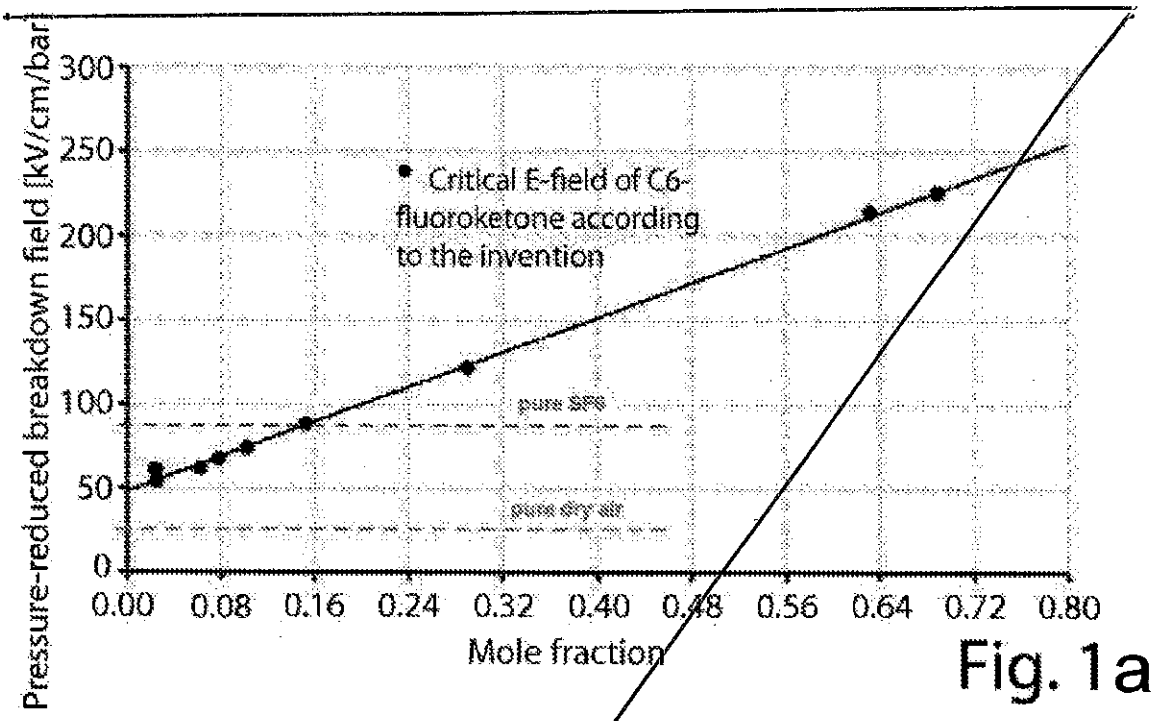

Pressure-reduced breakdown field [kV/cm/bar]
300
250
200
150
100
50
0
0.00
0.08
0.16
0.24
0.32
0.40
0.48
0.56
0.64
0.72
0.80
Mole fraction
Critical E-field of C6-fluoroketone according to the invention
pure SF6
pure dry air

Fig. 1a

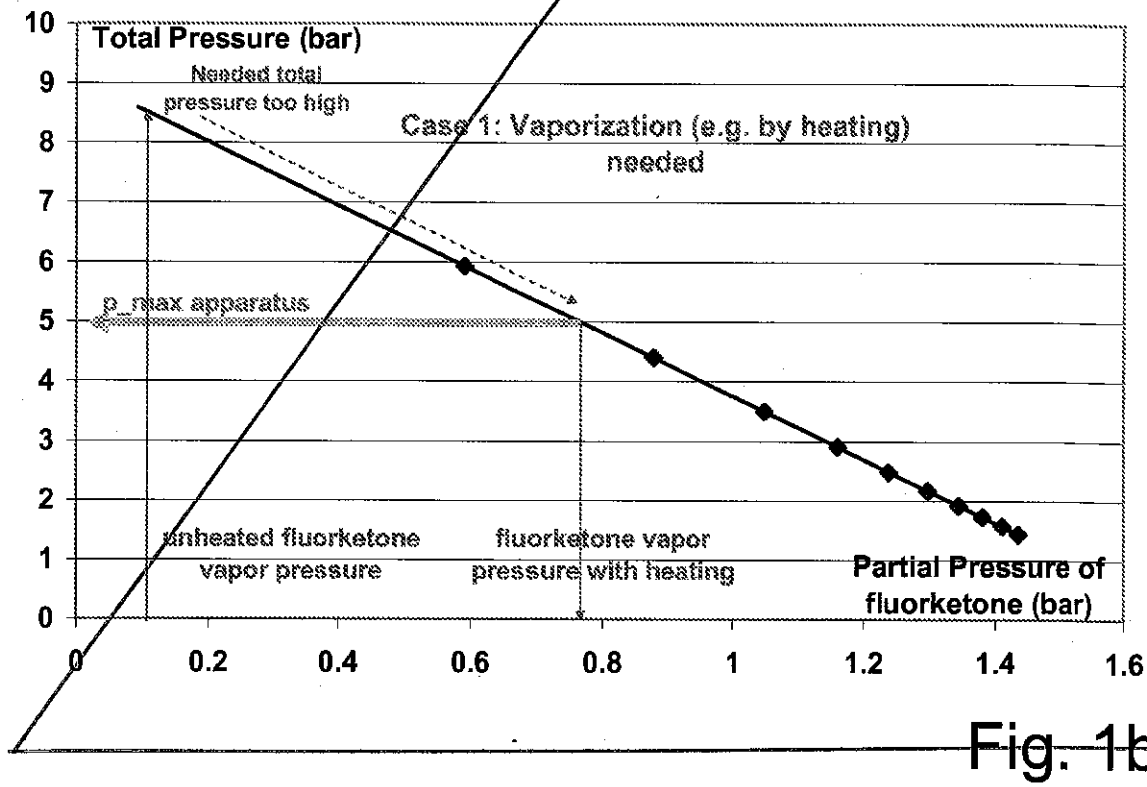

Total Pressure (bar)
10
9
8
7
6
5
4
3
2
1
0
Needed total pressure too high
Case 1: Vaporization (e.g. by heating) needed
p_max apparatus
unheated fluorketone vapor pressure
fluorketone vapor pressure with heating
Partial Pressure of fluorketone (bar)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6

Fig. 1b

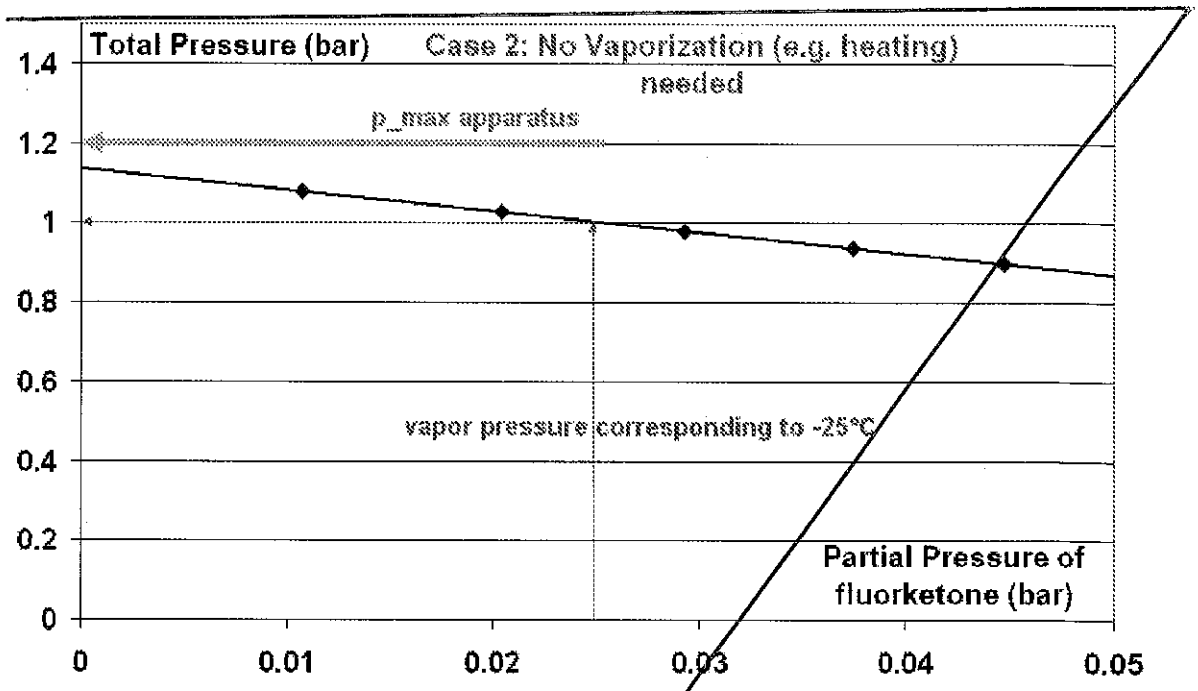

Total Pressure (bar)
Case 2: No Vaporization (e.g. heating) needed
p_max apparatus
vapor pressure corresponding to -25°C
Partial Pressure of fluorketone (bar)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.01
0.02
0.03
0.04
0.05

Fig. 1c

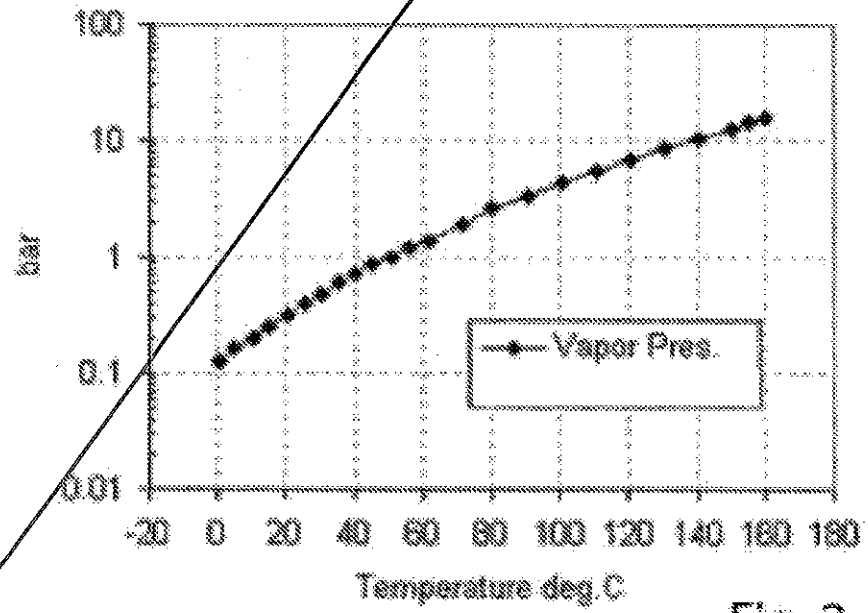

bar
100
10
1
0.1
0.01
Vapor Pres.
-20
0
20
40
60
80
100
120
140
160
180
Temperature deg.C

Fig. 2

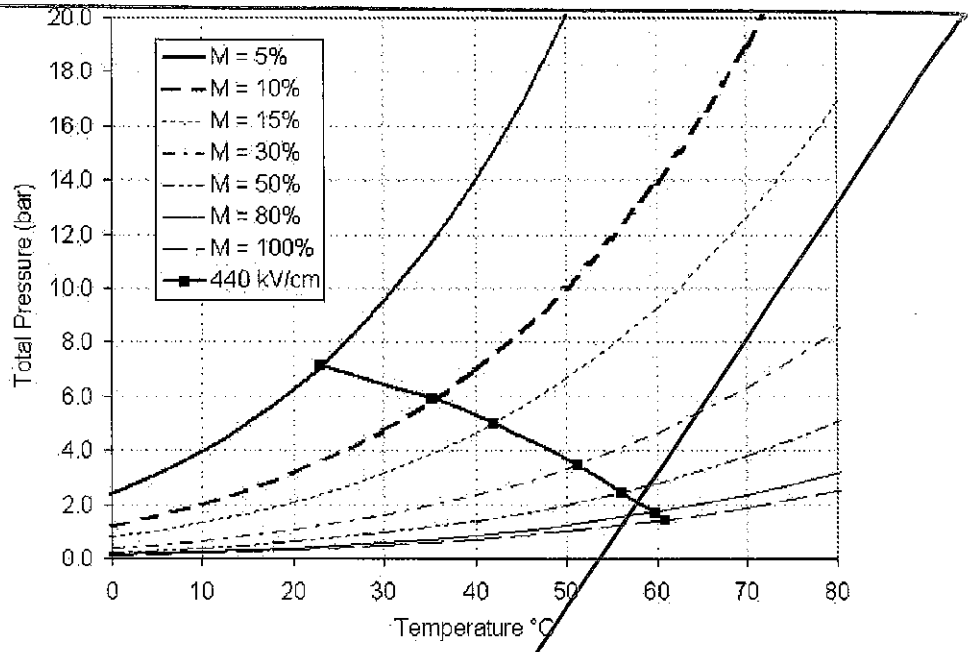

Total Pressure (bar)
Temperature °C
M = 5%
M = 10%
M = 15%
M = 30%
M = 50%
M = 80%
M = 100%
440 kV/cm

Fig. 3a

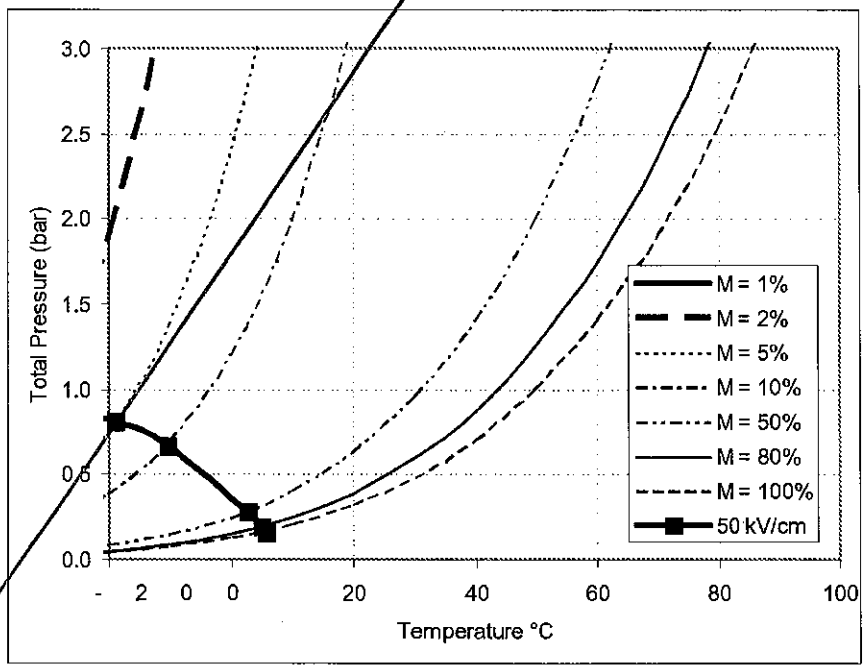

Total Pressure (bar)
Temperature °C
M = 1%
M = 2%
M = 5%
M = 10%
M = 50%
M = 80%
M = 100%
50 kV/cm

Fig. 3b

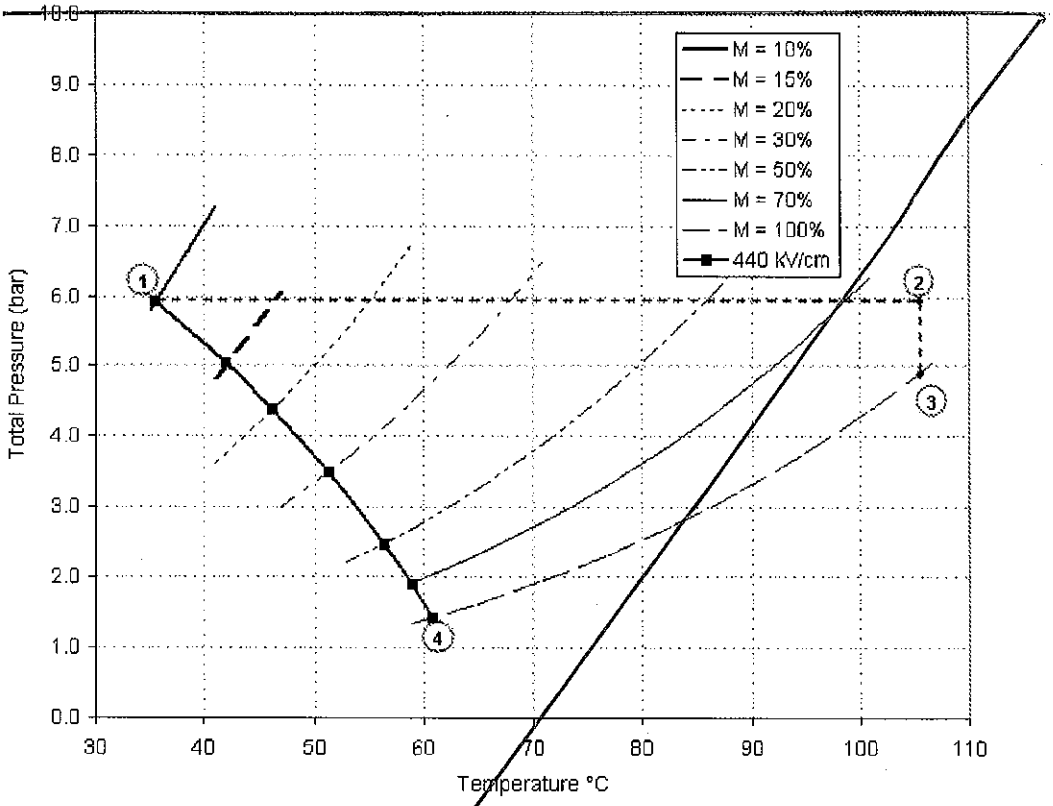

M = 10%
M = 15%
M = 20%
M = 30%
M = 50%
M = 70%
M = 100%
440 kV/cm
Total Pressure (bar)
Temperature °C
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
30
40
50
60
70
80
90
100
110
1
2
3
4

Fig. 3c

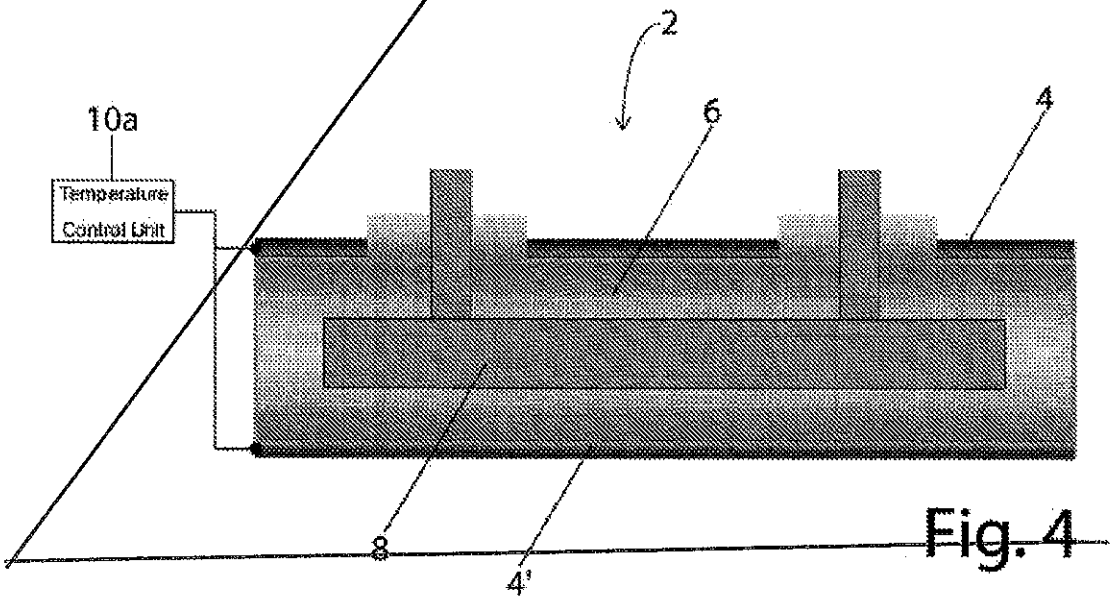

10a
Temperature
Control Unit
2
6
4
8
4'

Fig. 4

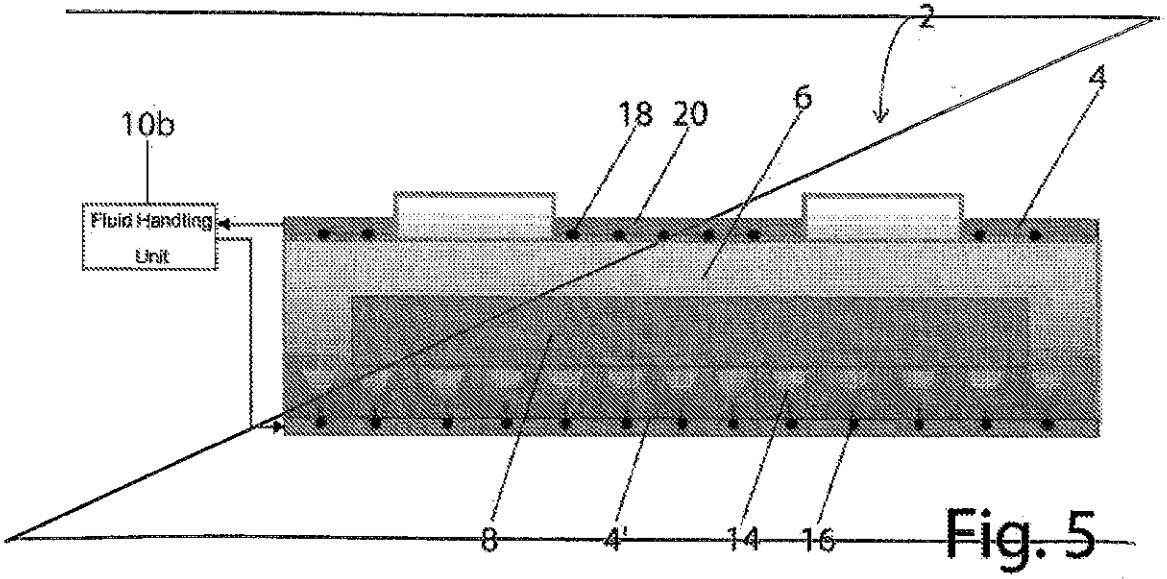


Fig. 5

Replaced by New Figures Nos. 1a, 1b, 1c, 2, 3a, 3b, 3c, 4 and 5.

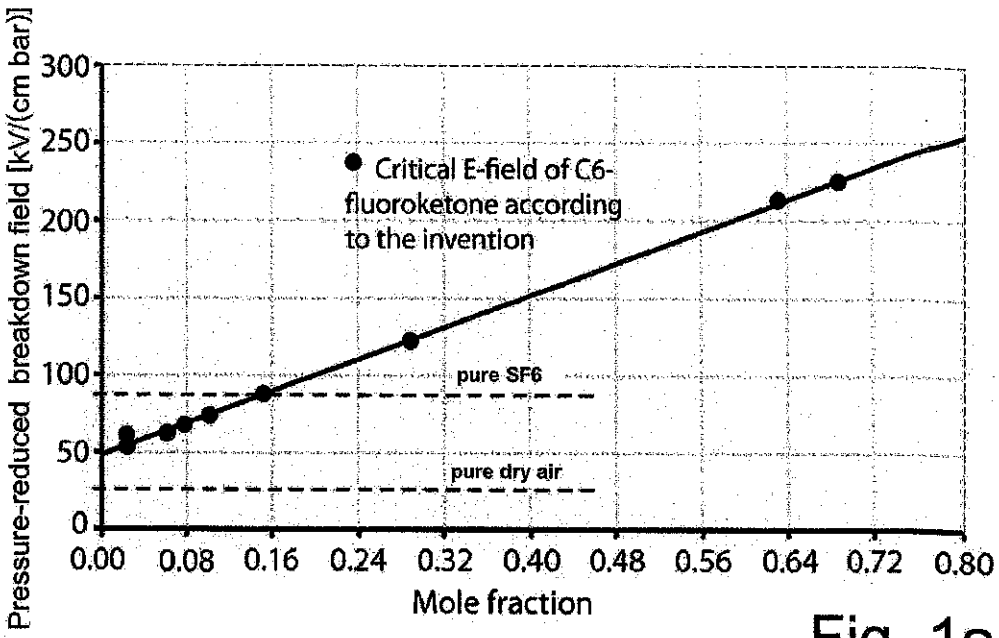

Pressure-reduced breakdown field [kV/(cm bar)]
300
250
200
150
100
50
0
Critical E-field of C6-fluoroketone according to the invention
pure SF6
pure dry air
0.00
0.08
0.16
0.24
0.32
0.40
0.48
0.56
0.64
0.72
0.80
Mole fraction

Fig. 1a

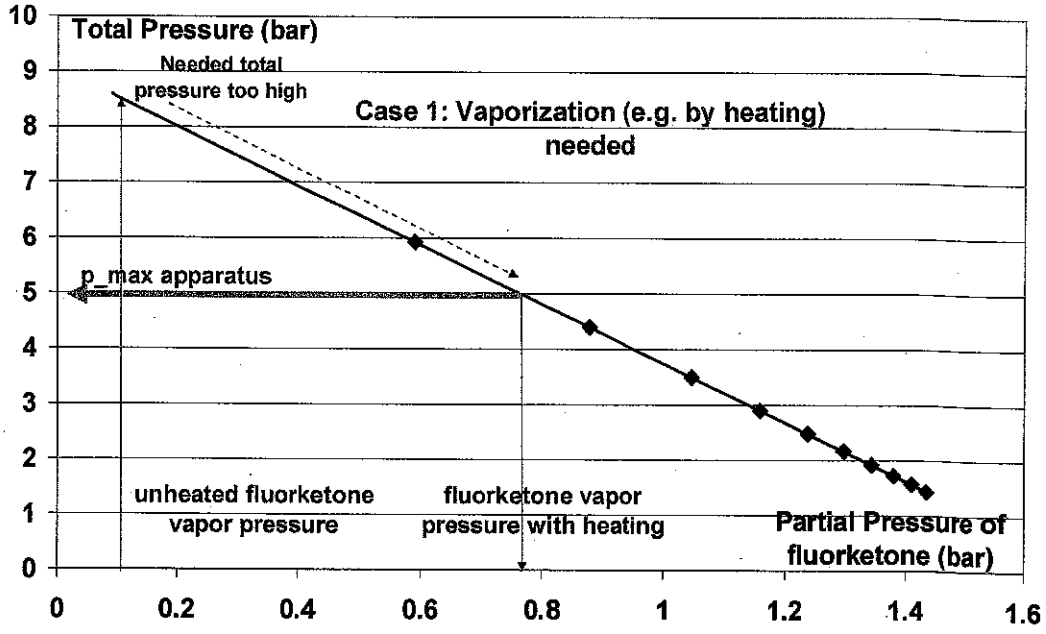

Total Pressure (bar)
Needed total pressure too high
Case 1: Vaporization (e.g. by heating) needed
p_max apparatus
unheated fluorketone vapor pressure
fluorketone vapor pressure with heating
Partial Pressure of fluorketone (bar)
10
9
8
7
6
5
4
3
2
1
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6

Fig. 1b

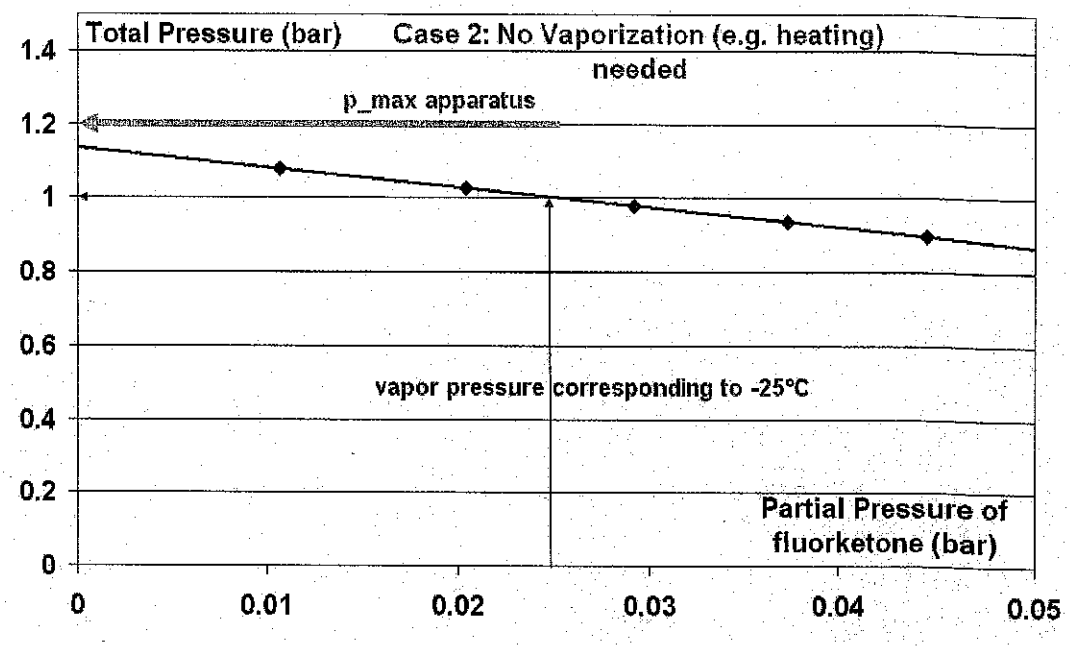

Total Pressure (bar)
Case 2: No Vaporization (e.g. heating) needed
p_max apparatus
vapor pressure corresponding to -25°C
Partial Pressure of fluorketone (bar)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0
0.01
0.02
0.03
0.04
0.05

Fig. 1c

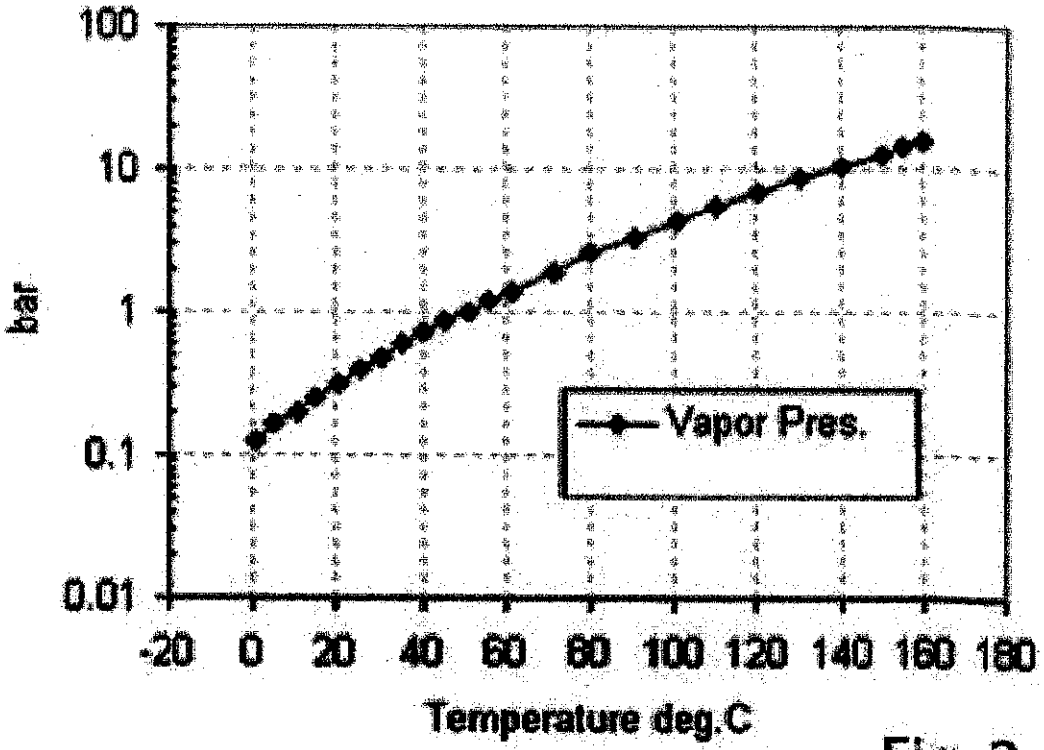

100
10
1
0.1
0.01
bar
Vapor Pres.
-20
0
20
40
60
80
100
120
140
160
180
Temperature deg.C

Fig. 2

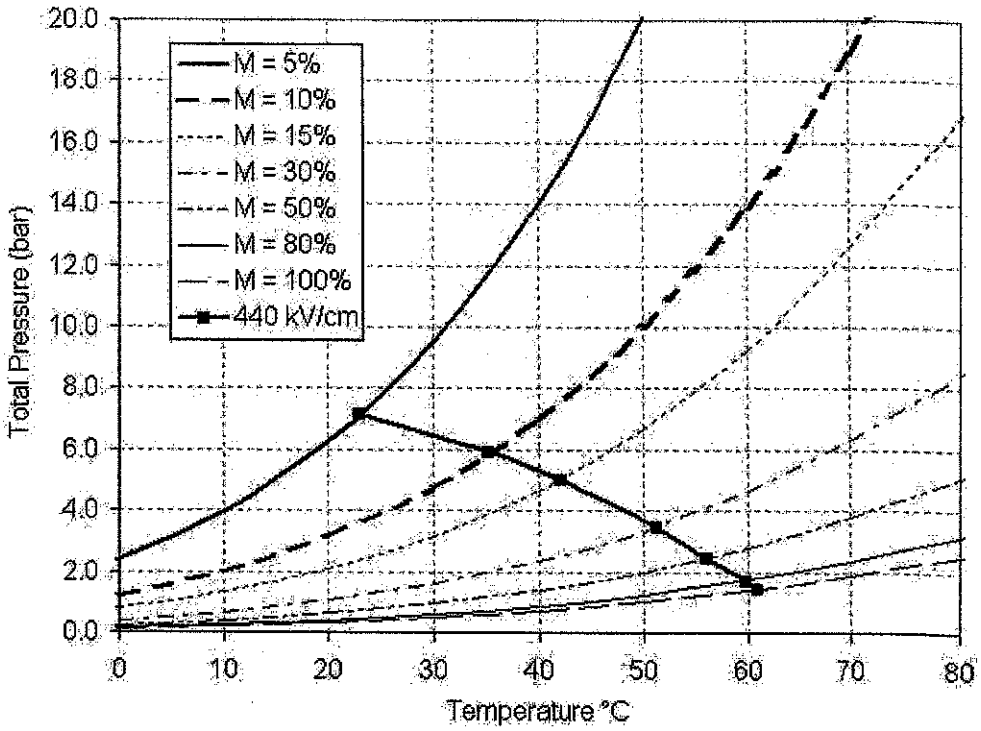

Total Pressure (bar)
Temperature °C
M = 5%
M = 10%
M = 15%
M = 30%
M = 50%
M = 80%
M = 100%
440 kV/cm

Fig. 3a

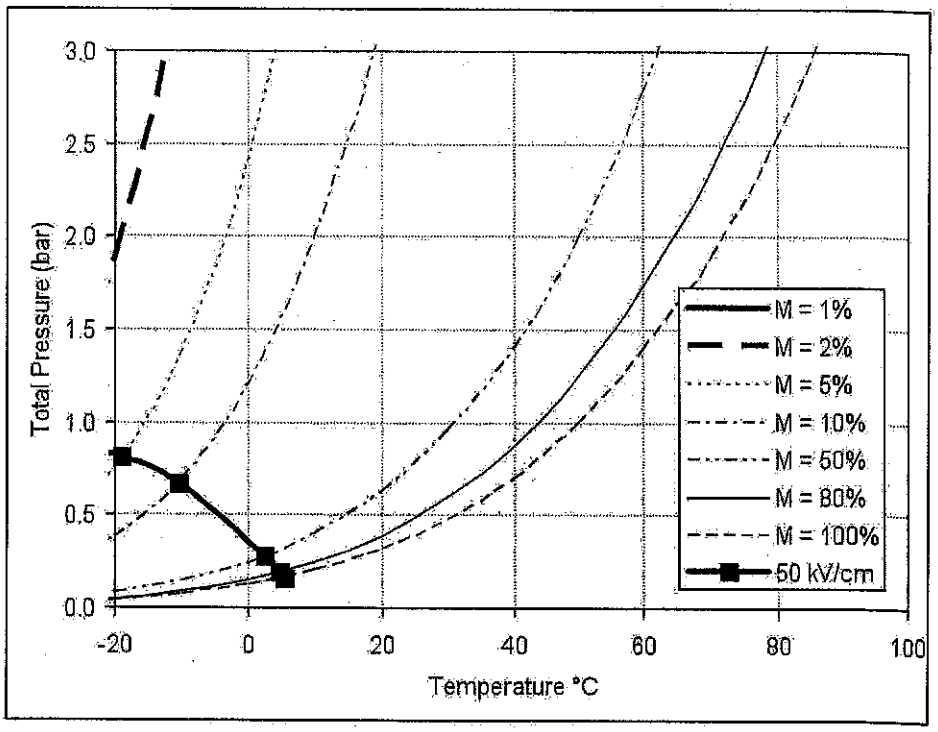

Total Pressure (bar)
Temperature °C
M = 1%
M = 2%
M = 5%
M = 10%
M = 50%
M = 80%
M = 100%
50 kV/cm

Fig. 3b

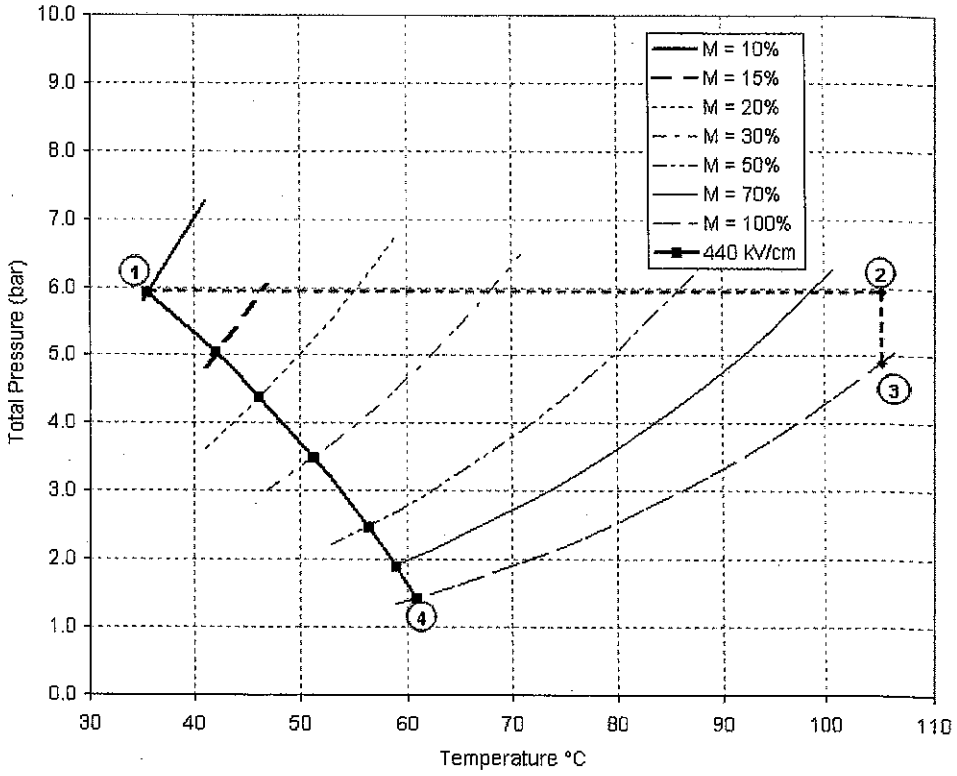

10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Total Pressure (bar)
30
40
50
60
70
80
90
100
110
Temperature °C
M = 10%
M = 15%
M = 20%
M = 30%
M = 50%
M = 70%
M = 100%
440 kV/cm
1
2
3
4

Fig. 3c

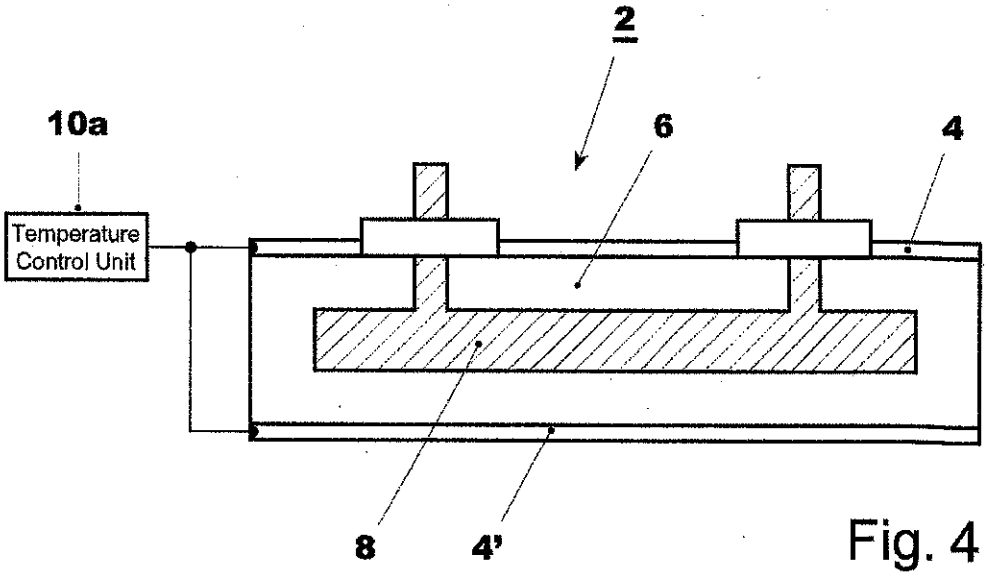

2
10a
6
4
Temperature
Control Unit
8
4'

Fig. 4

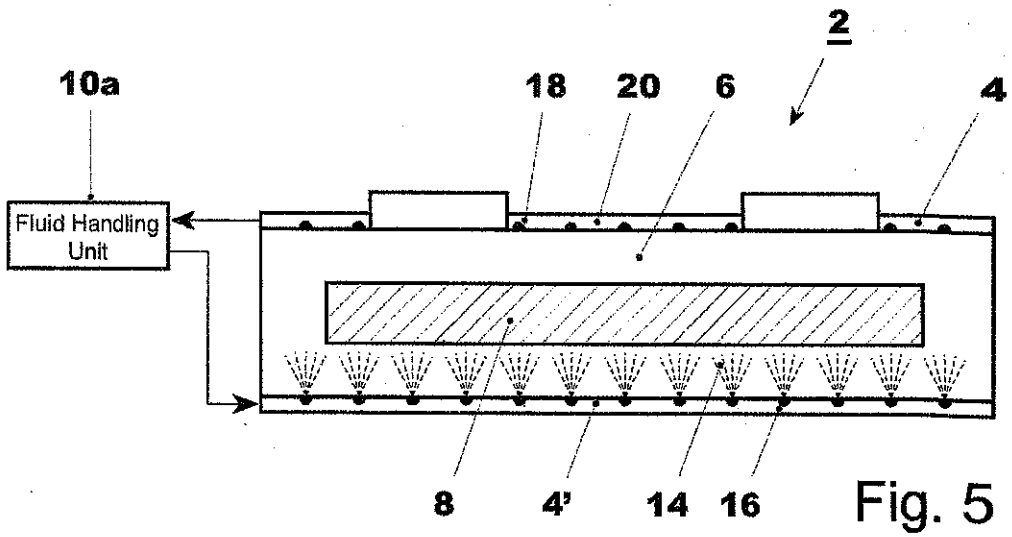


Fig. 5