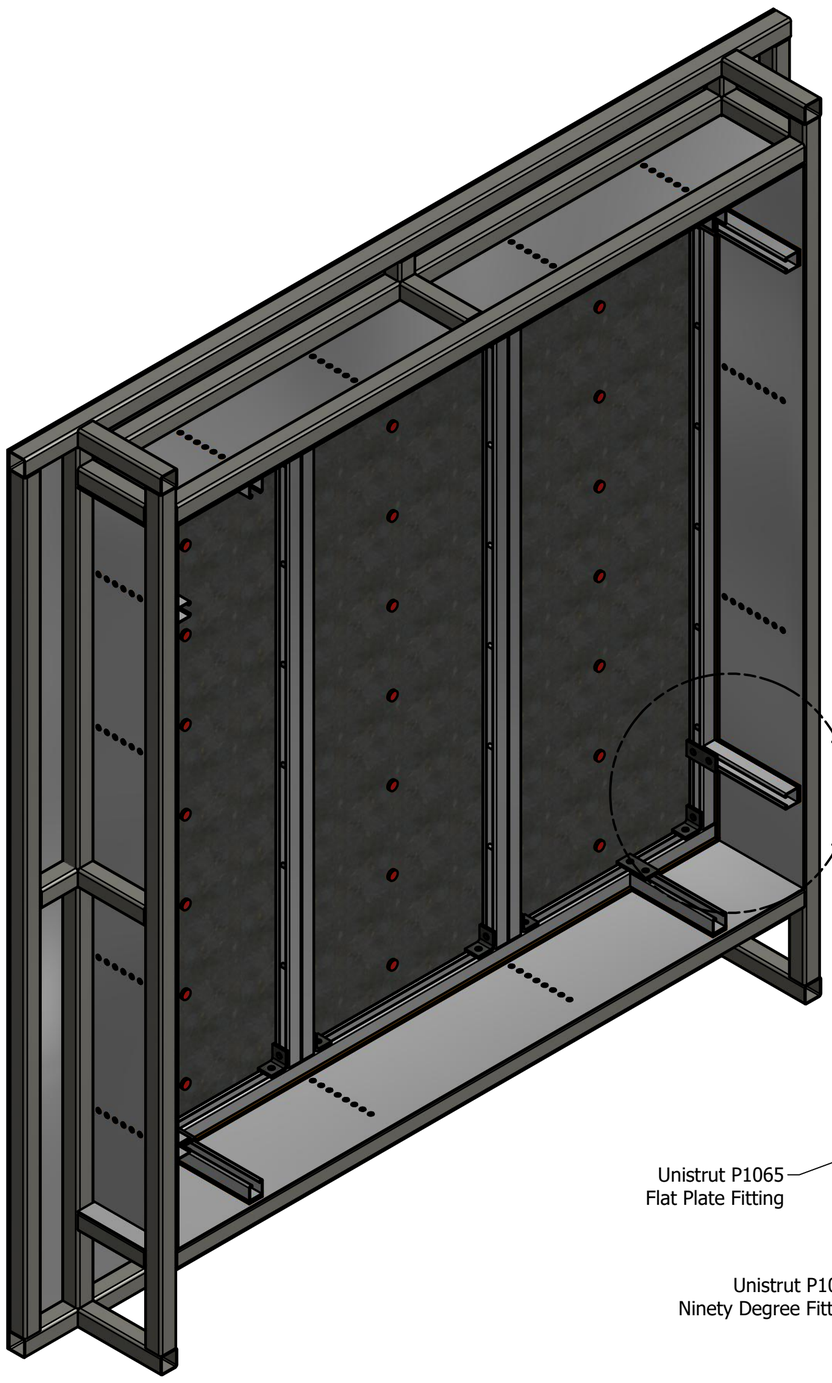
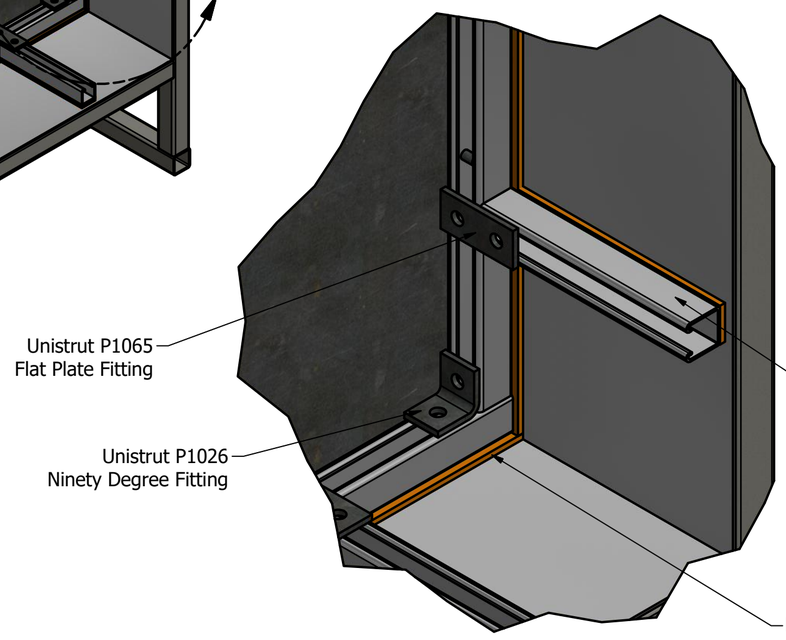
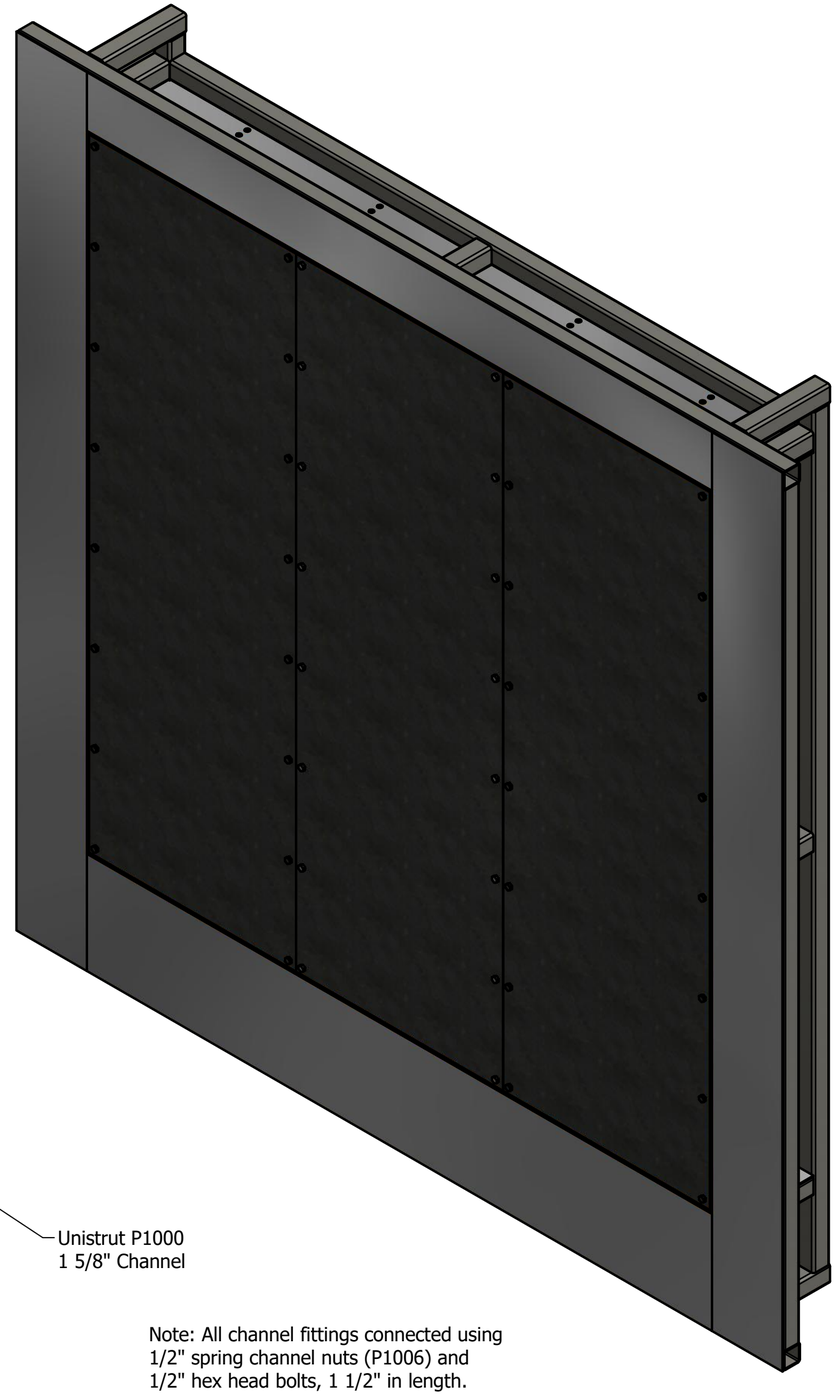






Note: All channel fittings connected using
1/2" spring channel nuts (P1006) and
1/2" hex head bolts, 1 1/2" in length.

DETAIL A
SCALE 1 / 4

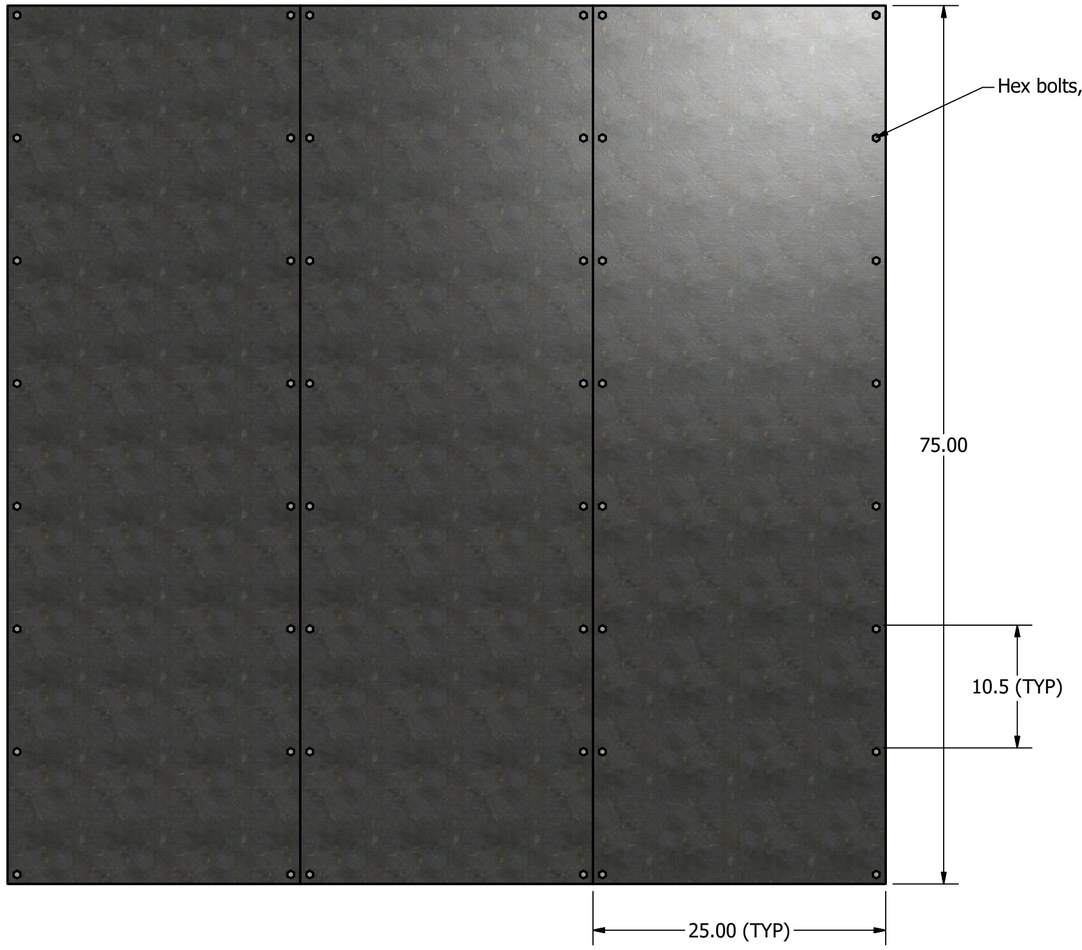
Front and Rear Views of Wall Frame with Steel Wall Sensor Installed

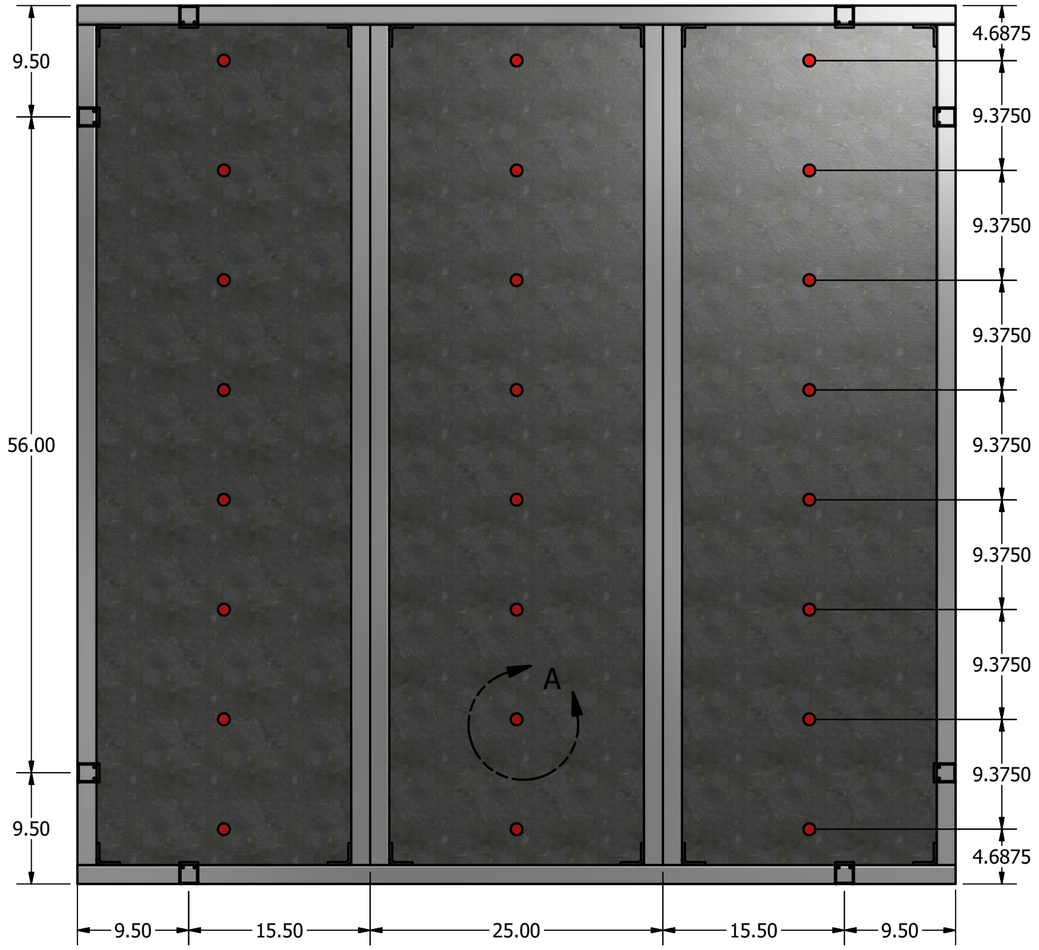
SCALE: 1/10

Steel Wall Sensor Details

AUTHOR: Matt DiDomizio
COMPANY: University of Waterloo
REVISION: 02
DATE: May 1, 2016

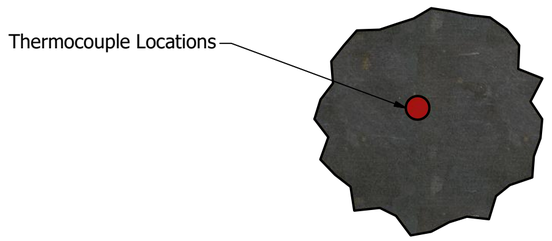
SHEET SIZE: C
SHEET NUMBER: 1 OF 3
DRAWING SCALE: As indicated (all dimensions in inches unless otherwise stated).





Details:

The steel wall sensor is constructed using 3 sheets of 18 ga steel, each measuring 75 in by 25 in, bolted to a Unistrut steel frame.
All bolting hardware is fitted loosly in order to avoid buckling as the material thermally expands under fire exposure.
The total mass of the sheet steel is approximately 12 kg, and the total mass of the entire frame including bolting hardware is approximately 129 kg.
With a total area of 75 in by 75 in (3.629 m2), a total mass of 129 kg, and density of 7900 kg/m3, the effective thickness of the wall is 4.5 mm.
Thermocouples are resistance welded to the back side of the steel sheet in the location indicated.



DETAIL A
SCALE 1 / 5

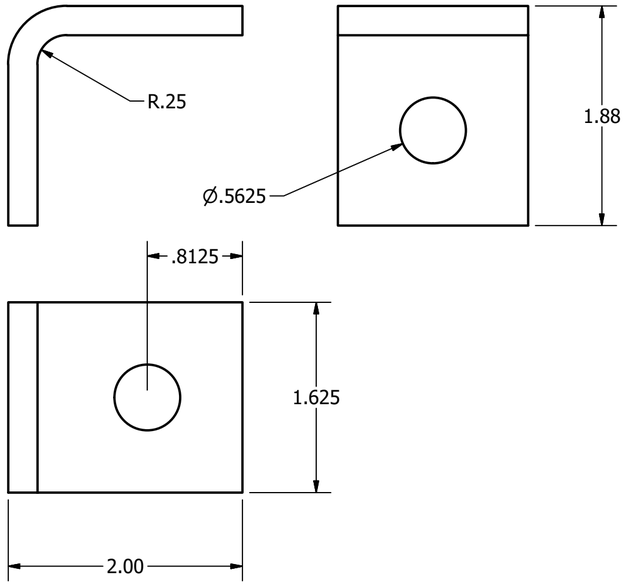
Front and Rear Views of the Steel Wall Sensor

SCALE: 1/10

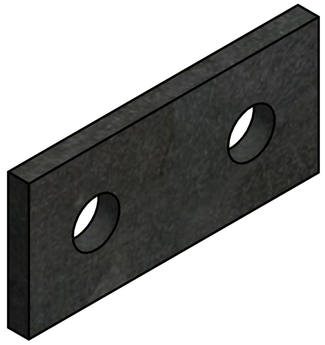
Steel Wall Sensor Details

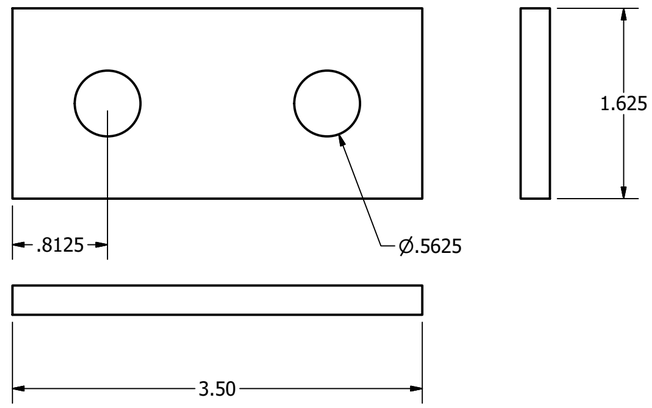
AUTHOR: Matt DiDomizio
COMPANY: University of Waterloo
REVISION: 02
DATE: May 1, 2016

SHEET SIZE: C
SHEET NUMBER: 2 OF 3
DRAWING SCALE: As indicated (all dimensions in inches unless otherwise stated).

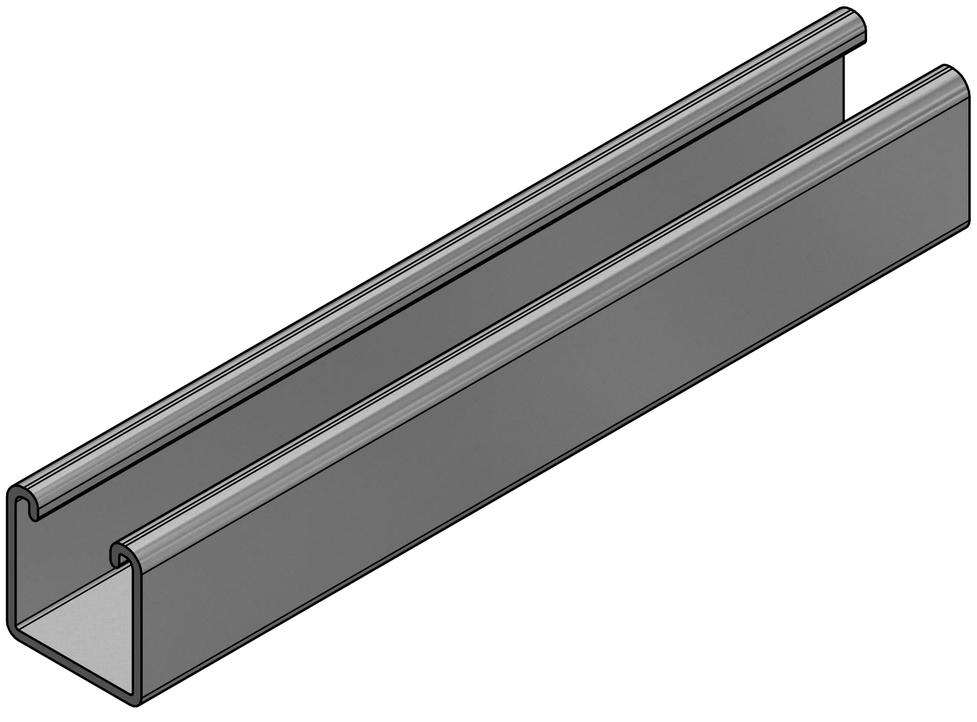


Unistrut P1026 Ninety Degree Fitting
SCALE: 1/1

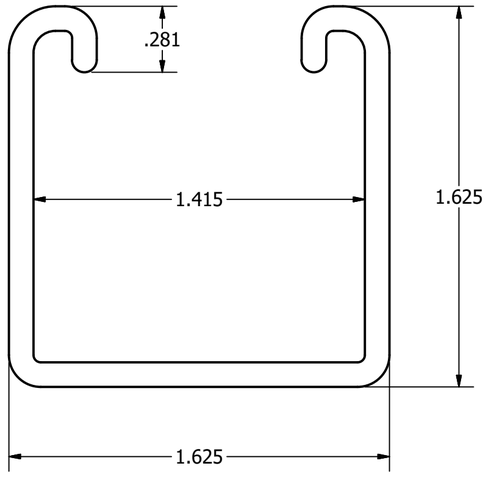




Unistrut P1065 Flat Plate Fitting
SCALE: 1/1



Unistrut P1000 1 5/8" Channel
SCALE: 1/1



Unistrut P1000 1 5/8" Channel (Details)
SCALE: 2/1

Steel Wall Sensor Details

AUTHOR: Matt DiDomizio
COMPANY: University of Waterloo
REVISION: 02
DATE: May 1, 2016

SHEET SIZE: C
SHEET NUMBER: 3 OF 3
DRAWING SCALE: As indicated (all dimensions in inches unless otherwise stated).