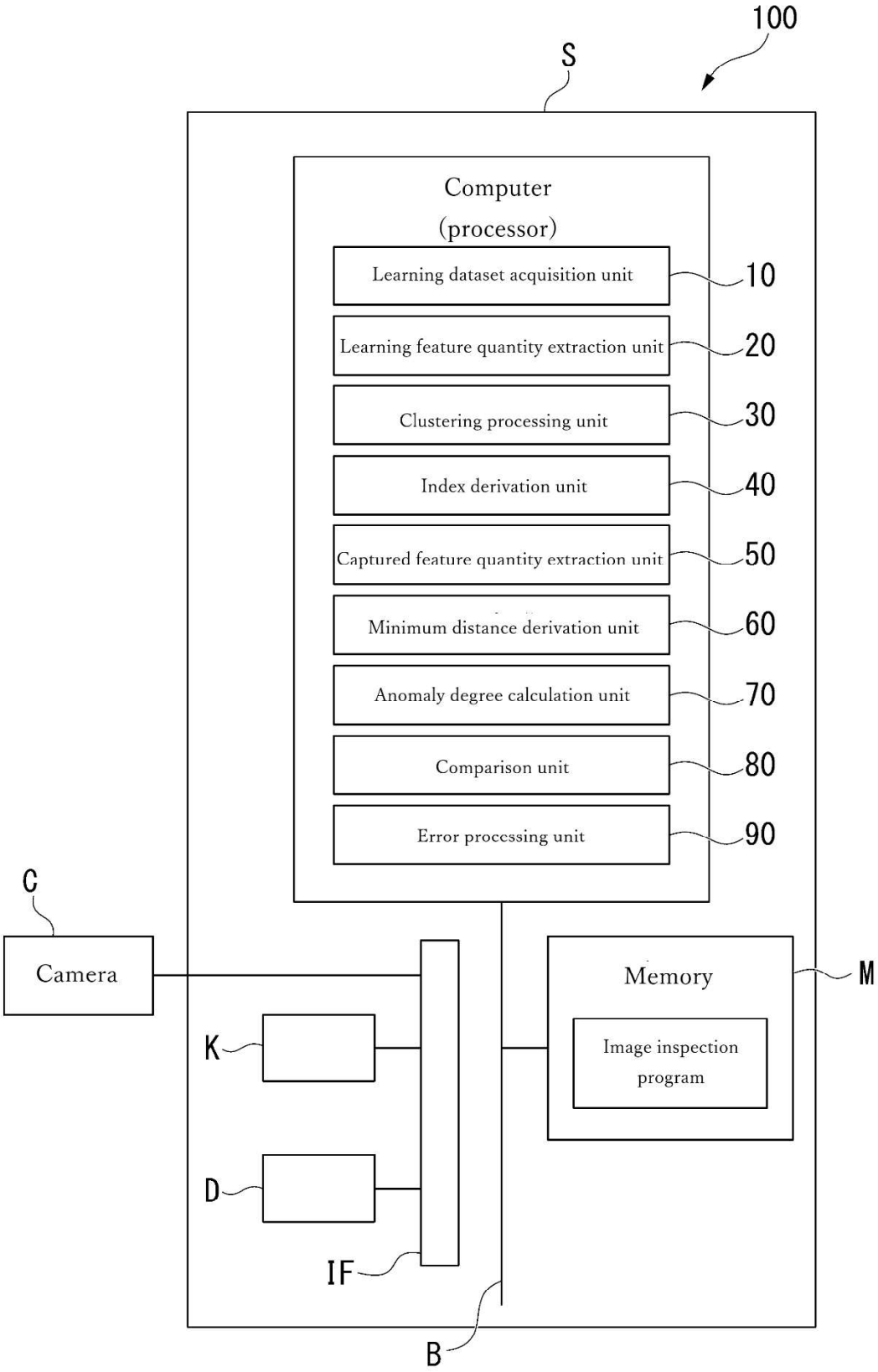
100
S
Computer
(processor)
Learning dataset acquisition unit
10
Learning feature quantity extraction unit
20
Clustering processing unit
30
Index derivation unit
40
Captured feature quantity extraction unit
50
Minimum distance derivation unit
60
Anomaly degree calculation unit
70
Comparison unit
80
Error processing unit
90
C
Camera
K
D
IF
B
Memory
M
Image inspection
program

Fig. 1

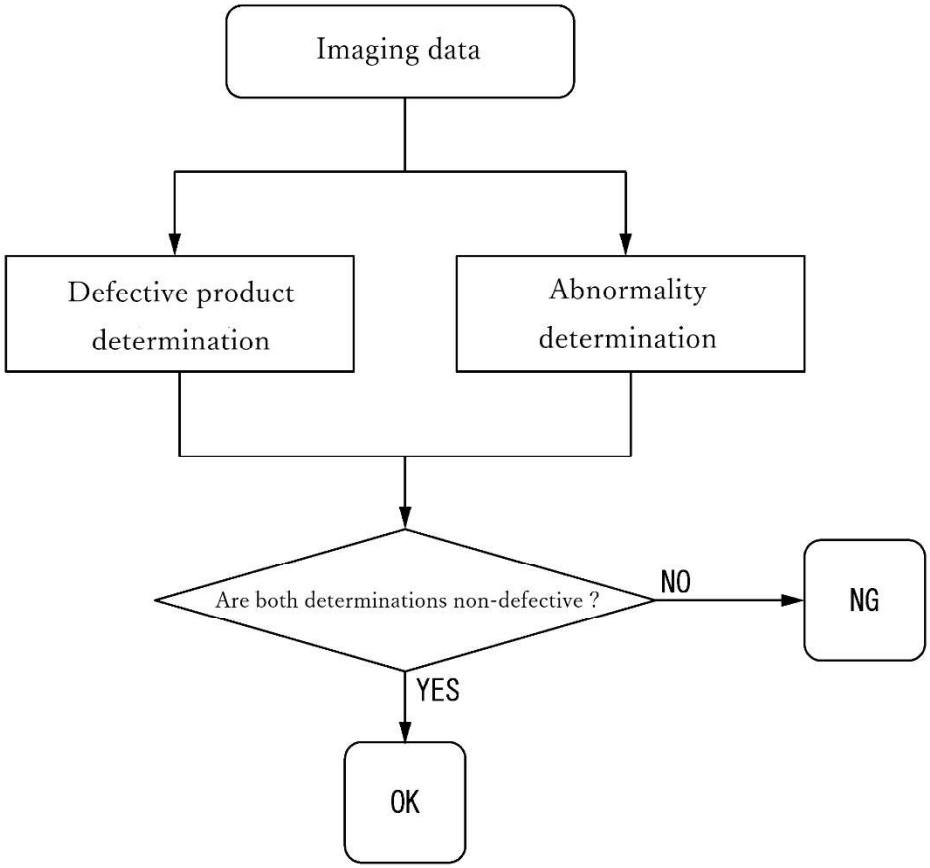
Imaging data
Defective product determination
Abnormality determination
Are both determinations non-defective ?
NO
NG
YES
OK

Fig. 2

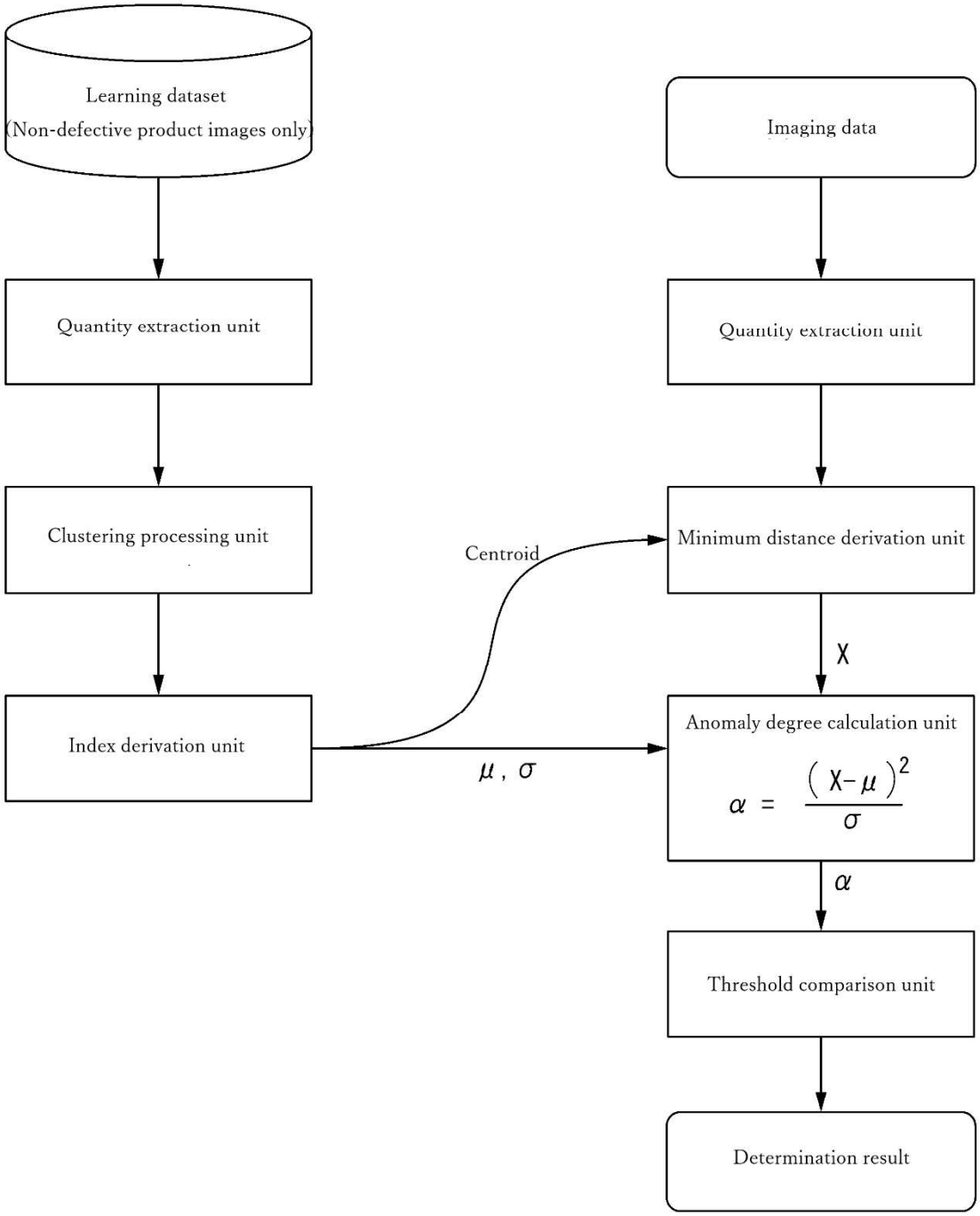
Learning dataset
(Non-defective product images only)
Quantity extraction unit
Clustering processing unit
Index derivation unit
Centroid
μ , σ
Imaging data
Quantity extraction unit
Minimum distance derivation unit
X
Anomaly degree calculation unit
$\alpha = \frac{(X-\mu)^2}{\sigma}$
α
Threshold comparison unit
Determination result

Fig. 3

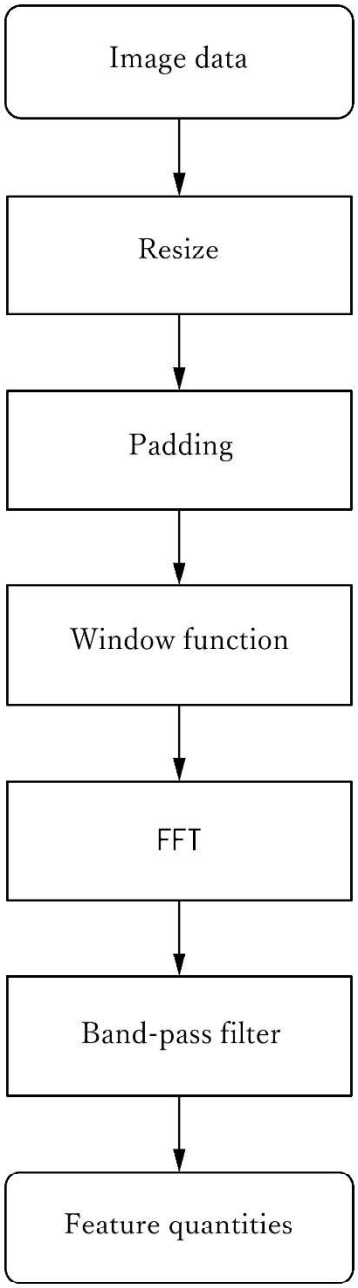
Image data
Resize
Padding
Window function
FFT
Band-pass filter
Feature quantities

Fig. 4