

Claims

1. A device for the controlled delivery of pressurized fluids from a multiplicity of pressure fluid sources having a multiple of pressure fluid lines engaged therewith, to a bar gun, the device comprising:

a flow control assembly (200) including a housing, the flow control assembly with a multiplicity of fluid flow channel assemblies, each fluid flow channel assembly comprising a high pressure fitting receiving port thereon adapted to receive a fluid pressure line from a fluid source, an on/off valve 206 downstream of the high pressure fitting receiving port the on/off valve having a housing (266), an inlet port (268) and an outlet port (270), characterised by a separate flow control module (202) downstream of the on/off valve (206) , the flow control module (202) having a body (218), an inlet port (210) and an outlet port (224), wherein the flow control module (202) is releasably coupled to the housing (266) of the on/off valve (206) the flow control assembly including a housing (204) for receiving the multiplicity of fluid flow channel assemblies thereon, such that high pressure fitting receiving ports are aligned adjacent one another in a substantially straight line and whereby the on/off valves (206) are adjacent one another in a substantially straight line and whereby the outlet ports (224) of the flow control modules are in a substantially straight line;

a manifold assembly (100) including a housing (113) and a multiplicity of connector fittings (126), each connector fitting having an upstream end adapted to releasably engage the outlet port of the flow control channel assemblies, the multiplicity of connector fittings (126) including a downstream end adapted to receive a bar gun tube, each connector fitting (126) having a body between the upstream end and the downstream end, the body adapted to engage the housing (113) of the manifold assembly (100) such that the connector fittings (126) are aligned with the outlet ports (224) of the flow control modules (202) of the flow control assembly (200); and

a sheath tube assembly (102) for engaging the manifold assembly (100), the sheath tube assembly (102) including a multiplicity of the bar gun tubes (108) and a sheath (104) for substantially enclosing the multiplicity bar gun tubes (108);

wherein the flow control assembly (200) and the manifold assembly (100) include release means (170) for releasing the manifold assembly (100) from the flow control assembly (200) when the two are engaged;

the device further including a label assembly, the label assembly comprising labels (189, 190, 191) placed on the housing (113) of the manifold assembly (100), wherein symbols (192a, 192b, 192c) and/or words on the labels (189, 190, 191) designate fluid flowing through the outlet ports adjacent thereto.

2. — The device of Claim 1, wherein:

~~the on/off valve (206) is releasably and toollessly coupled to the flow control module (202).~~
3. ~~The device of Claim 1, wherein the flow control module including either a fixed orifice subassembly (256) or a self-adjusting subassembly (244) and wherein the body of the flow control module is dimensioned to substantially enclose either subassembly.~~
4. — ~~The device of Claim 3, wherein both the fixed orifice subassembly (256) or the self-adjusting subassembly (244) include walls adapted to engage an adjusting tool such that the adjusting tool engages the walls parallel to the outlet ports (224) of the flow control assembly (200).~~
5. — ~~The device of Claim 4, wherein both subassemblies (244, 256) include a flow adjusting screw having a head portion, the head portion having walls for engaging the adjusting tool, the walls for engaging of the fixed orifice subassembly (256) being substantially identical to the walls for engaging of the self-adjusting subassembly (244).~~
6. — ~~The device of any preceding claim, wherein the multiplicity of high pressure tube receiving ports have longitudinal axes, the multiplicity of flow control modules have longitudinal axes and the outlet ports (224) have longitudinal axes, wherein all the longitudinal axes are substantially parallel.~~
7. — ~~The device of any preceding claim, wherein the flow control module includes a mechanical flow control portion.~~

8. — The device of Claim 7, wherein the mechanical flow control portion includes retainer plate.
9. — The device of any preceding claim, wherein the flow control module includes a mechanical flow control portion, fixed orifice subassembly (256), or a self adjusting subassembly (244), such that the arrangement and spacing of the outlet ports is the same, regardless of the chosen flow control module.
10. — The device of any preceding claim, further including a mounting plate (164) for slideably receiving the flow control assembly (200) and the manifold assembly (100) thereon.
11. — The device of any preceding claim, wherein the release means includes threaded screws (170) on the manifold assembly (100) and interference walls (201) on the flow control assembly (200).
12. — The device claim 11, wherein

the threaded screws (170) have a head adapted to be grasped and manipulated manually;

and/or

the threaded screws (170) include alignment pins (172) to help align the connector fittings of the manifold assembly (100) with the outlet ports of the flow control assembly (200).
13. — The device of any preceding claim, including means for toollessly engaging the manifold assembly (100) to the flow control assembly (200), clips (228) for toollessly and releasably locking the connector fittings of the manifold assembly to the flow control assembly; clips (292) to toollessly and releasably lock high pressure tube fittings to the flow control assembly (200), and release means function toollessly, further including a mounting plate (164) for toollessly mounting and securing the manifold assembly (100) and flow control assembly (200) thereto.
14. — The device of any preceding claim, wherein the housing (204) of the fluid control assembly (200) separately engages the flow control module and the on/off valve (206)

~~and wherein the flow control module slidably couples along a longitudinal axis so that the on/off valve (206) may remain engaged with the housing while the flow control module (202) is uncoupled therefrom.~~

15. ~~—The device of any preceding claim, further including a label assembly.—~~