CLAIMS

1. A fluid management system for handling pressurized fluid within a fluidized process comprising:

a length of unreinforced polymer conduit having a lumen therein dimensioned to carry the pressurized fluid;

a two-part valve body encapsulating a portion of the length of unreinforced polymer conduit, the two-part valve body having a first half and a second half connected to one another via a hinge and having a fastener configured to secure the first and second halves in a closed state around the portion of the length of unreinforced polymer conduit, the two-part valve body having a moveable actuator disposed in one of the first half or the second half and configured to selectively engage with a portion of the length of unreinforced polymer conduit and adjust a size of the lumen of the unreinforced polymer conduit;

a plurality of two-part jackets disposed along the remaining length of the unreinforced polymer conduit, wherein each of the plurality of two-part jackets comprises a two-part rigid jacket comprising a first half and a second half joined together via a hinge, the first half defining a semi-circular inner surface, the second half defining a semi-circular inner surface, the first half and the second half configured to mate with each other to define a circular passageway through the two-part jacket

at least one fastener disposed on at least one of the first half or the second half of each of the plurality of two-part rigid jackets, the at least one fastener configured to hold the first half and the second half of each respective two-part rigid jacket securely about the unreinforced polymer conduit; and;

wherein substantially all of the length of unreinforced polymer conduit is surrounded by the two-part valve body and the plurality of two-part jackets.

2. The fluid management system of claim 1, wherein at least one of the plurality of two-part rigid jackets is straight.

3. The fluid management system of claim 1, wherein at least one of the plurality of two-part rigid jackets is curved.

4. The fluid management system of claim 1, wherein at least one of the plurality of two-part rigid jackets is Tee shaped.

5. The fluid management system of claim 1, wherein the fastener comprises a threaded latch and knob disposed on the threaded latch.

6. The fluid management system of claim 1, wherein the fastener comprises a tie.

7. The fluid management system of claim 1, wherein the length of unreinforced polymer conduit comprises a thermoplastic elastomer (TPE), thermoplastic rubber (TPR), or silicone.

8. The fluid management system of claim 1, wherein at least one of the two-part rigid jackets comprises end flanges disposed at respective ends of the first half and the second half and wherein the unreinforced polymer conduit comprises respective flanges configured to fit within the end flanges of the two-part rigid jacket.

9. The fluid management system of claim 1, further comprising a sensor housing disposed in one of the plurality of two-part rigid jackets the sensor housing configured to receive a pressure sensor therein configured to measure the pressure inside the lumen of the unreinforced polymer conduit.

10. The fluid management system of claim 1, wherein the plurality of two-part rigid jackets are formed from a polymer.

11. The fluid management system of claim 1, wherein adjacent two-part rigid jackets are connected to one another at points of connection.

12. The fluid management system of claim 11, wherein the adjacent two-part rigid jackets are further connected via a clamp.

13. The fluid management system of claim 11, wherein one of the two-part rigid jackets includes a male end that is secured to a female end of the adjacent two-part rigid jacket, wherein the male end is contained within and encapsulated by the female end of the adjacent two-part rigid jacket when in a closed state.

14. A fluid management system for handling pressurized fluid within a fluidized process comprising:

a segment of unreinforced polymer conduit having a lumen therein dimensioned to carry the pressurized fluid therein;