CLAIMS

1. A seal material handling monitoring device, sealing being performed by sandwiching a seal material in a flange joint and tightening the seal material by means of a plurality of bolts, the seal material handling monitoring device comprising:

a processor which generates a plurality of coordinates that extend radially from a center point; displays target axial forces of the bolts or detected axial forces of the bolts, via each of the coordinates, as a distance from the center point; generates a first distribution map from the target axial forces or a second distribution map from the detected axial forces, at the coordinates, by linking between the target axial forces or the detected axial forces at adjacent coordinates; determines whether the detected axial forces lie within tolerance of the target axial forces; determines that the axial forces are accepted if the detected axial forces lie within the tolerance of the target axial forces; determines that the axial forces are rejected if the detected axial forces lie out of the tolerance; and displays a determination result on a monitor.

2. The seal material handling monitoring device according to claim 1, wherein the processor displays the first distribution map and the second distribution map such that the first and second distribution maps are superposed via common coordinates.

3. A seal material handling monitoring program for causing a computer to implement functions to:

generate a plurality of coordinates that extend radially from a center point, display target axial forces of bolts or detected axial forces of the bolts, via each of the coordinates, as a distance from the center point, and generate a first distribution map from the target axial forces or a second distribution map from the detected axial forces, at the coordinates, by linking

between the target axial forces or the detected axial forces at adjacent coordinates; and

determine whether the detected axial forces lie within tolerance of the target axial forces, determine that the axial forces are accepted if the detected axial forces lie within the tolerance of the target axial forces, determine that the axial forces are rejected if the detected axial forces lie out of the tolerance, and display a determination result on a monitor.

4. The seal material handling monitoring program according to claim 3, for further causing the computer to implement a function to display the first distribution map and the second distribution map such that the first and second distribution maps are superposed via common coordinates.

5. A seal material handling monitoring method, sealing being performed by sandwiching a seal material in a flange joint and tightening the seal material by means of a plurality of bolts, the seal material handling monitoring method comprising:

a step of generating, by graphical information generation means, a plurality of coordinates that extend radially from a center point, displaying target axial forces of the bolts or detected axial forces of the bolts, via each of the coordinates, as a distance from the center point, and generating a first distribution map from the target axial forces or a second distribution map from the detected axial forces, at the coordinates, by linking between the target axial forces or the detected axial forces at adjacent coordinates; and

a step of determining whether the detected axial forces lie within tolerance of the target axial forces, determining that the axial forces are accepted if the detected axial forces lie within the tolerance of the target axial forces, determining that the axial forces are rejected if the detected axial forces lie out of the

tolerance, and displaying a determination result on a monitor.

6. A seal material handling monitoring system, sealing being performed by sandwiching a seal material in a flange joint and tightening the seal material by means of a plurality of bolts, the seal material handling monitoring system comprising:

a seal handling unit including a first sensor that detects axial forces of a plurality of bolts which tighten a seal material sandwiched in a flange joint, or a second sensor that detects parallelism between flanges of the flange joint; and

a processor which generates a plurality of coordinates that extend radially from a center point; displays target axial forces of the bolts or detected axial forces of the bolts, via each of the coordinates, as a distance from the center point; generates a first distribution map from the target axial forces or a second distribution map from the detected axial forces, at the coordinates, by linking between the target axial forces or the detected axial forces at adjacent coordinates; determines whether the detected axial forces lie within tolerance of the target axial forces; determines that the axial forces are accepted if the detected axial forces lie within the tolerance of the target axial forces; determines that the axial forces are rejected if the detected axial forces lie out of the tolerance; and displays a determination result on a monitor.

7. A seal material handling training system, sealing being performed by sandwiching a seal material in a flange joint and tightening the seal material by means of a plurality of bolts, the seal material handling training system comprising:

a seal handling unit including a first sensor that detects axial forces of a plurality of bolts which tighten a seal material sandwiched in a flange joint, or

a second sensor that detects parallelism between flanges of the flange joint; and

a processor which generates a plurality of coordinates that extend radially from a center point; displays target axial forces of the bolts or detected axial forces of the bolts, via each of the coordinates, as a distance from the center point; generates a first distribution map from the target axial forces or a second distribution map from the detected axial forces, at the coordinates, by linking between the target axial forces or the detected axial forces at adjacent coordinates; determines whether the detected axial forces lie within tolerance of the target axial forces; determines that the axial forces are accepted if the detected axial forces lie within the tolerance of the target axial forces; determines that the axial forces are rejected if the detected axial forces lie out of the tolerance; and displays a determination result on a monitor.