CLAIMS

1. A gravel pack apparatus for a wellbore, comprising:

a flow tube having a flow passage conducting slurry and having a plurality of flow ports disposed along a length of the flow tube for passing the conducted slurry into the wellbore; and

a plurality of inserts disposed in the flow ports, each of the inserts defining at least one aperture therethrough and being composed of an erodible material, each of the inserts eroding via the conducted slurry passing through the at least one aperture and allowing passage of the conducted slurry from an initial flow rate to a subsequently greater flow rate,

wherein each of the at least one aperture in the inserts are configured to erode the inserts in a predetermined pattern relative to one another along the length of the flow tube.

2. The apparatus of claim 1, wherein at least one of the inserts comprises at least one slot defined at least partially in at least one side of the at least one insert.

3. The apparatus of claim 1 or 2, wherein the inserts are configured to erode in the predetermined pattern along the length of the flow tube based on a number and/or a size of the at least one aperture in the inserts.

4. The apparatus of claim 3, wherein the inserts disposed toward one end of the flow tube are configured to erode in the predetermined pattern based on the number and/or the size of the at least one aperture in the inserts before the inserts disposed toward another end of the flow tube.

5. The apparatus of any one of the preceding claims, wherein the inserts comprise a same or different number of the at least one aperture defined therein.

6. The apparatus of any one of the preceding claims, wherein at least one of the inserts comprises a thread disposed thereabout and threading into the at least one flow port of the flow tube.

7. The apparatus of any one of the preceding claims, further comprising:

a basepipe having a through-bore and defining a perforation communicating into the through-bore; and

a screen disposed on the basepipe adjacent the perforation,

wherein the flow tube is disposed adjacent the screen.

8. The apparatus of any one of the preceding claims, wherein at least one of the inserts comprises a barrier disposed across the flow port, the barrier being breachable and allowing passage of the conducted slurry.

9. The apparatus of any one of preceding claims,

wherein the flow tube comprises first and second flow tube sections each having an internal passage conducting slurry; and

an insert body affixing end-to-end to the first and second flow tube sections, the insert body having a flow passage communicating with the internal passages of the first and second flow tube sections, the insert body having the plurality of flow ports for communicating the conducted slurry to the wellbore.

10. The apparatus of claim 9, wherein the flow ports are disposed on a same side of the insert body.

11. The apparatus of claim 9 or 10, wherein the flow ports are disposed in different directions on the insert body.

12. The apparatus of claim 9, 10 or 11, wherein the insert body comprises an erosion-resistant material different from a material of the first and second flow tube sections.

13. The apparatus of any one of the preceding claims, comprising:

a nozzle composed of a first material and disposed on the flow tube at at least one of the flow ports, the nozzle having inner and outer sidewalls, the inner sidewall defining a flow passage exposed to the conducted slurry; and

a sheath being disposed at least externally on the outer sidewall of the nozzle and being composed on an erosion-resistant material different from the first material.

14. The apparatus of any one of the preceding claims, comprising:

a nozzle composed of a first material and disposed on the flow tube at at least one of the flow ports, the nozzle defining a pocket between inner and outer sidewalls, an interior surface of the inner sidewall defining a flow passage exposed to the conducted slurry; and

an erosion-resistant material being different from the first material and being disposed in the pocket between the inner and outer sidewalls.

15. The apparatus of claim 14, wherein the erosion-resistant material comprises a bushing disposed in between the inner and outer sidewalls of the nozzle.

16. The apparatus of claim 15, wherein the nozzle comprises a distal end connected between the inner and outer sidewalls and encapsulating the bushing in the pocket.

17. The apparatus of claim 15, wherein the nozzle comprises a retainer affixed to a distal end of the nozzle and encapsulating the bushing in the pocket.