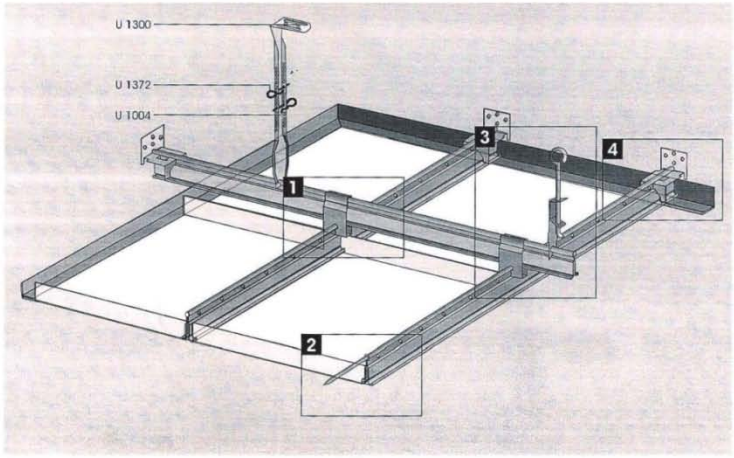


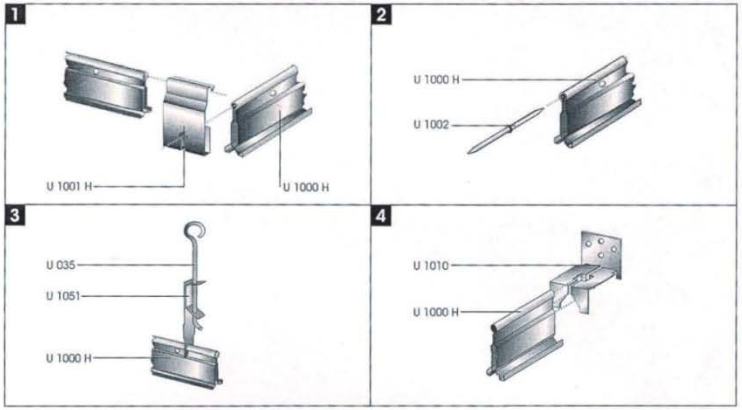


FIGURE SHOWING SCHEMATIC ARRANGEMENT OF CEILING SYSTEM
POSITIONS AND HANGER DISTANCES SHALL BE SET OUT IN
ACCORDANCE WITH STANDARDS DIN 18168 & DIN 3N13964.

BHEL

PROJECT :

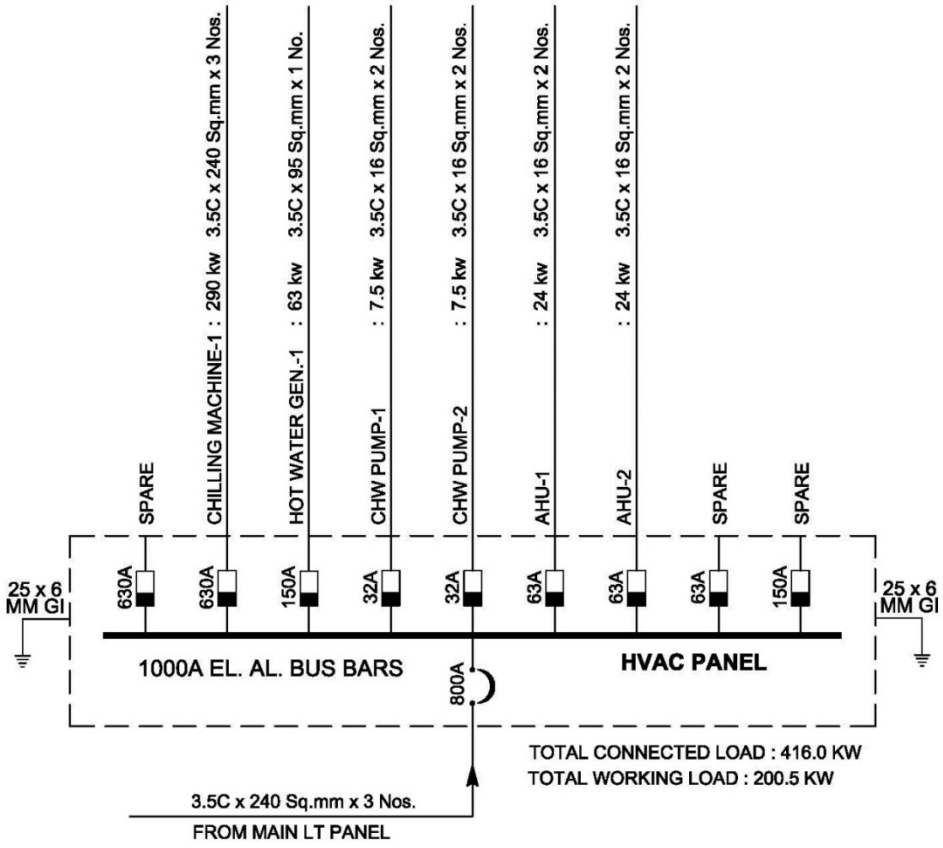
BHARAT HEAVY ELECTRICALS LTD
BANGALORE

DRG. TITLE :

20000 MW PROJECT
NEW PRODUCTION BLOCK

THIS DRG. :

FALSE CEILING
(SCHEMATIC ARRANGEMENTS)



HVAC CONTROL PANEL : SINGLE LINE DIAGRAM

LEGEND :
- VCB
- ACB
- MCCB
- M ENERGY METER
- TP CONTACTOR

PROJECT :
BHARAT HEAVY ELECTRICALS LTD
BANGALORE

DRG. TITLE :
NEW PRODUCTION BLOCK
AIR CONDITIONING

THIS DRG. :
MAIN AC CONTROL PANEL
SINGLE LINE DIAGRAM

HEATING / COOLING CHANGEOVER :

CHILLING MACHINE-1 :

WHEN CHM-1A IS OPERATING :

- FOR SUMMER COOLING :
  VALVES V1, V2 & V3 WILL REMAIN OPEN.
  VALVES V4, V5 & V6 WILL REMAIN CLOSED.
- FOR WINTER HEATING :
  VALVES V1, V2 & V3 WILL REMAIN CLOSED.
  VALVES V4, V5 & V6 WILL REMAIN OPEN.

WHEN CHM-1B IS OPERATING :

- FOR SUMMER COOLING :
  VALVES V1, V7 & V8 WILL REMAIN OPEN.
  VALVES V4, V5 & V9 WILL REMAIN CLOSED.
- FOR WINTER HEATING :
  VALVES V1, V7 & V8 WILL REMAIN CLOSED.
  VALVES V4, V5 & V9 WILL REMAIN OPEN.

CHILLING MACHINE-2 :

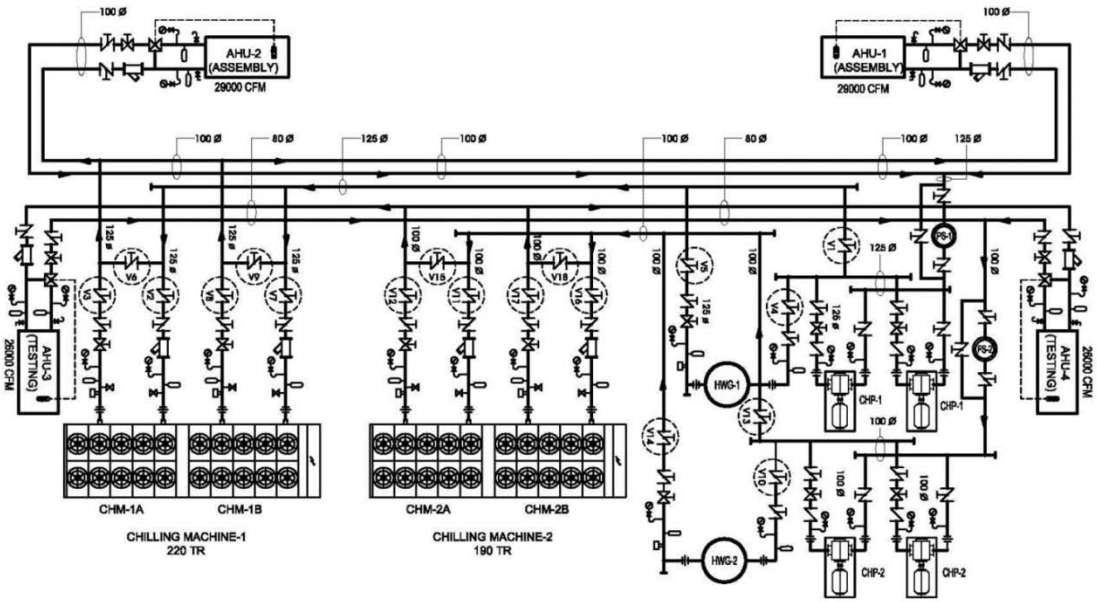
WHEN CHM-2A IS OPERATING :

- FOR SUMMER COOLING :
  VALVES V10, V11 & V12 WILL REMAIN OPEN.
  VALVES V13, V14 & V15 WILL REMAIN CLOSED.
- FOR WINTER HEATING :
  VALVES V10, V11 & V12 WILL REMAIN CLOSED.
  VALVES V13, V14 & V15 WILL REMAIN OPEN.

WHEN CHM-2B IS OPERATING :

- FOR SUMMER COOLING :
  VALVES V10, V16 & V17 WILL REMAIN OPEN.
  VALVES V13, V14 & V18 WILL REMAIN CLOSED.
- FOR WINTER HEATING :
  VALVES V10, V16 & V17 WILL REMAIN CLOSED.
  VALVES V13, V14 & V18 WILL REMAIN OPEN.

NOTE : VALVES SHOWN IN CIRCLE & NUMBERED WILL BE OPERATED DURING CHANGEOVER OF SYSTEM FROM HEATING TO COOLING OR COOLING TO HEATING.



AIR CONDITIONING SYSTEM
EQUIPMENT / PIPING LAYOUT (SCHEMATIC)

LEGEND :

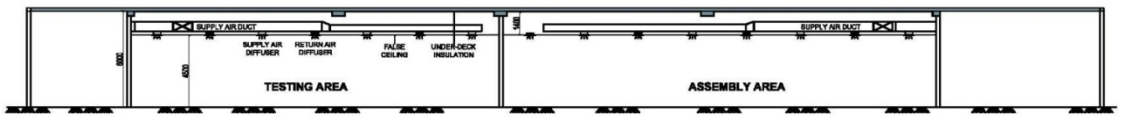
CHM : CHILLING MACHINE
CHP : CHILLED WATER PUMP
HWG : HOT WATER GENERATOR
: Y-STRAINER
: BUTTERFLY VALVE
: BALANCING VALVE
: 3-WAY MOTORISED VALVE
: PRESSURE GAUGE
: THERMOMETER
: PURGE VALVE
: DRAIN VALVE
: HEATING/COOLING THERMOSTAT
: POT STRAINER

PROJECT :

BHARAT HEAVY ELECTRICALS LTD
BANGALORE

DRG. TITLE :
20000 MW PROJECT

THIS DRG. :
NEW PRODUCTION BLOCK
AIR CONDITIONING SYSTEM
EQUIPMENTS / PIPING LAYOUT
(SCHEMATIC)



SECTION 'X-X'

DUCTING LAYOUT & FALSE CEILING

PROJECT :

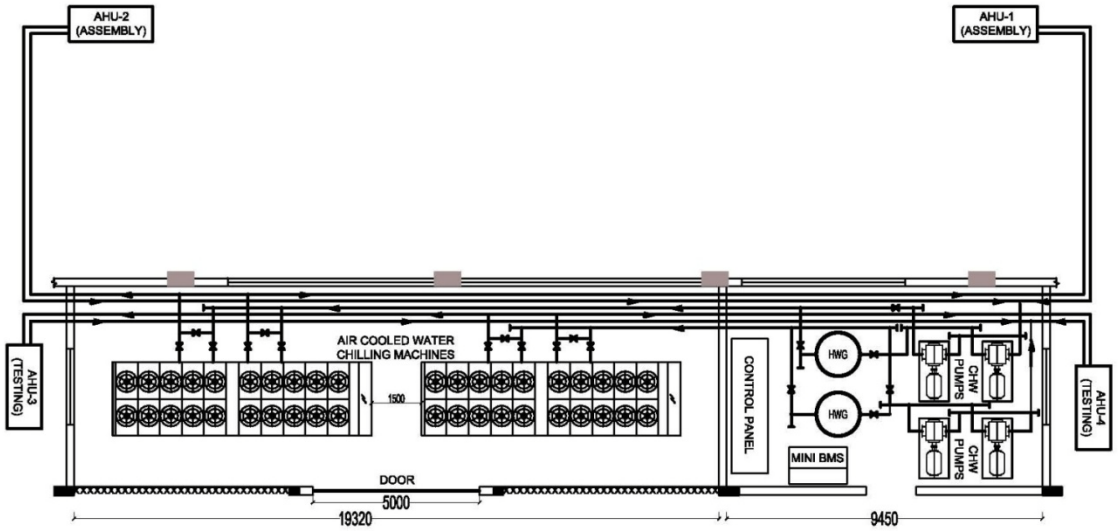
BHARAT HEAVY ELECTRICALS LTD
BANGALORE

DRG. TITLE :

20000 MW PROJECT

THIS DRG. :

NEW PRODUCTION BLOCK
SECTION 'X-X'
DUCTING LAYOUT & FALSE CEILING



AIR CONDITIONING SYSTEM LAYOUT
SHOWING EQUIPMENTS & CHILLED WATER PIPING

- TWO CHILLING MACHINES : ONE FOR ASSEMBLY AND ONE FOR TESTING
- EACH CHILLING MACHINE WITH 100% STANDBY CAPACITY

S
E
W
N

PROJECT :

BHARAT HEAVY ELECTRICALS LTD
BANGALORE

DRG. TITLE :

20000 MW PROJECT

THIS DRG. :

NEW PRODUCTION BLOCK
AIR CONDITIONING PLANT ROOM
EQUIPMENTS & CHW PIPING LAYOUT

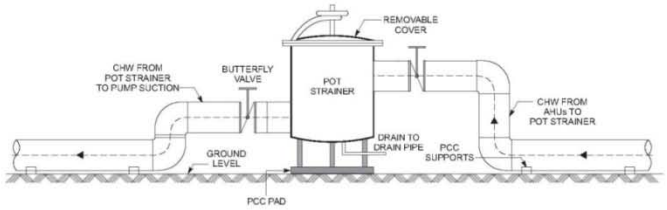


FIG-1. : SECTION - POT STRAINER (TYPICAL) : CHILLED WATER

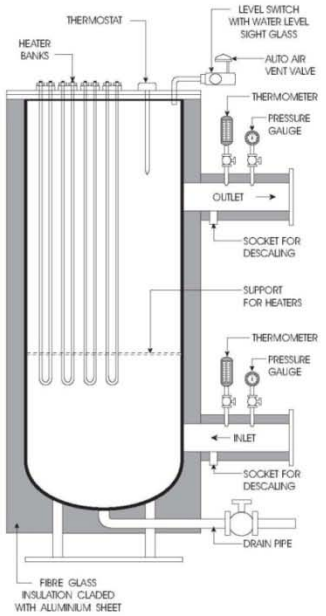


FIG-2 : HOT WATER GENERATOR CONSTRUCTION FEATURES

SHELL : 8-10 MM THICK
ENCLOSURE : 1.6 MM CRCA SHEET

HEATING ELEMENTS
INDUSTRIAL GRADE HEAVY DUTY SEAMLESS Cu SHEATH HEATING ELEMENTS EQUIPPED WITH ONE PIECE RESISTANCE, WELDED / SOLDERED TERMINATIONS.

NOTE :

THESE SCHEMATIC DIAGRAMS ARE GUIDE LINES FOR MISCELLANEOUS TYPICAL GENERAL ARRANGEMENTS. ACTUAL EXECUTION OF WORK WILL BE DONE ON THE BASIS OF APPROVED SHOP DRAWINGS

GA

BHEL

PROJECT :

BHARAT HEAVY ELECTRICALS LTD
BANGALORE

DRG. TITLE :

20000 MW PROJECT
NEW PRODUCTION BLOCK

THIS DRG. :

TYPICAL ARRANGEMENTS
POT STRAINER &
HOT WATER GENERATOR