT PANEL
4	HYDRAULIC POWER UNIT
5	CYLINDER, VALVE AND HOSES
6	GUARD
7	ELECTRICAL MODULE AND STOP
8	CUT-SECTION RACK
9	SECTIONED CYLINDER
10	SECTIONED VALVE
11	SECTIONED PUMP

DETAIL A - THE ROOM

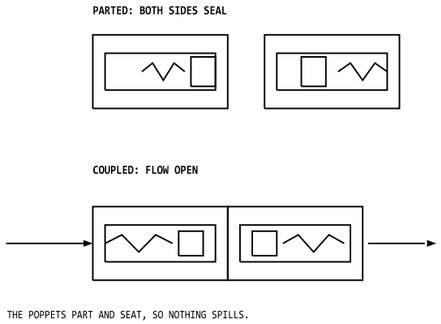
NOT TO SCALE



EVERY LEARNER REACHES A STATION AND THE INSTRUCTOR CAN SEE THEM ALL.

DETAIL B - THE COUPLING

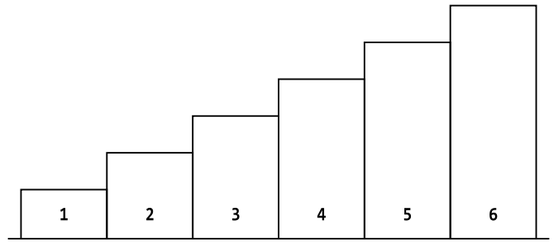
NOT TO SCALE



THE POPPETS PART AND SEAT, SO NOTHING SPILLS.

DETAIL C - THE ORDER OF THE EXERCISES

NOT TO SCALE



1 BY HAND 2 SPEED 3 PRESSURE AND SEQUENCE
4 LOGIC AND TIMING 5 RELAY 6 CONTROLLER
EACH STEP EXPLAINS THE ONE BEFORE.

REFERENCE CONFIGURATION - NOT FOR CONSTRUCTION

NEOMETRIX DEFENCE LIMITED
ENGINEERED IN NOIDA - INDIA

FLUID POWER TRAINING WORKSTATION - REFERENCE CONFIGURATION

GENERAL ARRANGEMENT AND DETAILS

WORKSTATION, MODEL RACK, ROOM, COUPLING AND STEPS

DWG NO	SCALE @ A3	SHEET	REV
NMX-HPT-92-002	NTS	2 OF 2	A
DATE	UNITS	DRAWN	STATUS
04-11-2026	TAGS ONLY	NMX-DO	REFERENCE