## **Trouble Check Points**

Overall: 71 items [Details]						
Common	14 items	F.R.L.	11 items			
Air Cylinder	18 items	Others	15 items			
Valve	13 items					

## These trouble check points show the contents to be checked on the spot when quality trouble occurs during use. Confirm the check points of the "Common" and applicable "Product Group."

## Product Group Common & Cylinder

No	Product Group	Phenomenon	Check	Check Points [On Site]
1	Common	-		Is the pressure, temperature, kinetic energy, etc., outside of the specification range?
2	Common	-		Are there any scratches, gouges, or other apparent damage? -> Check or the occurrence of these problems during installation and transportation.
3	Common	-		Is there any looseness of screws or protrusion of the gasket?
4	Common	-		Is there any evidence of disassembly?
5	Common	-		Has air been supplied? (Is the stop valve closed?)
6	Common	-		Is the tubing connected correctly?
7	Common	-		Is there air leakage from the tubing?
8	Common	-		Is there an air preparation system? Is it functioning?
9	Common	-		Is the knob, etc., being turned in reverse?
10	Common	-		Is the product mounted in the correct direction (IN/OUT)?
11	Common	-		Is the threaded portion of the tubing connected properly (with sealant tape, etc.)?
12	Common	-		Is there any looseness in the tubing/connection thread portion?
13	Common	-		Is there any problem with the tubing/connection thread type/size?
14	Common	-		Is there any damage to the tubing/connection thread due to over tightening?
15	Air Cylinder	Air leakage		Has any foreign matter in the operating environment adhered to the sliding parts?
16	Air Cylinder	Air leakage		Is there any moisture flowing in? Is there any trouble with the air preparation equipment?
17	Air Cylinder	Air leakage		Is any partial wear on the sliding surface of the piston rod occurring due to an excessive lateral load or moment interaction?
18	Air Cylinder	Air leakage		Have the tubing port threads been tightened excessively?
19	Air Cylinder	Air leakage/malfunction		Is there any liquid (drain or water) stuck inside the tubing or port?
20	Air Cylinder	Air leakage/malfunction		Is there any foreign matter adhered to the inside of the tubing or port?
21	Air Cylinder	Air leakage/malfunction		Is there any foreign matter (including liquid) adhered to the sliding surface of the piston rod?
22	Air Cylinder	Air leakage/malfunction		Has the correct tightening torque been used for mounting the product?
23	Air Cylinder	Malfunction		Is there any scratching occurring on the piston rod, etc., due to an excessive lateral load or moment interaction?
24	Air Cylinder	Malfunction		Is the operating speed outside the specifications due to the flow rate being reduced in the speed controller, etc.?
25	Air Cylinder	Malfunction		Is the maximum stroke being exceeded?
26	Air Cylinder	Malfunction		Does the load transfer direction conform to the rod center?
27	Air Cylinder	Malfunction		Is the operating speed outside the specification range?
28	Air Cylinder	Malfunction		Is the cylinder being operated while the cushion valve is fully closed?
29	Air Cylinder	Malfunction		Is there any bending of the tubing?
30	Air Cylinder	Malfunction		Is the meter-in/meter-out of the speed controller correct?
31	Air Cylinder	Damage		Is there any excessive lateral load, moment, or external force occurring?
32	Air Cylinder	Appearance defect (Rust)		Is it being used in an environment with splashing water? Has the product been stored for a long period of time in a high-humidity environment?



## **Product Group** Valve, F.R.L., Pressure gauge, Vacuum ejector, Auto switch, Fittings

No	Product Group	Phenomenon	Check	Check Points [On Site]
33	Valve	Air leakage		Has any foreign matter (including drain) adhered to the connection port (fittings), etc.?
34	Valve	Air leakage		Is there any looseness in the mounting screws of the sub-plate (manifold)?
35	Valve	Malfunction		Is the voltage within the range of the rated voltage (-10% to $+10\%$ )?
36	Valve	Malfunction		Is the product installed in a location where it is exposed to vibrations?
37	Valve	Malfunction		Has the product been wired correctly?
38	Valve	Malfunction		Have the wires been securely inserted into the wiring socket? (Pull on the lead wires one at a time to confirm.)
39	Valve	Malfunction		Are there any scratches on the wiring?
40	Valve	Malfunction		Has the product been in an energized state for a long period of time (duty ratio of 50% or more)?
41	Valve	Malfunction		Is the PE port plugged in?
42	Valve	Malfunction		Is the upstream side tubing diameter sufficient? (Is it being reduced?)
43	Valve	Malfunction		Is the valve mounted correctly? (Horizontal, vertical)
44	Valve	Malfunction		Are electrical signals being received?
45	Valve	Malfunction		Is there any clogging of the silencer?
46	F.R.L.	Air leakage		Has the direction been reversed when reassembling after changing the specification?
47	F.R.L.	Air leakage		Have any seals, etc., been omitted when reassembling after changing the specification?
48	F.R.L.	Air leakage		Was the proper torque used to tighten the screws when reassembling after changing the specification?
49	F.R.L.	Air leakage		Is there any possibility of foreign matter entering into the body when the tubing was connected? (Including entry from the OUT port)
50	F.R.L.	Air leakage		Has it been operated according to the standard below the allowable leakage of the product?
51	F.R.L.	Air leakage		Are the compressor capacity and operating pressure of the float type auto drain N.O. type at the specified value or more? (Compressor capacity: 0.75 kW [100 L/min (ANR)] or more, Operating pressure: 0.1 MPa or more. When using 2 or more auto drains, multiply the above value by the number of auto drains to find the capacity of the required compressors.)
52	F.R.L.	Air leakage		Has the non-relieving or relieving type been selected properly?
53	F.R.L.	Air leakage		Is there any solvent in the environment?
54	F.R.L.	Malfunction		Has the AL sight dome been turned with excessive torque? (Is the sight dome deformed?)
55	F.R.L.	Malfunction		Is there any possibility that the product was dropped on the floor, hit against something, or had an impact applied to it?
56	F.R.L.	Malfunction		Have the inlet pressure and the outlet flow rate been fluctuating?
57	Pressure Gauge	Malfunction		Has excessive pressure been applied?
58	Pressure Gauge	Malfunction		Are there any traces of impact, including dropping?
59	Pressure Gauge	Malfunction		Is there any oscillation or pulsation occurring?
60	Vacuum Ejector	Malfunction		Is the supply pressure correct? (Set operating pressure)
61	Vacuum Ejector	Malfunction		Is there any clogging of the element?
62	Vacuum Ejector	Malfunction		Is power being supplied to the valve?
63	Auto Switch	Malfunction		Is there any possibility of an over current? $\rightarrow$ What is the normally used current?
64	Auto Switch	Malfunction		Is there any effect from the magnetic field of an adjacent cylinder?
65	Auto Switch	Malfunction		Is there any miswiring?
66	Fittings	Air leakage		Is the tube completely inserted?
67	Fittings	Air leakage		Has the tubing been cut vertically?
68	Fittings	Air leakage		Is there excessive or insufficient tightening of the threads?
69	Fittings	Air leakage		Is the sealant tape wound properly?
70	Fittings	Air leakage		Are there any external forces (pulling, bending, etc.) being applied to the tubing?
71	Fittings	Malfunction		Has any foreign matter (including drain) adhered to the connection port (fittings), etc.?