

ANNEX

Unconditional Amendment

Claim 1

A flexible breathing tube which is an expiratory limb of a breathing circuit and is adapted to be located between a patient and a ventilator the tube comprising:

an inlet,
an outlet, and
a singular exhalation flow passage between said inlet and said outlet defined by an enclosing wall,
wherein said enclosing wall bounds the singular exhalation flow passage and ambient air
wherein at least a region of said enclosing wall is of a material that allows the passage of water vapour by diffusion without allowing the passage of liquid water or respiratory gases, thereby providing a water vapour flow path from said exhalation flow passage to ambient air through said material
wherein the region or regions is or are distributed over the length of the tube such that the tube allows said diffusion of water vapour from the expiratory limb of the breathing circuit along said singular exhalation flow passage thereby drying the humidified gases during their flow through the expiratory limb.

Claim 2

A tube as claimed in claim 1 wherein the wall comprises a membrane having a relatively low thickness such that the wall membrane is insufficiently sturdy to be self-supporting without reinforcing to provide resistance to lateral crushing

~~Claim 3~~

~~A tube as claimed in claim 1 or 2 wherein said enclosing wall bounds the singular exhalation flow passage and ambient air~~

Claim 4-3

A tube as claimed in ~~any of claims 1 to 3~~ claim 1 or 2 wherein said membrane is a continuous tube form.

Claim 5-4

A tube as claimed in ~~any of claims 1 to 3~~ claim 1 or 2 wherein said tube includes at least one helically wound polymer tape or strip, part or all of said tape or strip being of said material that allows the passage of water vapour without allowing the passage of liquid water or respiratory gases.

Claim 6-5

A tube as claimed in claim ~~5-4~~ wherein respective edges of adjacent turns of said tape or strip are adjoining or overlapping and bonded.

Claim 7-6

A tube as claimed in claim ~~5-4~~ or ~~6-5~~ wherein the entire wall is formed from said helically wound tape or strip.

Claim 8-7

A tube as claimed in any of claims ~~5-4~~ to ~~7-6~~ wherein said tape is supplied as extruded tape.

Claim ~~9-8~~

A tube as claimed in claim 1 wherein said tube includes at least one longitudinal strip, part or all of said strip being of said material that allows the passage of water vapour without allowing the passage of liquid water or respiratory gases, said strip or strips adjoining or overlapping to form an enclosed tube and bonded.

Claim ~~10-9~~

A tube as claimed in any of claims 1 to ~~9-8~~ wherein said material comprises the outer surface of said expiratory limb and circuit to allow passage of water vapour through said material and reduce the formation of condensation in said tube.

Claim ~~11-10~~

A tube as claimed in any of claims 1 to ~~10-9~~ including lateral reinforcement against crushing.

Claim ~~12-11~~

A tube as claimed in claim ~~11-10~~ wherein said lateral reinforcement is a helical bead or a series of annular ring beads or ribs distributed over the length of said tube.

Claim ~~13-12~~

A tube as claimed in claims 1 to ~~12-11~~ including lateral reinforcement against crushing wherein said lateral reinforcement is a helical bead disposed over said adjoining or overlapping edges between turns of strips.

Claim ~~14-13~~

A tube as claimed in claim ~~11-10~~ wherein said lateral reinforcement is a skeletal reinforcing structure within said conduit.

Claim ~~15-14~~

A tube as claimed in any of claims 1 to ~~14-13~~ wherein said tube includes longitudinal reinforcement against longitudinal stretching of said tube.

Claim ~~16-15~~

A tube as claimed in claim ~~15-14~~ wherein said longitudinal reinforcement includes a plurality of longitudinally extending threads spaced around the perimeter of the tube wall.

Claim ~~17-16~~

A tube as claimed in claim ~~16-15~~ wherein said thread is bonded to said bead at crossings of said bead and spans the gaps between adjacent turns of said bead.

Claim ~~18-17~~

A tube as claimed in claims 1 to ~~17-16~~ including a sheath having an open or mesh structure.

Claim ~~19-18~~

A tube as claimed in claim ~~18-17~~ wherein said sheath includes a plurality of extruded polymer threads braided or similarly arranged about said tube or by a pre-formed or continuously formed mesh.

Claim ~~20-19~~

A tube as claimed claims 1 to ~~19-18~~ including a sheath having a plurality of holes or apertures there through.

Claim ~~21-20~~

A tube as claimed in any one of claims ~~15-14~~, ~~16-15~~ and ~~17-16~~ wherein said longitudinal reinforcement includes an outer sheath disposed about said conduit and bonded with said conduit wall.

Claim ~~22-21~~

A tube as claimed in claim ~~21-20~~ wherein said outer sheath is bonded to said conduit wall by action of a helical bead.

Claim ~~23-22~~

A tube as claimed in any of claims 1 to ~~22-21~~ wherein said material is a hydrophilic thermoplastic.

Claim ~~24-23~~

A tube as claimed in any of claims 1 to ~~22-21~~ wherein said material is a hydrophilic, thermoplastic polyester block copolymer

Claim ~~25-24~~

A tube as claimed in any of claims 1 to ~~24-23~~ wherein said region or regions are elongate and run at least a substantial part of the length of the tube

Claim ~~26-25~~

A tube as claimed in any of claims 1 to ~~24-23~~ including a series of said regions spaced along the length of the tube

Claim ~~27-26~~

A tube as claimed in any of claims 1 to ~~26-25~~ wherein the inlet of the tube is adapted to connect to a wye connector located at the patient

Claim ~~28-27~~

A breathing circuit incorporating a tube as claimed in any of claims 1 to ~~27-26~~.