for a pass count N=2, and so forth. In this case, the torque value τ according to the pass count N may also be selected from precalculated torque values τ0, τ1, τ2, and so forth.

[0045] The torque value τ is provided and set for the tightening tool 14 by the control unit 16-2 (S207). The tightening tool 14 generates an output torque T according to the torque value τ. As a result, the output torque T is gradually or continuously modified or maintained according to the tightening pass count N or the tightening location P (S208).

[0046] Furthermore, by means of the tightening tool 14, the technician exerts an output torque T on the bolts 6 or nuts 8 of the tightening locations P1 to P8 and performs tightening (S209). The axial force sensors 26-1, 26-2, ... 26-8 perform detection of the axial forces on the bolts 6 in each of the tightening locations P1 to P8 (S210), and the detected axial forces are each fed to the control unit 16-2 (S211).

[0047] The control unit 16-2 determines whether or not each of the detected axial forces has attained a target axial force (S212). If each detected axial force F has not attained the target axial force Fe (NO in S212), the control unit 16-2 returns to S205 and repeats the processing of S205 to S212.

[0048] If the detected axial force F has attained the target axial force Fe (YES in S212), the tightening is then complete (S213), and the control unit 16-2 reports the completion to the tightening tool 14 and ends the tightening. The completion of tightening may also be reported by using a display device.

[0049] <Effect of second embodiment>

(1) The torque value τ can be calculated according to the pass count N of a tightening location, or the tightening location P. The torque value τ which corresponds to the tightening location pass count or the tightening location can

the flanges 10-1, 10-2 and gasket 12 which are the tightening target. These values may be calculated at the time of seal handling or precalculated values may be stored and selected.

[0083] The torque value table 90-2 illustrated in Fig. 13 corresponds to seal handling in a case where the pass mode illustrated in the foregoing Fig. 2B is preset. When the pass count N of the tightening location P is less than 1 (N<1), the torque value table 90-2 stores the torque values τ (=τ01, τ02, ... τnn) of the tightening locations P (=P1, P2, ... Pn) which are specified by an angle θ of the tightening locations P. As the torque value after one tightening pass (N=1), the same torque value τ as the torque value table 90-1 illustrated in Fig. 12 is calculated according to the pass count N (=2, ...n) and stored. As in the case of the torque value table 90-1, these values may each be calculated at the time of seal handling or precalculated values may be stored and selected.

[0084] <Processing sequence of seal handling management>

Fig. 14 illustrates a seal handling management processing sequence of a seal handling management system 2-4.

At the time of seal handling, an initial setting of the tightening tool 14 is performed (S301) and an initial setting of the controller 16-4 is performed (S302). After the initial configuration, the controller 16-4 and the server 16-5 are linked and the tightening condition information provided by the server 16-5 is fed to the controller 16-4 (S303). The feeding of the tightening condition information is realized by acquiring the tightening condition table 88 and the torque value tables 90-1, 90-2.

[0085] The controller 16-4, which has acquired the tightening condition information, selects tightening conditions which correspond to the preselected flanges 10-1, 10-2 and the gasket 12 (S304). The selection of the tightening conditions may also include processing to select a torque