Claims.

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1.- Compressor installation provided with a liquid-injected compressor device (2) with at least one liquid-injected compressor element (3), an outlet pipe (5) connected to an outlet (6) of the compressor element (3), whereby a liquid separator (8) is mounted in the outlet pipe (5) which comprises an inlet (9a) and an outlet (9b) for compressed gas and an outlet (10) for separated liquid and with a dryer (12) connected to said outlet pipe (5) of the type that uses a desiccant (14) for drying compressed gas coming from the compressor device (2), whereby the dryer (12) is provided with a drying section (13b) and a regeneration section (13a) with an entry (19a) and an exit (19b) for regeneration gas, whereby a regeneration pipe (20) is connected to the entry (19a) of the regeneration section (13a) and whereby a heat exchanger (21) is provided in said regeneration pipe (20) for heating the regeneration gas with a primary section (22a) through which the regeneration gas is guided, **characterised in that** a secondary section (22b) of said heat exchanger (21) is mounted in the compressor device (2) and that the compressor installation (1) is further provided with means (23) to regulate the amount of liquid injected in the compressor element (3).

2.- Compressor installation according to claim 1, characterised in that the secondary section (22b) of the heat exchanger (21) is mounted in the outlet pipe (5), downstream from the liquid separator (8).

3.- Compressor installation according to claim 1, characterised in that the outlet (10) for separated liquid is connected to the secondary section (22b) of the heat exchanger (21).

4.- Compressor installation according to any one of the previous claims, characterised in that said means (23) are formed by an adjustable valve (24) or adjustable nozzle.

5.- Compressor installation according to any one of the previous claims, characterised in that the compressor installation (1) is provided with a control unit (25) for controlling said means (23), whereby the control unit (25) will regulate the amount of liquid injected based on one or more of the following criteria:

- the required temperature of the gas or the liquid at the outlet (6);
- the required temperature of the gas at the inlet (19a) or the outlet (19b) of the regeneration section (13a);
- the required dew point;
- the temperature and/or the humidity of the environment;
- the temperature, humidity and/or pressure at the inlet (18a) of the dryer (12);
- the stage of the dryer (12);
- the run time and/or the loaded and/or unloaded time of the compressor device (2);
- the speed of the drive (4).

6.- Compressor installation according to any one of the previous claims, characterised in that the compressor installation (1) is provided with a control unit (25) for controlling said means (23), whereby the control unit (25) will regulate the amount of liquid injected by regularly reducing the liquid injection over a fixed period.

7.- Compressor installation according to any one of the previous claims, characterised in that the compressor device (2) is provided with two injection circuits (26a, 26b), whereby a first injection circuit (26a) runs from the outlet (10) for the separated liquid of the liquid separator (8) to the compressor element (3) and a second injection circuit (26b) runs from the outlet (10) for the separated liquid of the liquid separator (8) to the bearings of the compressor device (2).

8.- Compressor installation according to claim 7, characterised in that the secondary section (22b) of said heat exchanger (21) is mounted in the first injection circuit (26a).

9.- Compressor installation according to any one of the previous claims, characterised in that at least one said compressor element (3) is driven by a drive (4).

10.- Compressor installation according to any one of the previous claims, characterised in that the compressor installation (1) is configured such that the entire flow of compressed gas coming from said compressor element (3) is guided to an entry (18a) of said drying section (13b).

11.- Compressor installation according to any one of the previous claims, characterised in that a tap off pipe (27) is provided at an exit (18b) of the drying section (13b) which connects to said regeneration pipe (20) for tapping off regeneration gas at the exit (18b) of the drying section (13b).

12.- Compressor installation according to any one of the previous claims, characterised in that the exit (19b) of the regeneration section (13a) is connected via a return pipe (28) to the outlet pipe (5) of the compressor device (2) at a point (P).

13.- Compressor installation according to claim 12, characterised in that in said return pipe (27) a cooler (28) is mounted and possibly a liquid separator (29a).

14.- Compressor installation according to claim 12 or 13, characterised in that the return pipe (28) is connected to the outlet pipe (5) via a venturi (30).

15.- Compressor installation according to any one of the previous claims, characterised in that the dryer (12) is provided with a housing (15) within which the drying section (13b) and the regeneration section (13a) are located, whereby in the housing (15) a drum (16) is arranged containing the desiccant (14), said drum (16) being connected with driving means (17) such that the desiccant (14) can successively move through the drying section (13b) and the regeneration section (13a).

16.- Compressor installation according to any one of the previous claims 1 to 14, characterised in that the dryer (12) comprises a number of vessels (31) filled with the desiccant (14), at least one vessel (31) of which forms the drying section (13b) and at least one vessel (31) forms the regeneration section (13a), whereby the dryer (12) further comprises a valve system (32) which connects the outlet pipe (5), the regeneration pipe (20) and possibly the return pipe (28) and the tap off pipe (27) with said vessels (31), whereby said valve system (32) is such that at least one vessel (31) is always regenerated, while the other vessels (31) dry the compressed gas, whereby by regulating the valve system (32) the vessels (31) are each in turn successively regenerated.

17.- Compressor installation according to any one of the previous claims, characterised in that an aftercooler (7) and possibly a liquid separator is mounted in the outlet pipe (5).

18.- Method for supplying a compressed gas coming from a liquid-injected compressor device (2) with at least one liquid-injected compressor element (3) with a compressed gas outlet (6), whereby the compressed gas is guided through a desiccant (14) in a drying section (13b) for drying the compressed gas and whereby the desiccant is subsequently regenerated in a regeneration section (13a) by means of a regeneration gas which is guided through said regeneration section (13a), **characterised in that** the method comprises the step of heating the regeneration gas

before it is guided through said regeneration section (13a), using the heat at the outlet (6) of a liquid-injected compressor device (2) and whereby the method further comprises the step of regulating the amount of liquid that is injected in the compressor element (3).

19.- Method according to claim 18, characterised in that the amount of liquid injected is regulated based on one or more of the following criteria:

- the required temperature of the gas or the liquid at the outlet (6);
- the required temperature of the gas at the inlet (19a) or the outlet (19b) of the regeneration section;
- the required dew point;
- the temperature and/or the humidity of the environment;
- the temperature, humidity and/or pressure at the inlet (18a) of the dryer (12);
- the stage of the dryer (12);
- the run time and/or the loaded and/or unloaded time of the compressor device (2);
- the speed of the drive (4).

20.- Method according to claim 18 or 19, characterised in that the amount of liquid injected is regulated by regularly reducing the liquid injection over a fixed period.

21.- Method for supplying a compressed gas coming from a liquid-injected compressor device (2) with at least one

liquid-injected compressor element (3) with a compressed gas outlet (6), whereby the compressed gas is guided through a desiccant (14) in a drying section (13b) for drying the compressed gas and whereby the desiccant is subsequently regenerated in a regeneration section (13a) by means of a regeneration gas which is guided through said regeneration section (13a), **characterised in that** the method comprises the step of heating the regeneration gas before it is guided through said regeneration section (13a), using the heat at the outlet (6) of the liquid-injected compressor device (2) and whereby the method further comprises the step of regulating the temperature of liquid that is injected in the compressor element (3).

22.- Compressor installation provided with a liquid-injected compressor device (2) with at least one liquid-injected compressor element (3), an outlet pipe (5) connected to an outlet (6) of the compressor element (3), whereby a liquid separator (8) is mounted in the outlet pipe (8) which comprises an inlet (9a) and an outlet (9b) for compressed gas and with an outlet (10) for separated liquid and a dryer (12) connected to said outlet pipe (12) of the type that uses a desiccant (14) for drying compressed gas coming from the compressor device (2), whereby the dryer (12) is provided with a drying section (13b) and a regeneration section (13a) with an entry (19a) and an exit (19b) for regeneration gas, whereby a regeneration pipe (20) is connected to the entry (20a) of the regeneration section (19a) and whereby a heat exchanger

(21) is provided in said regeneration pipe (20) for heating the regeneration gas with a primary section (22a) through which the regeneration gas is guided, **characterised in that** a secondary section (22b) of said heat exchanger (21) is mounted in the compressor device (2) and that the compressor installation (1) is further provided with means to regulate the temperature of liquid injected in the compressor element (3).

23.- Compressor installation according to claim 22, characterised in that the secondary section (22b) of the heat exchanger (21) is mounted in the outlet pipe (5), downstream from the liquid separator (8).

24.- Compressor installation according to claim 22, characterised in that the outlet (10) for separated liquid is connected to the secondary section (22b) of the heat exchanger (21).

25.- Compressor installation according to any one of the previous claims 22 to 24, characterised in that the compressor device (2) is provided with two injection circuits (26a, 26b), whereby a first injection circuit (26a) runs from the outlet (10) for the separated liquid of the liquid separator (8) to the compressor element (3) and a second injection circuit (26b) runs from the outlet (10) for the separated liquid of the liquid separator (8) to the bearings of the compressor device (2).

26.- Compressor installation according to claim 25, characterised in that the secondary section (22b) of said heat exchanger (21) is mounted in the first injection circuit (26a).

27.- Compressor installation according to any one of the previous claims 22 to 26, characterised in that at least one said compressor element (3) is driven by a drive (4).

28.- Compressor installation according to any one of the previous claims 22 to 27, characterised in that the compressor installation (1) is configured such that the entire flow of compressed gas coming from said compressor element (3) is guided to an entry (18a) of said drying section (13b).

29.- Compressor installation according to any one of the previous claims 22 to 28, characterised in that a tap off pipe (27) is provided at an exit (18b) of the drying section (13b) which connects to the regeneration pipe (20) for tapping off regeneration gas at the exit (18b) of the drying section (13b).

30.- Compressor installation according to any one of the previous claims 22 to 29, characterised in that the exit (19b) of the regeneration section (13a) is connected via a return pipe (28) to the outlet pipe (5) of the compressor device (2) at a point (P).

31.- Compressor installation according to claim 30, characterised in that in said return pipe (28) a cooler (28) and possibly a liquid separator (29a) is mounted.

32.- Compressor installation according to claim 30 or 31, characterised in that the return pipe (28) is connected to the outlet pipe (5) via a venturi (30).

33.- Compressor installation according to any one of the previous claims 22 to 32, characterised in that the dryer (12) is provided with a housing (15) within which the drying section (13b) and the regeneration section (13a) are located, whereby in the housing (15) a drum (16) is arranged containing the desiccant (14), said drum (14) being connected with driving means (17) such that the desiccant (17) can successively move through the drying section (13b) and the regeneration section (13a).

34.- Compressor installation according to any one of the previous claims 22 to 32, characterised in that the dryer (12) comprises a number of vessels (31) filled with the desiccant (14), at least one vessel (31) of which forms the drying section (13b) and at least one vessel (31) forms the regeneration section (13a), whereby the dryer (12) further comprises a valve system (32) which connects the outlet pipe (5), the regeneration pipe (20) and possibly the return pipe (28) and the tap off pipe (27) with said vessels (31), whereby said valve system (32) is such that at least one vessel (31) is always regenerated, while the other vessels (31) dry the compressed gas, whereby by

regulating the valve system (32) the vessels (31) are each in turn successively regenerated.

35.- Compressor installation according to any one of the previous claims 22 to 34, characterised in that an aftercooler (7) and possibly a liquid separator is mounted in the outlet pipe (5).