

air circulation

HEAT RISES. ONE OF NATURE'S LAWS. DURING THE WINTER, WE NEED TO PRODUCE HEAT IN OUR HOMES. CONVENTIONAL HOMES, WITH THEIR HEAT SUPPLY NEXT TO THE FLOOR AND THEIR RETURN DUCT NEXT TO THE FLOOR, HAVE A HARD TIME DEALING WITH THE HEAT SITTING UP AT THE CEILING LEVEL. SO, IT IS USUALLY 80 UP HIGH AND 60 ON THE FLOOR. ALL THOSE SQUARE BOX ROOMS AND AIR THAT DOESN'T LIKE TO MOVE AT RIGHT ANGLES.

THE DOME HAS AN ADVANTAGE WITH ITS ROUND SHAPE. WARM AIR, INTRODUCED AT THE FLOOR AROUND THE OUTSIDE OF THE DOME, FLOWS READILY TO THE TOP OF THE DOME.

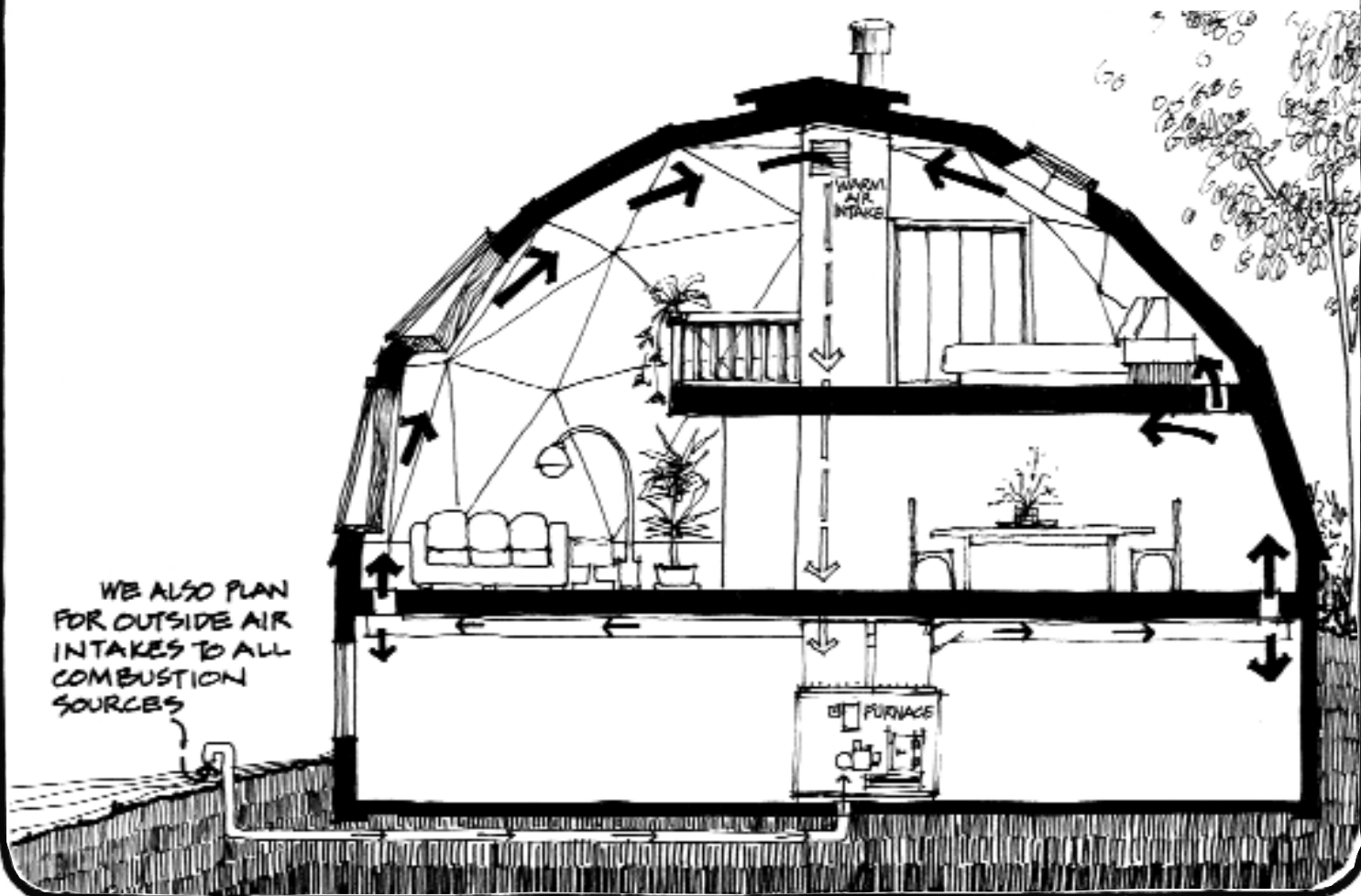
IT WOULD BE NICE IF IT WOULD THEN CIRCULATE AROUND AND UP AND DOWN INSIDE THE DOME BY ITSELF. THAT THEORY DOESN'T TAKE INTO ACCOUNT THE SECOND FLOOR SYSTEM, SKYLIGHTS COOLING OFF THE AIR, CHIMNEYS AND THE LIKE HINDERING

THE AIR FLOW. THE WARM AIR NEEDS SOME HELP TO MOVE AROUND.

NATURAL SPACES DOMES UTILIZES A WARM AIR INTAKE AT THE TOP OF THE DOME CONNECTED TO THE FURNACE AIR HANDLER. THIS EQUALIZES THE TEMPERATURE IN THE DOME WITH DOME OWNERS REPORTING NO MORE THAN 1 TO 2 DEGREE DIFFERENCE BETWEEN THE LOWER FLOOR AND THE LOFT.

IF YOU ARE USING RADIANT FLOOR HEAT, A LARGE CEILING FAN OR AN IN-LINE FAN IN A RETURN AIR DUCT WOULD EQUALIZE THE AIR TEMPERATURES.

OUR DOMES ARE SUPER-INSULATED WITH TIGHT VAPOR BARRIERS AND SUPER LOW INFILTRATION. AN AIR-TO-AIR HEAT OR ENERGY RECOVERY VENTILATOR (HRV OR ERV) WILL PROVIDE A SOURCE OF FRESH MAKE-UP AIR AND ESPECIALLY IMPORTANT IN COLDER REGIONS OF THE COUNTRY, WILL TEMPER INCOMING AIR. AN HRV/ERV WILL



ventilation

wall cavity

AS LEADERS AND PIONEERS IN THE FIELD OF DOME HOME TECHNOLOGY, NATURAL SPACES HAS DEVELOPED A DOME WALL VENTILATION SYSTEM THAT PROVIDES FOR CONTINUOUS NATURAL AIR CIRCULATION OVER THE ENTIRE FIBERGLASS INSULATION SURFACE.

AIR ENTERS AT THE BOTTOM OF THE DOME SHELL THROUGH A FLARED BASE VENT SKIRT WITH SCREENING, RISES AS IT IS WARMED BY THE SUN, AND ESCAPES OUT OF THE TOP LOW PROFILE VENT CUPOLA.

THE AIR BEING VENTED CARRIES WITH IT ANY MOISTURE-LADEN AIR THAT HAS MIGRATED INTO THE WALL CAVITY FROM THE INSIDE OF THE DOME.

STRUTS ARE NOTCHED AND HUBS INSET TO PROVIDE CONTINUOUS AMPLE AIR FLOW

CONCEALED EXTERIOR BASE VENT SYSTEM W/ INSET SCREENING

LOW PROFILE ROOF VENT W/ INSET SCREENING

IF YOU HAVE EVER TRIED CUTTING 4X8 SHEETS OF INSULATION BOARD AND TRIED TO FIT THEM INTO TRIANGULAR SPACES, YOU KNOW YOU CAN'T GET A TIGHT FIT.

VAPOR BARRIERS THAT ARE PUT UP TRIANGLE BY TRIANGLE CREATE A GAP AT EVERY SINGLE JOINT, ALLOWING VAPOR TO EASILY ENTER THE ROOF CAVITY.

THE ONLY KIND OF INSULATION NOT SUBJECT TO THIS PROBLEM IS SPRAYED-IN-PLACE URETHANE. THIS MATERIAL, WHEN PROPERLY APPLIED TO DRY WOOD, ADHERES AND DOES NOT ALLOW VAPOR TO PENETRATE. HOWEVER, THERE ARE OTHER PROBLEM DETAILS TO BE DEALT WITH CORRECTLY.

MOST OTHER DOME COMPANIES IGNORE THE CONDENSATION PROBLEM OR SIMPLY DON'T KNOW IT EXISTS.

ALMOST ALL OF THE BUILDING CODES CALL FOR A VENTED AIR SPACE ON THE COLD SIDE OF THE INSULATION IN ANY CATHEDRAL CEILING. ALL BUILDING CODES REQUIRE VENTILATION OF ATTIC SPACES.

DOME COMPANIES THAT USE RIGID INSULATION, CUTTING IT TO FIT WITHIN THE TRIANGLES, MAY HAVE A SERIOUS CONDENSATION PROBLEM BECAUSE THE INSULATION BOARD DOES NOT FIT TIGHT TO THE OUTSIDE PANEL. THIS LEAVES A PERFECT SPACE FOR VAPOR TO CONDENSE ON THE OUTSIDE PANEL.