CLAIMS

What is claimed is:

1. A valve assembly for use in downhole completion equipment comprising:

a valve block having at least one fluid passage opening and a valve stem opening; and

a valve having a valve stem, a valve retention member at a first proximate end of the valve stem, and a flexible valve canopy at a second end of the valve stem, the canopy having a fluid sealing surface;

wherein the valve stem is arranged in the valve stem opening of the valve block and the fluid sealing surface covers the at least one fluid passage opening to prevent fluid flow when fluid flows in a first direction through the at least one fluid passage opening and uncovers the at least one fluid passage opening when fluid flows in a second direction, the valve operable to be removed from the valve stem opening while the valve assembly is downhole, to provide bidirectional flow.

2. A valve assembly as in claim 1 wherein the valve comprises an elastomer material.

3. A valve assembly as in claim 2 wherein the valve comprises a dissolvable elastomer material.

4. A valve assembly as in claim 1 wherein the valve retention member comprises an elastomer material that engages a seating surface in the valve stem opening.

5. A valve assembly as in claim 1 wherein the valve is made entirely of an integral elastomer material.

6. An inflow control device for use in downhole completion equipment comprising:

a base pipe having an interior and at least one fluid flow port;

an outer housing arranged on the base pipe;

a fluid flow control assembly arranged within the outer housing having a fluid flow passage way that permits the flow of hydrocarbon containing fluid from an oil-bearing subterranean formation to the interior of the base pipe through the at least one fluid flow port; and

a valve arranged in the fluid flow passage way capable of restricting the flow of fluid from the subterranean formation to the interior of the base pipe, the valve having a flexible canopy that prevents fluid flow between the base pipe and the formation when flow travels in a first direction and permits fluid flow between the base pipe and the formation when flow travels in a second direction, the valve operable to be removed from the fluid flow passage way while the inflow control device is downhole, to provide bidirectional flow.

7. An inflow control device as in claim 6 wherein the valve is arranged in a valve block having at least one opening that may be sealed by the flexible canopy to prevent fluid flow through the fluid flow passage way or unsealed by the flexible canopy depending on the direction of fluid flow.

8. An inflow control device as in claim 7 wherein the valve further comprises a stem having a retention member that engages with a seat in the valve block.

9. An inflow control device as in claim 7 wherein the valve comprises an elastomer.

10. An inflow control device as in claim 7 wherein the valve comprises a dissolvable elastomer.

11. A well system comprising:

a production tubing string;

a wellbore having a substantially horizontal section;

at least one well screen assembly interconnected in the tubular string and positioned in the horizontal section of the wellbore;

an uncased section in the horizontal section of the wellbore;

at least one packer for isolating a fluid production zone of the wellbore;

an inflow control device for downhole use in an oil and gas well, the inflow control device including a base pipe having an interior and at least one fluid flow port;

an outer housing arranged on the base pipe;

a fluid flow control assembly arranged within the outer housing having a fluid flow passage way that permits the flow of hydrocarbon containing fluid from an oil-bearing subterranean formation to the interior of the base pipe through the at least one fluid flow port; and

a valve arranged in the fluid flow passage way capable of restricting the flow of fluid from the subterranean formation to the interior of the base pipe, the valve having a flexible canopy that prevents fluid flow between the base pipe and the formation when flow travels in a first direction and permits fluid flow between the base pipe and the formation when flow travels in a second direction.

12. A well system as in claim 11 wherein the valve is arranged in a valve block having at least one opening that may be sealed by the flexible canopy to prevent fluid flow through the fluid flow passage way or unsealed by the flexible canopy depending on the direction of fluid flow.

13. A well system as in claim 11 wherein the valve further comprises a stem having a retention member that engages with a seat in the valve block.

14. A well system as in claim 11 wherein the valve comprises an elastomer.

15. A well system as in claim 14 wherein the valve comprises a dissolvable elastomer.