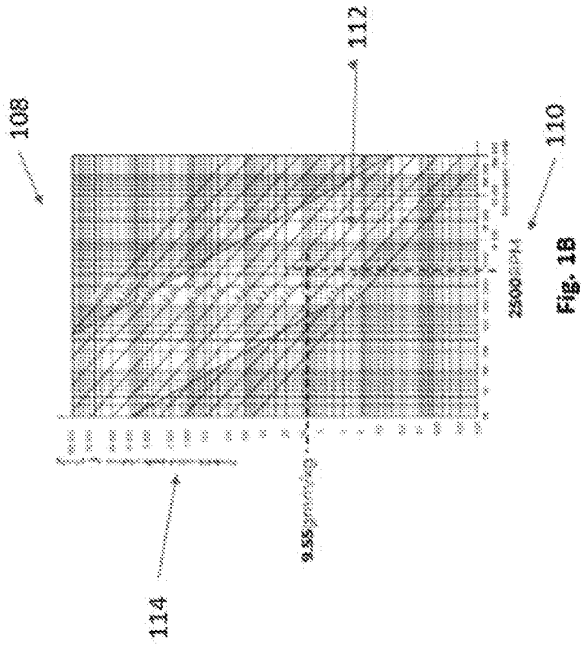


Fig. 1B

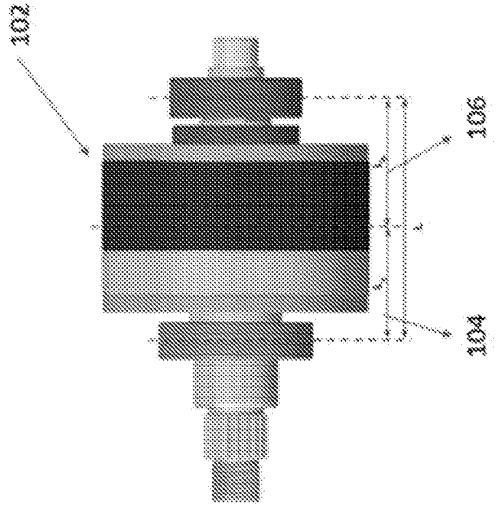


Fig. 1A

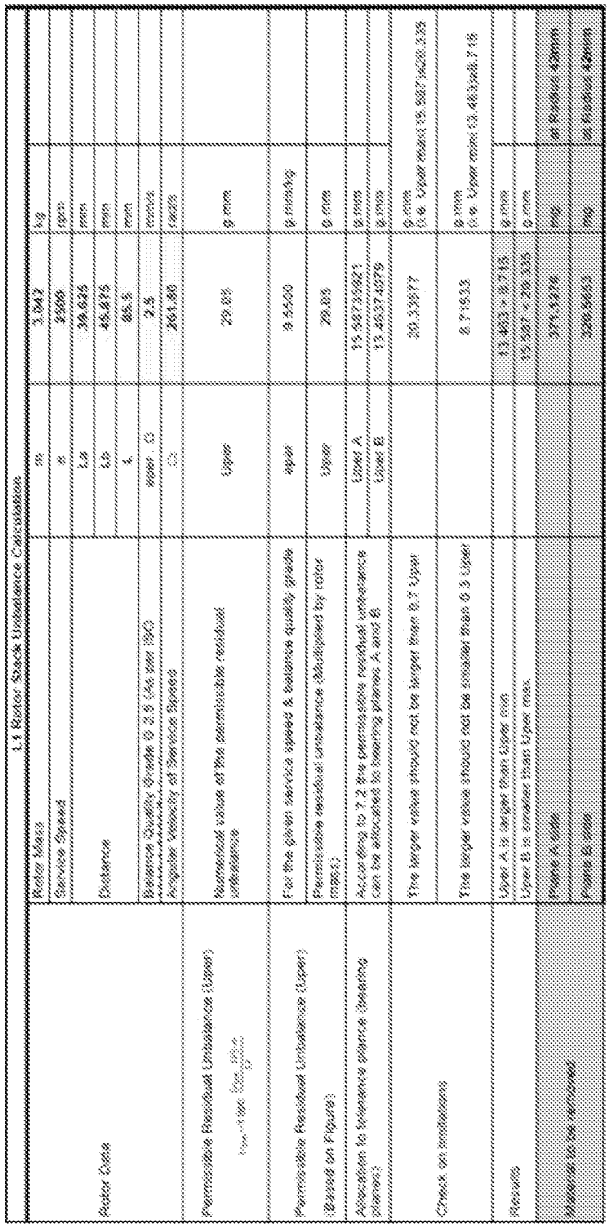

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1.1 Rotor Stack Unbalance Calculations
Rotor Data
Rotor Mass
Service Speed
Distance
Balance Quality Grade G 2.5 (As per ISO
Angular Velocity of Service Speed
Permissible Residual Unbalance (Upper)
Permissible residual unbalance (Multiplied by rotor
mass):
Allocation to tolerance planes (leading
planes):
Check on limitations
Remarks
Plane A (kg)
Plane B (kg)
Address to be entered
m
n
Ls
Lb
t
Upper
Upper
Upper A
Upper B
1.042
2366
39.635
45.875
86.5
2.5
261.80
29.85
8.5500
29.85
15.987339621
13.457134275
20.33977
8.71933
13.463 > 8.715
15.987 > 29.335
371.1974
329.5653
kg
rpm
mm
mm
mm
mm/s
rad/s
g mm
g mm/kg
g mm
g mm
g mm
g mm
g mm
g mm
(i.e. Upper mass 13.463 < 8.719
g mm
g mm
mm
mm

Fig. 1C

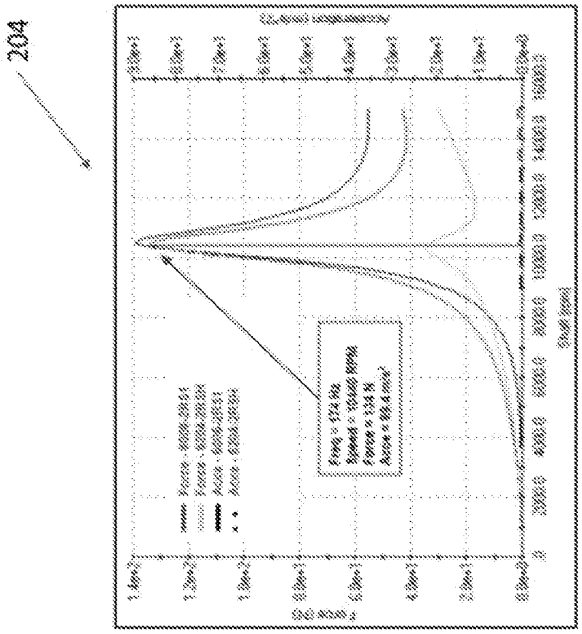


Fig. 2B

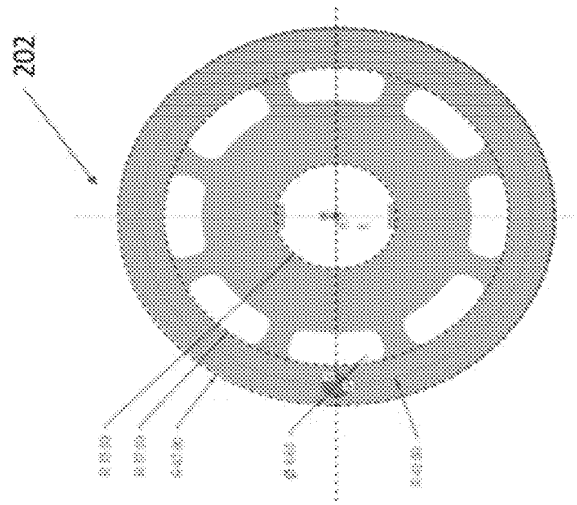


Fig. 2A

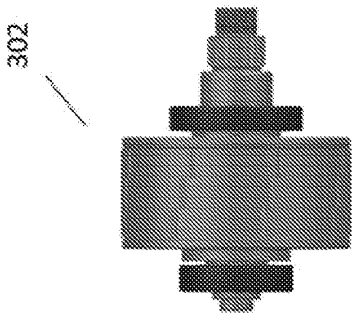


Fig 3c

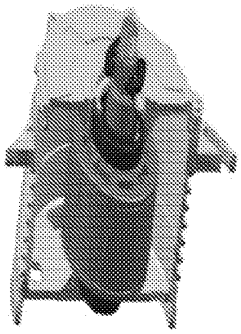


Fig 3b

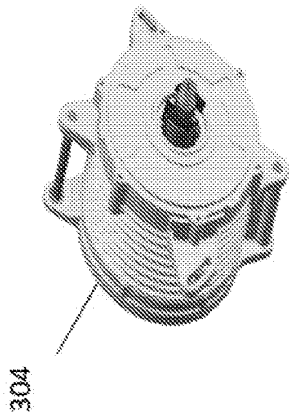


Fig 3a

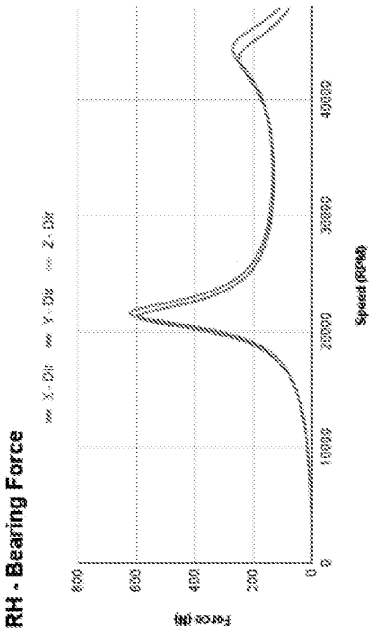

RH - Bearing Force
Force (N)
Speed (RPM)

Fig 4b

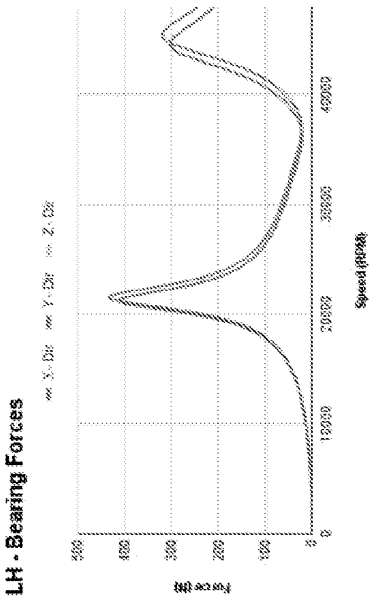

LH - Bearing Forces
Force (N)
Speed (RPM)

Fig 4a

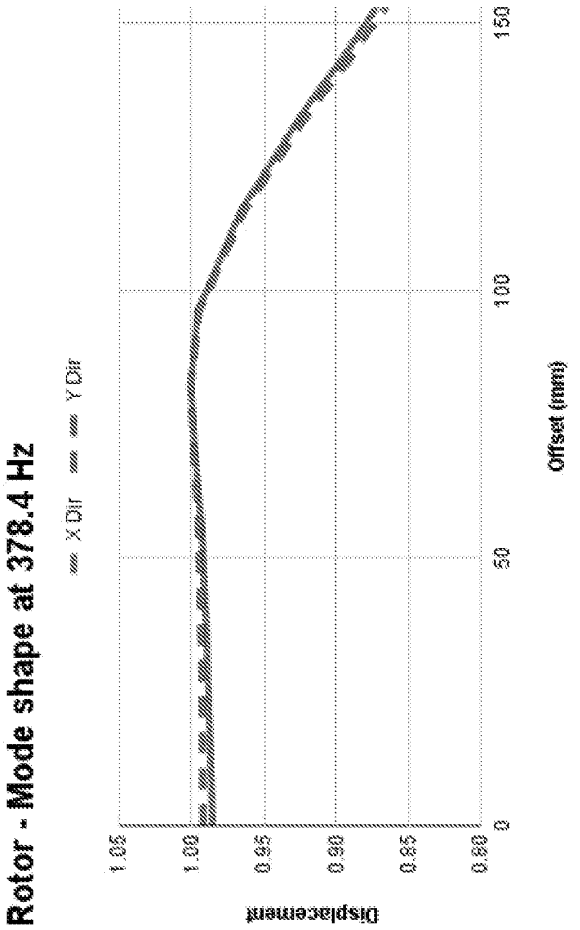

Rotor - Mode shape at 378.4 Hz
X Dir
Y Dir
Displacement
1.05
1.00
0.95
0.90
0.85
0.80
0
50
100
150
Offset (mm)

Fig 5

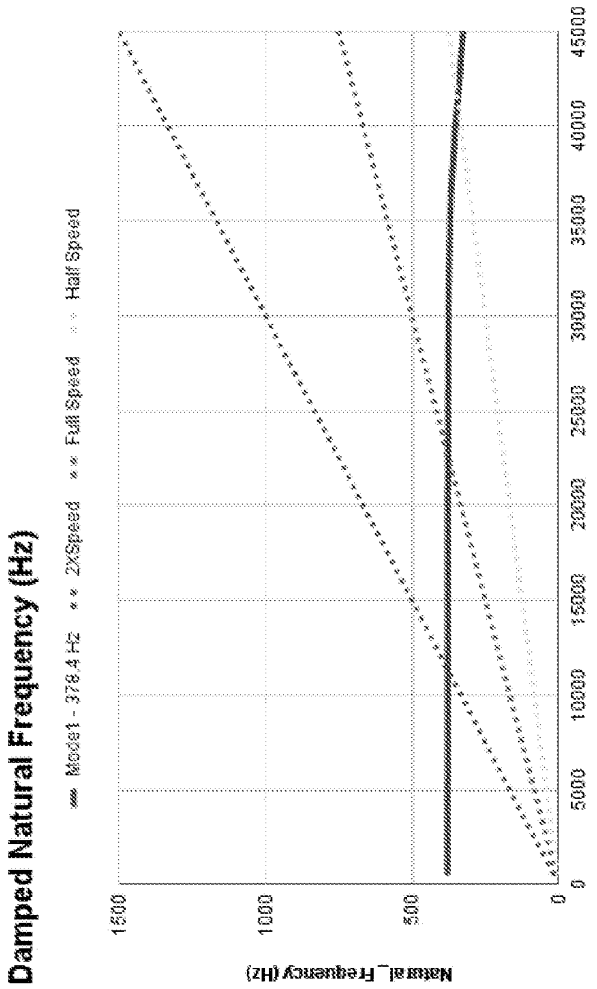

Damped Natural Frequency (Hz)
Mode1 - 378.4 Hz
2XSpeed
Full Speed
Half Speed
Natural_Frequency (Hz)
1500
1000
500
0
0
5000
10000
15000
20000
25000
30000
35000
40000
45000
Rotor Speed (rpm)

Fig 6

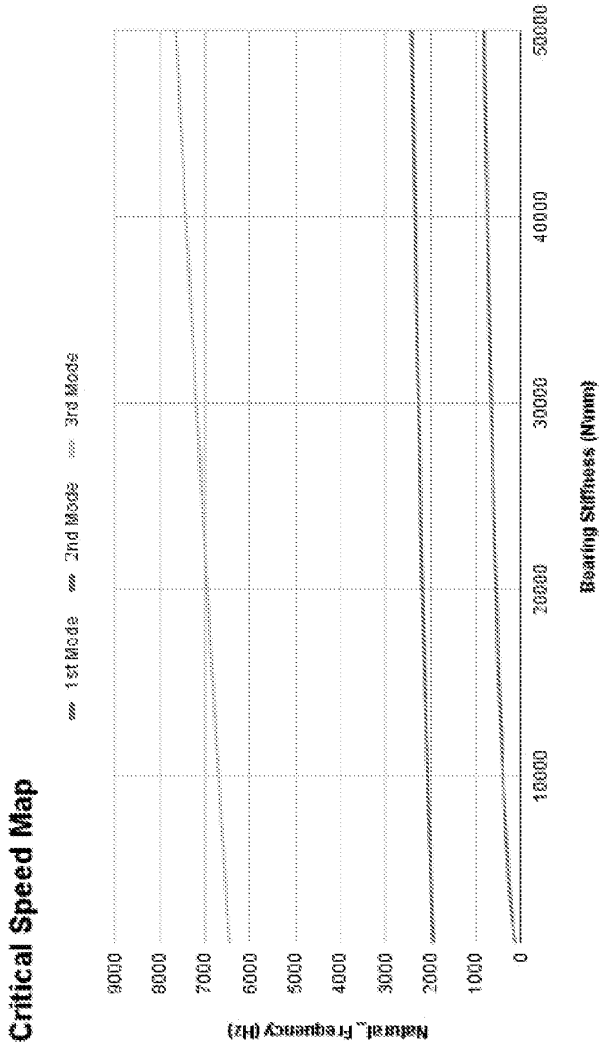

Critical Speed Map
1st Mode
2nd Mode
3rd Mode
Natural Frequency (Hz)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
10000
20000
30000
40000
50000
Bearing Stiffness (N/mm)

Fig 7

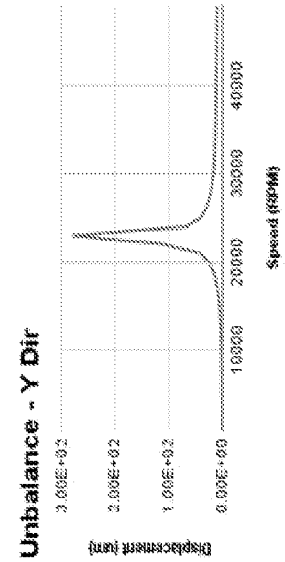


Fig 8b

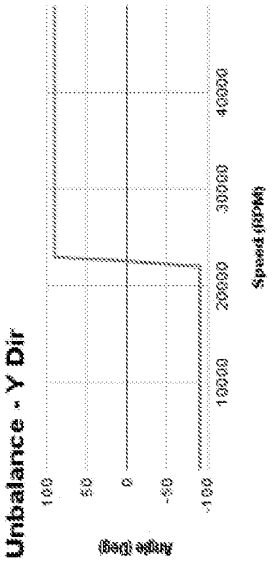


Fig 8d

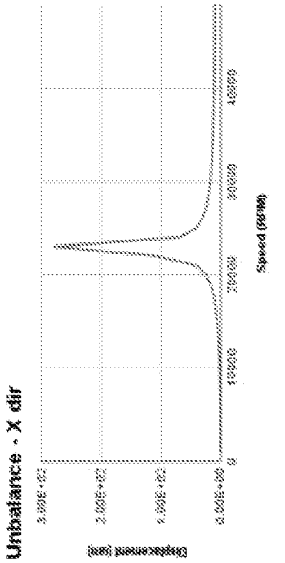


Fig 8a

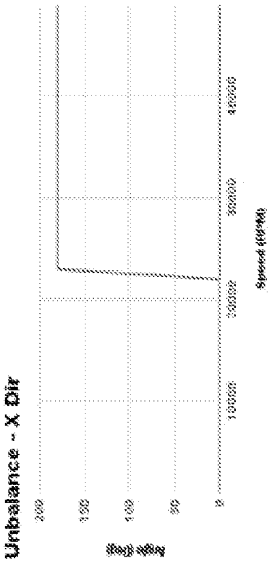


Fig 8c

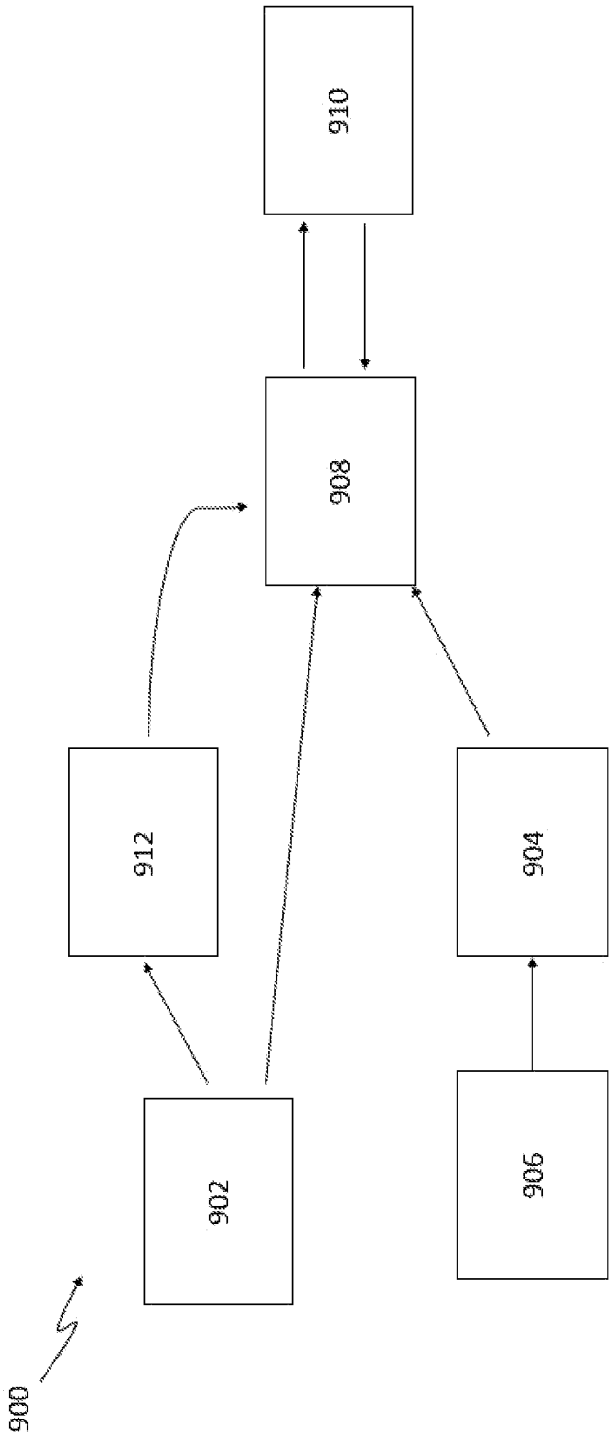


Fig 9

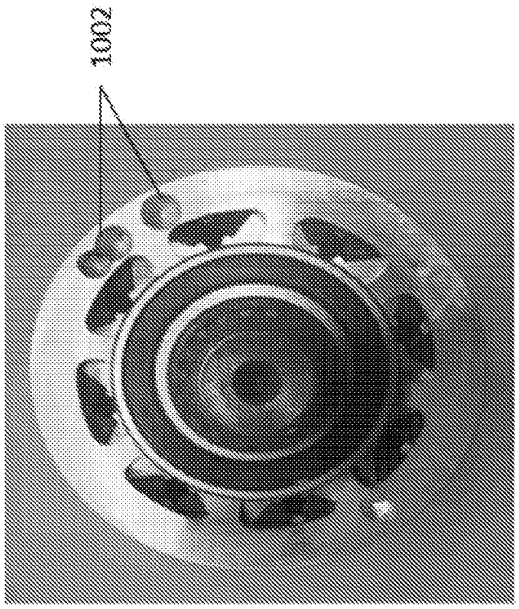


Fig 10b

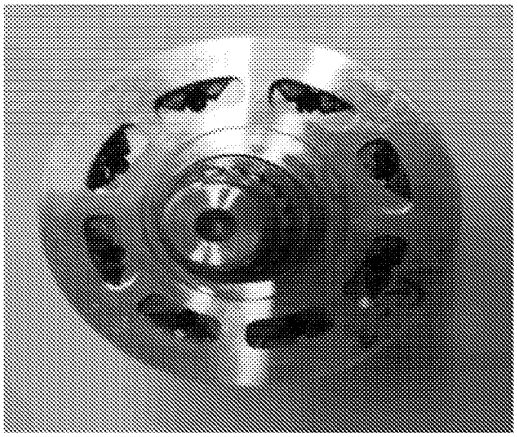


Fig 10a

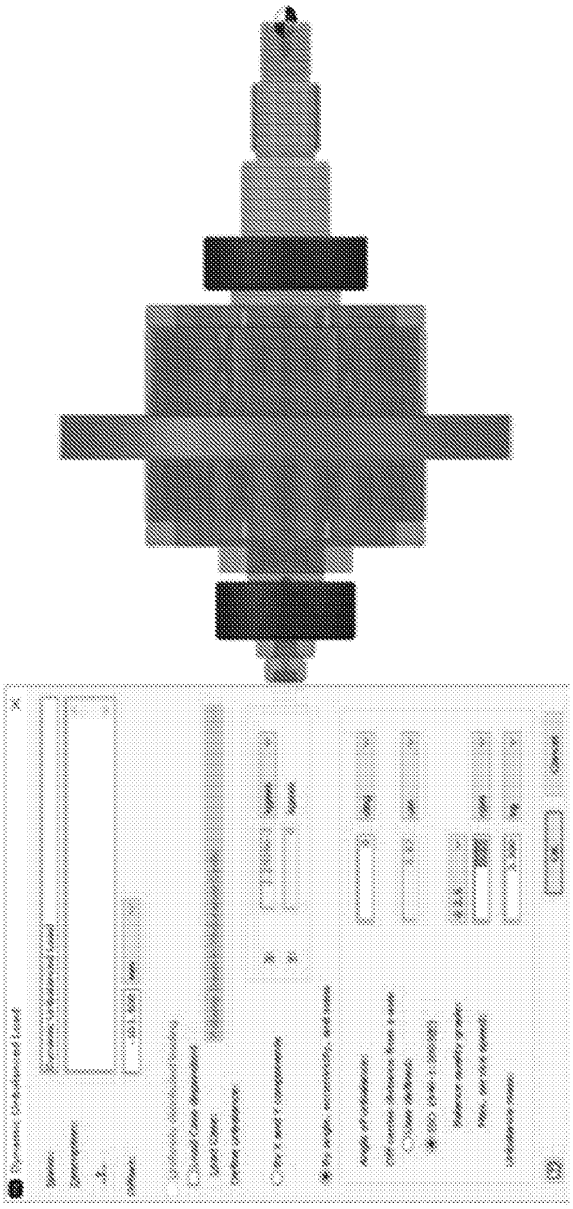


Fig 10c