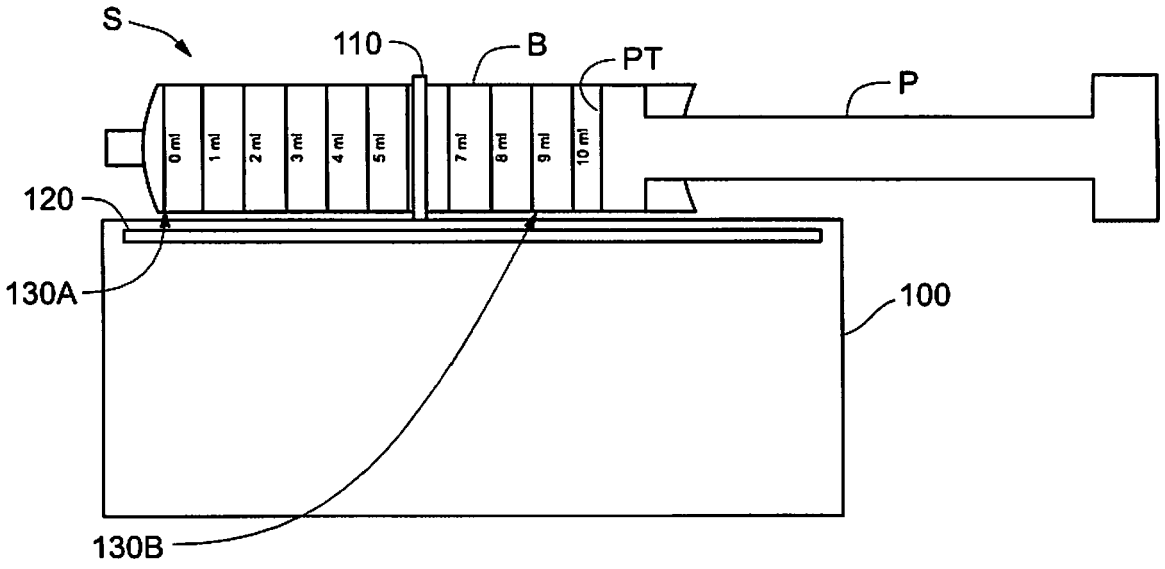
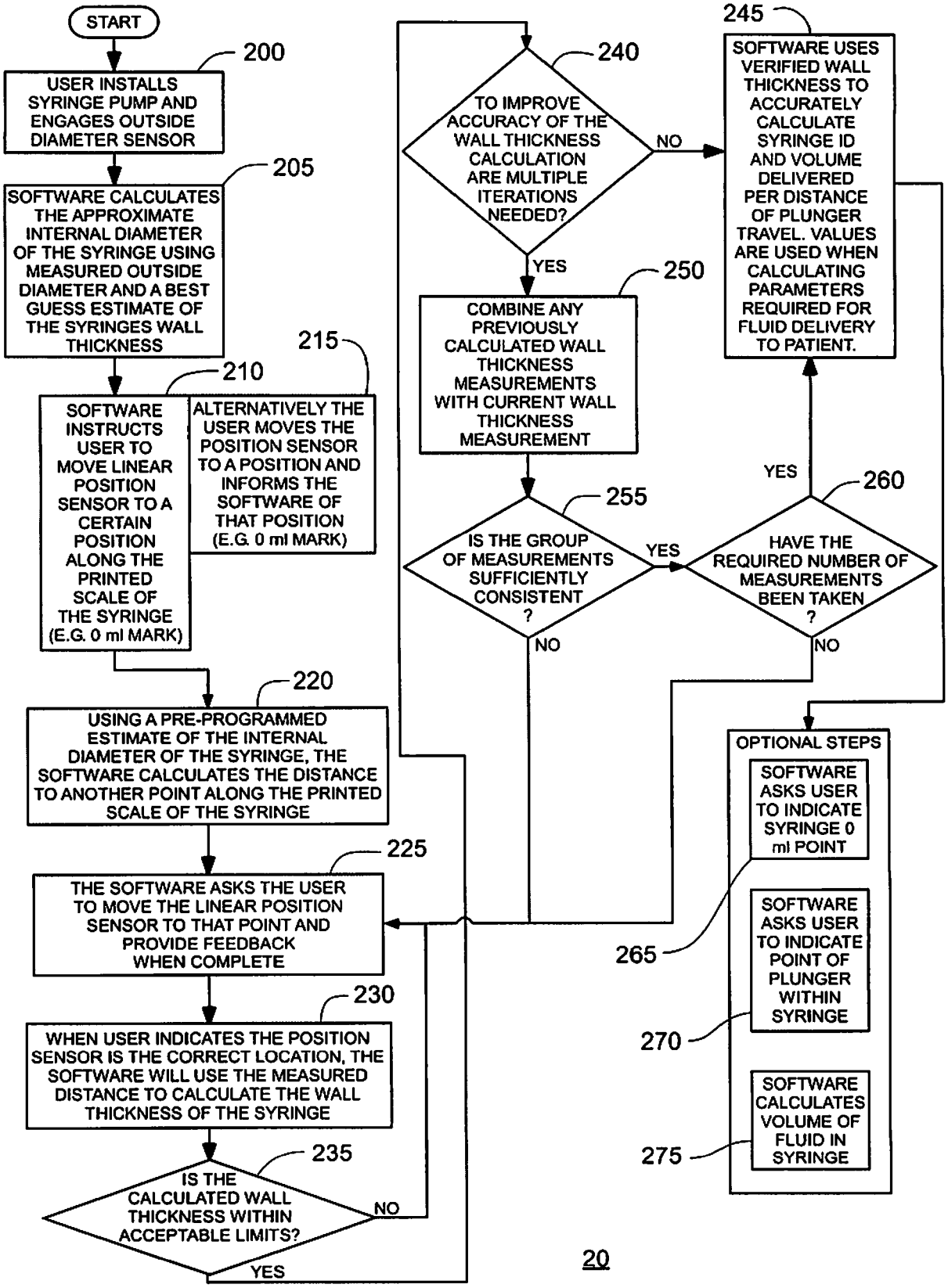
Fig. 1


S
110
B
PT
P
0 ml
1 ml
2 ml
3 ml
4 ml
5 ml
7 ml
8 ml
9 ml
10 ml
120
130A
100
130B

10

Fig. 2


START
200
USER INSTALLS SYRINGE PUMP AND ENGAGES OUTSIDE DIAMETER SENSOR
205
SOFTWARE CALCULATES THE APPROXIMATE INTERNAL DIAMETER OF THE SYRINGE USING MEASURED OUTSIDE DIAMETER AND A BEST GUESS ESTIMATE OF THE SYRINGES WALL THICKNESS
210
SOFTWARE INSTRUCTS USER TO MOVE LINEAR POSITION SENSOR TO A CERTAIN POSITION ALONG THE PRINTED SCALE OF THE SYRINGE (E.G. 0 ml MARK)
215
ALTERNATIVELY THE USER MOVES THE POSITION SENSOR TO A POSITION AND INFORMS THE SOFTWARE OF THAT POSITION (E.G. 0 ml MARK)
220
USING A PRE-PROGRAMMED ESTIMATE OF THE INTERNAL DIAMETER OF THE SYRINGE, THE SOFTWARE CALCULATES THE DISTANCE TO ANOTHER POINT ALONG THE PRINTED SCALE OF THE SYRINGE
225
THE SOFTWARE ASKS THE USER TO MOVE THE LINEAR POSITION SENSOR TO THAT POINT AND PROVIDE FEEDBACK WHEN COMPLETE
230
WHEN USER INDICATES THE POSITION SENSOR IS THE CORRECT LOCATION, THE SOFTWARE WILL USE THE MEASURED DISTANCE TO CALCULATE THE WALL THICKNESS OF THE SYRINGE
235
IS THE CALCULATED WALL THICKNESS WITHIN ACCEPTABLE LIMITS?
NO
YES
240
TO IMPROVE ACCURACY OF THE WALL THICKNESS CALCULATION ARE MULTIPLE ITERATIONS NEEDED?
NO
YES
245
SOFTWARE USES VERIFIED WALL THICKNESS TO ACCURATELY CALCULATE SYRINGE ID AND VOLUME DELIVERED PER DISTANCE OF PLUNGER TRAVEL. VALUES ARE USED WHEN CALCULATING PARAMETERS REQUIRED FOR FLUID DELIVERY TO PATIENT.
250
COMBINE ANY PREVIOUSLY CALCULATED WALL THICKNESS MEASUREMENTS WITH CURRENT WALL THICKNESS MEASUREMENT
255
IS THE GROUP OF MEASUREMENTS SUFFICIENTLY CONSISTENT ?
YES
NO
260
HAVE THE REQUIRED NUMBER OF MEASUREMENTS BEEN TAKEN ?
YES
NO
OPTIONAL STEPS
265
SOFTWARE ASKS USER TO INDICATE SYRINGE 0 ml POINT
270
SOFTWARE ASKS USER TO INDICATE POINT OF PLUNGER WITHIN SYRINGE
275
SOFTWARE CALCULATES VOLUME OF FLUID IN SYRINGE
20