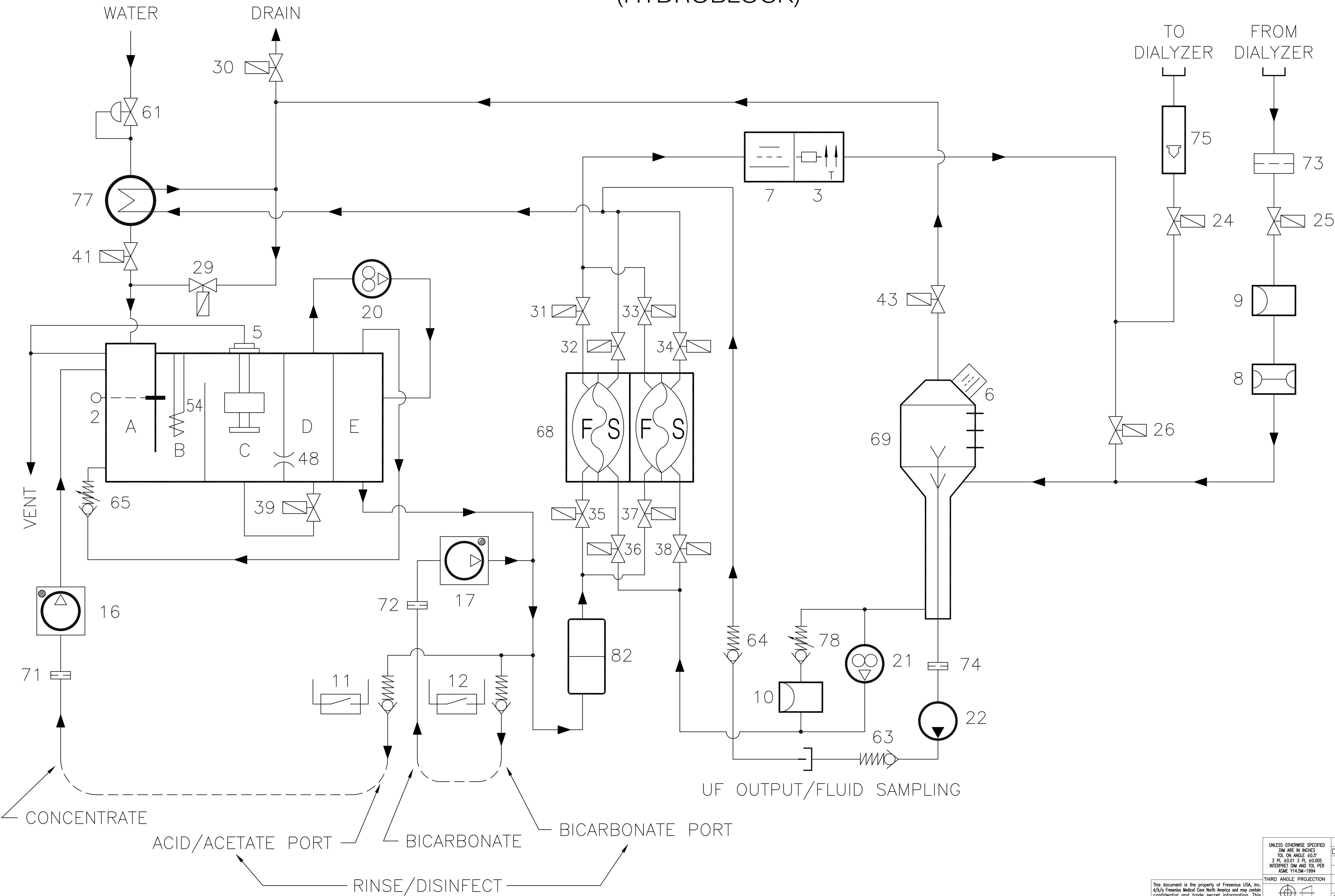


HYDRAULICS: 2008K (HYDROBLOCK)

REV.	RELEASE DATE	EFFECTIVE DATE	ORIGINATOR	CN#	DESCRIPTION OF CHANGES	APPROVAL
A	07/21/00	07/21/00	J. FOX	7222	RELEASE	J. FOX
B	10/11/01	10/11/01	J. FOX	7655	ADD 3 OTHER HYDRAULIC CONFIGURATIONS	J. FOX
C	09/25/03	09/25/03	J. FOX	12092	ADD 2 DSWAGE PLUS HYDRAULIC CONFIGURATIONS	J. FOX
D	07/11/07	07/11/07	J. FOX	21053	CORRECTED FLOW FOR TEST VALVE 28	J. FOX
E	03/07/15	03/07/15	J. FOX	CN050550	NEW ROUTE FOR V29/CONSOLIDATED SHEETS	L. PANTOJA

COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
10. CHAMBER FULL SWITCH
11. REED SWITCH CONCENTRATE WAND
12. REED SWITCH BICARBONATE WAND
16. CONCENTRATE PUMP
17. BICARBONATE PUMP
20. DEAERATION PUMP
21. FLOW PUMP
22. UF PUMP
24. DIALYZER VALVE 1
25. DIALYZER VALVE 2
26. BYPASS VALVE
29. RECIRCULATION VALVE
30. DRAIN VALVE
31. BALANCE CHAMBER VALVE
32. BALANCE CHAMBER VALVE
33. BALANCE CHAMBER VALVE
34. BALANCE CHAMBER VALVE
35. BALANCE CHAMBER VALVE
36. BALANCE CHAMBER VALVE
37. BALANCE CHAMBER VALVE
38. BALANCE CHAMBER VALVE
39. BYPASS VALVE FOR DEAERATION ORIFICE
41. WATER INLET VALVE
43. VENT VALVE FOR AIR SEPARATION CHAMBER
48. DEAERATION ORIFICE
54. HEATER
61. WATER INLET PRESSURE REGULATOR
63. CHECK VALVE FROM UF PUMP TO SAMPLE PORT
64. CHECK VALVE FROM SAMPLE PORT TO DRAIN
65. LOADING PRESSURE VALVE
69. AIR SEPARATION CHAMBER
71. ACID/ACETATE FILTER
72. BICARBONATE FILTER
73. FROM DIALYZER LINE FILTER
74. UF PUMP FILTER
75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER



CONCENTRATE
ACID/ACETATE PORT
BICARBONATE
BICARBONATE PORT
RINSE/DISINFECT

UF OUTPUT/FLUID SAMPLING

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UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOL ON ANGLE ±0.5° 2 PL. SLOTT 3 PL. ±0.005 INTERPRET DIM AND TOL PER ASME Y14.5M-1994	THIRD ANGLE PROJECTION
MATERIAL N/A	FINISH N/A
DO NOT SCALE DRAWING	

DRAWN	NAME	DATE
B. HOLMQUIST		7/21/00

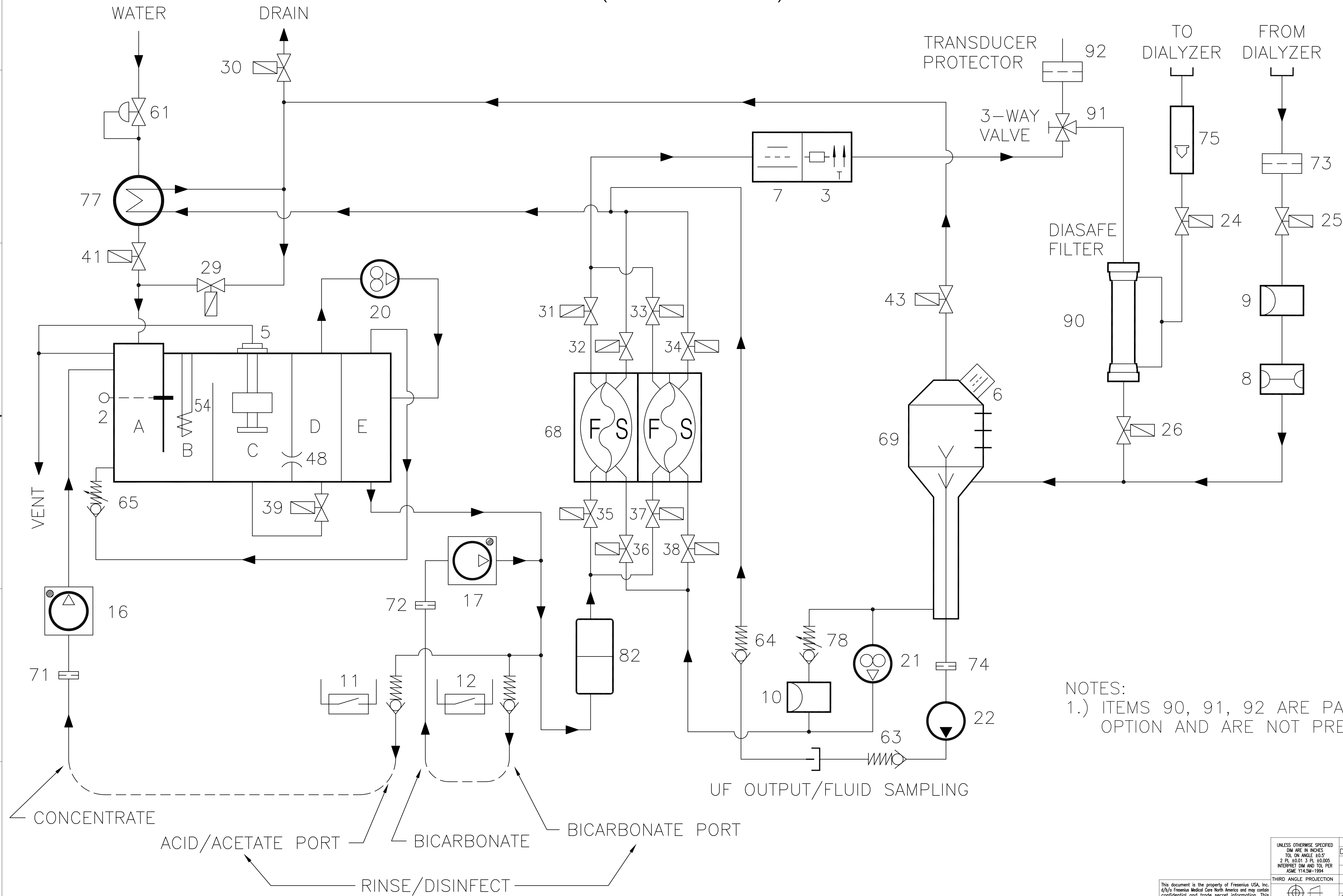
COMMENTS:
N/A

Fresenius Medical Care

2008K HYDRAULIC FLOW DIAGRAM

SIZE D	DWG. NO. 700072	REV. E
SCALE: 1:1	CAD: AUTOCAD	SHEET 1 OF 9

HYDRAULICS: 2008K WITH DIASAFE FILTER (HYDROBLOCK)



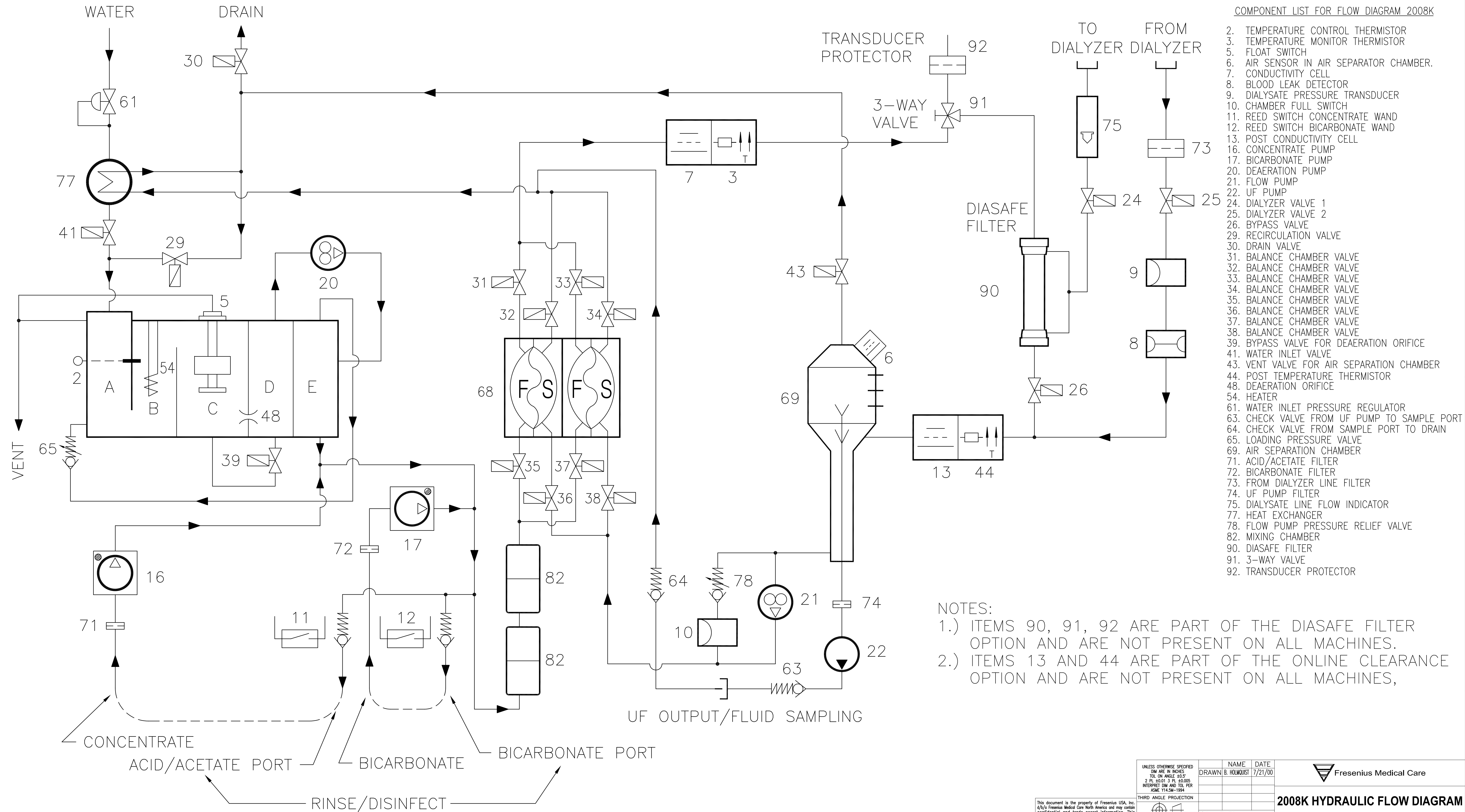
COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
10. CHAMBER FULL SWITCH
11. REED SWITCH CONCENTRATE WAND
12. REED SWITCH BICARBONATE WAND
16. CONCENTRATE PUMP
17. BICARBONATE PUMP
20. DEAERATION PUMP
21. FLOW PUMP
22. UF PUMP
24. DIALYZER VALVE 1
25. DIALYZER VALVE 2
26. BYPASS VALVE
29. RECIRCULATION VALVE
30. DRAIN VALVE
31. BALANCE CHAMBER VALVE
32. BALANCE CHAMBER VALVE
33. BALANCE CHAMBER VALVE
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35. BALANCE CHAMBER VALVE
36. BALANCE CHAMBER VALVE
37. BALANCE CHAMBER VALVE
38. BALANCE CHAMBER VALVE
39. BYPASS VALVE FOR DEAERATION ORIFICE
41. WATER INLET VALVE
43. VENT VALVE FOR AIR SEPARATION CHAMBER
48. DEAERATION ORIFICE
54. HEATER
61. WATER INLET PRESSURE REGULATOR
63. CHECK VALVE FROM UF PUMP TO SAMPLE PORT
64. CHECK VALVE FROM SAMPLE PORT TO DRAIN
65. LOADING PRESSURE VALVE
69. AIR SEPARATION CHAMBER
71. ACID/ACETATE FILTER
72. BICARBONATE FILTER
73. FROM DIALYZER LINE FILTER
74. UF PUMP FILTER
75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER
90. DIASAFE FILTER
91. 3-WAY VALVE
92. TRANSDUCER PROTECTOR

NOTES:
 1.) ITEMS 90, 91, 92 ARE PART OF THE DIASAFE FILTER OPTION AND ARE NOT PRESENT ON ALL MACHINES.

UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOL ON ANGLE ±0.5° 2 PL 30.031 3 PL 30.005 INTERPRET DIM AND TOL PER ASME Y14.5M-1994	DRAWN B. HOLMQUIST DATE 7/21/00	
THIRD ANGLE PROJECTION 	COMMENTS: N/A	2008K HYDRAULIC FLOW DIAGRAM
MATERIAL N/A FINISH N/A DO NOT SCALE DRAWING	SCALE: 1:1 CAD: AUTOCAD	SIZE D DWG. NO. 700072 REV. E
SHEET 2 OF 9		

HYDRAULICS: 2008K WITH DIASAFE FILTER AND ONLINE CLEARANCE (HYDROBLOCK OR HYDROCHAMBER)



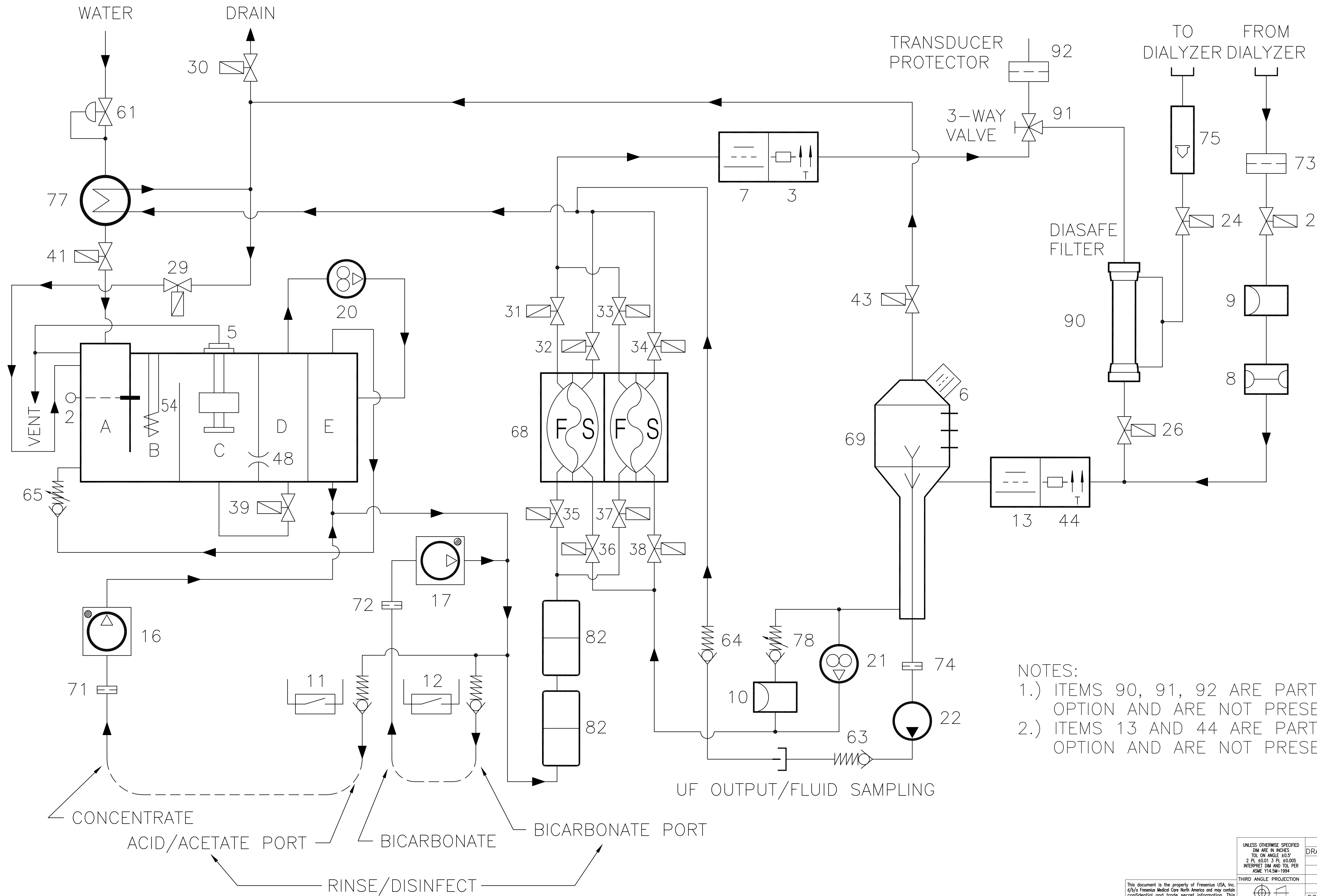
COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
10. CHAMBER FULL SWITCH
11. REED SWITCH CONCENTRATE WAND
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13. POST CONDUCTIVITY CELL
16. CONCENTRATE PUMP
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38. BALANCE CHAMBER VALVE
39. BYPASS VALVE FOR DEAERATION ORIFICE
41. WATER INLET VALVE
43. VENT VALVE FOR AIR SEPARATION CHAMBER
44. POST TEMPERATURE THERMISTOR
48. DEAERATION ORIFICE
54. HEATER
61. WATER INLET PRESSURE REGULATOR
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65. LOADING PRESSURE VALVE
69. AIR SEPARATION CHAMBER
71. ACID/ACETATE FILTER
72. BICARBONATE FILTER
73. FROM DIALYZER LINE FILTER
74. UF PUMP FILTER
75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER
90. DIASAFE FILTER
91. 3-WAY VALVE
92. TRANSDUCER PROTECTOR

- NOTES:
- 1.) ITEMS 90, 91, 92 ARE PART OF THE DIASAFE FILTER OPTION AND ARE NOT PRESENT ON ALL MACHINES.
 - 2.) ITEMS 13 AND 44 ARE PART OF THE ONLINE CLEARANCE OPTION AND ARE NOT PRESENT ON ALL MACHINES,

UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOL ON ANGLE ±0.5° 2 PL. ±0.01 3 PL. ±0.005 INTERPRET DIM AND TOL PER ASME Y14.5M-1994	DRAWN B. HOLMQUIST DATE 7/21/00	NAME DATE		2008K HYDRAULIC FLOW DIAGRAM
THIRD ANGLE PROJECTION 		COMMENTS: N/A		SIZE D DWG. NO. 700072 REV. E
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HYDRAULICS: 2008K WITH DIASAFE FILTER AND ONLINE CLEARANCE (HYDROBLOCK AND ENHANCED BACKFLOW PREVENTION)



COMPONENT LIST FOR FLOW DIAGRAM 2008K

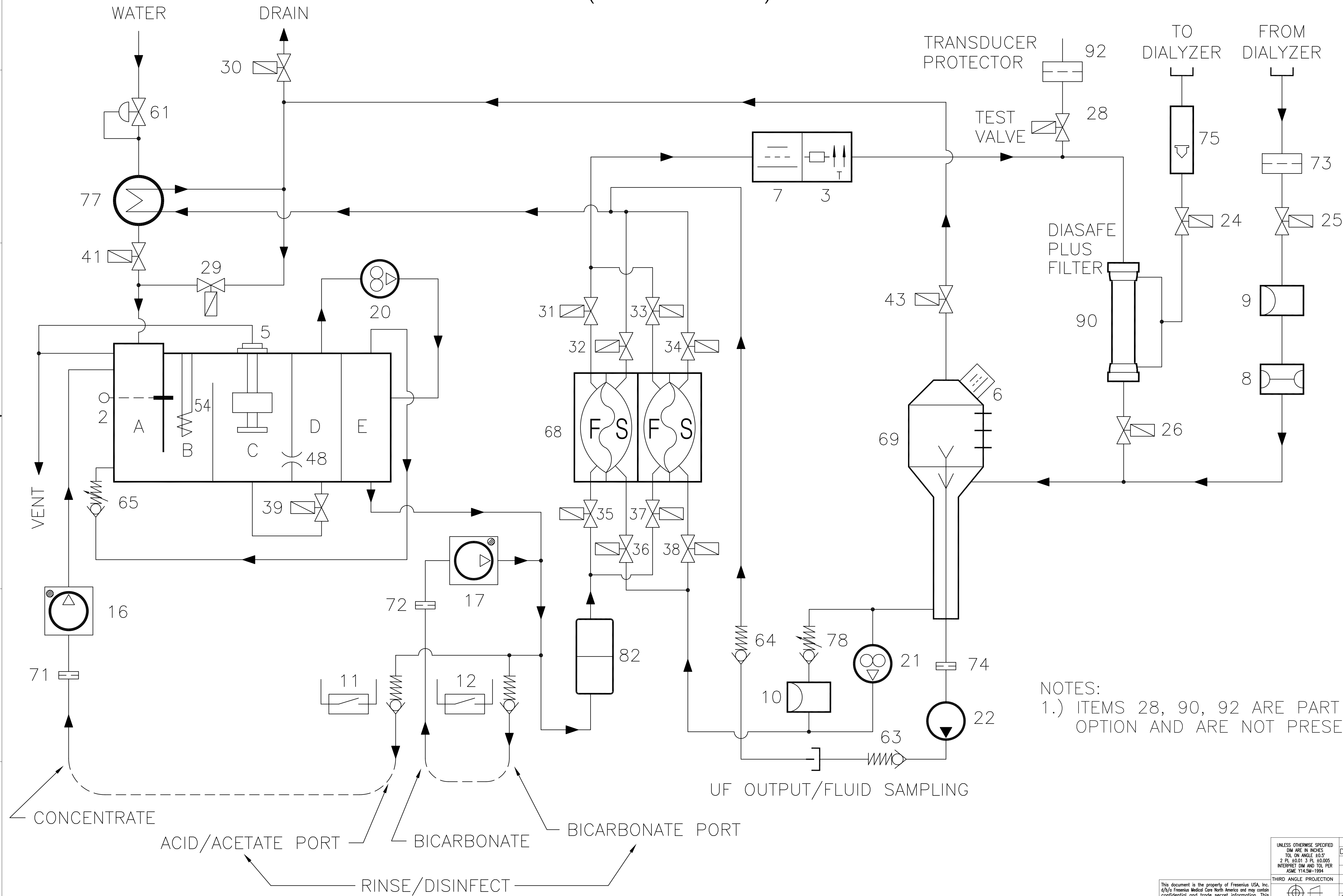
2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
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44. POST TEMPERATURE THERMISTOR
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63. CHECK VALVE FROM UF PUMP TO SAMPLE PORT
64. CHECK VALVE FROM SAMPLE PORT TO DRAIN
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69. AIR SEPARATION CHAMBER
71. ACID/ACETATE FILTER
72. BICARBONATE FILTER
73. FROM DIALYZER LINE FILTER
74. UF PUMP FILTER
75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER
90. DIASAFE FILTER
91. 3-WAY VALVE
92. TRANSDUCER PROTECTOR

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UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOL ON ANGLE ±0.5° 2 PL 50.001 3 PL 50.005 INTERPRET DIM AND TOL PER ASME Y14.5M-1994	DRAWN B. HOLMQUIST DATE 7/21/00	NAME DATE	
THIRD ANGLE PROJECTION 			2008K HYDRAULIC FLOW DIAGRAM
COMMENTS: N/A		SIZE D DWG. NO. 700072 REV. E	SCALE: 1:1 CAD: AUTOCAD SHEET 5 OF 9

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HYDRAULICS: 2008K WITH DIASAFE PLUS FILTER (HYDROBLOCK)



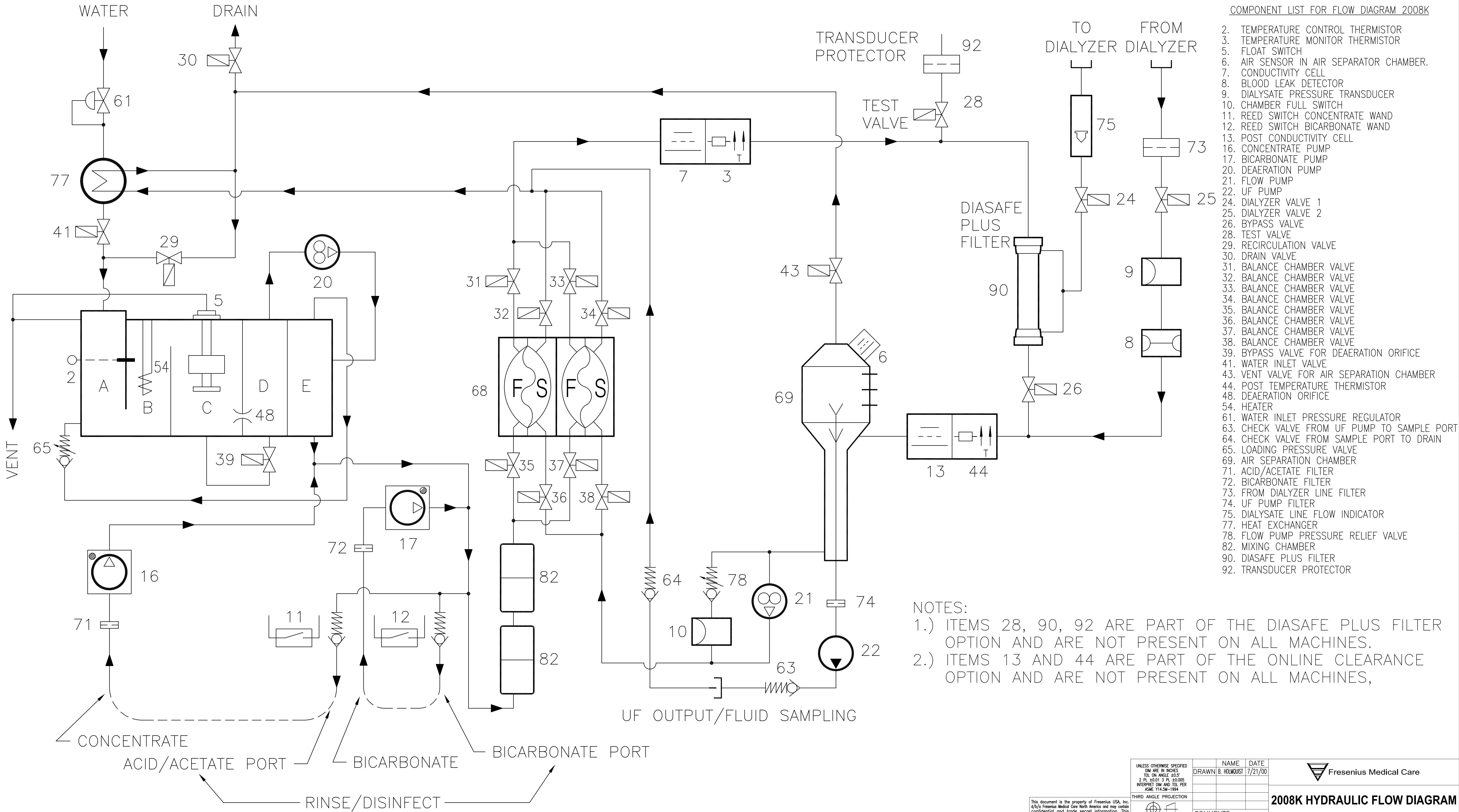
COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
10. CHAMBER FULL SWITCH
11. REED SWITCH CONCENTRATE WAND
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28. TEST VALVE
29. RECIRCULATION VALVE
30. DRAIN VALVE
31. BALANCE CHAMBER VALVE
32. BALANCE CHAMBER VALVE
33. BALANCE CHAMBER VALVE
34. BALANCE CHAMBER VALVE
35. BALANCE CHAMBER VALVE
36. BALANCE CHAMBER VALVE
37. BALANCE CHAMBER VALVE
38. BALANCE CHAMBER VALVE
39. BYPASS VALVE FOR DEAERATION ORIFICE
41. WATER INLET VALVE
43. VENT VALVE FOR AIR SEPARATION CHAMBER
48. DEAERATION ORIFICE
54. HEATER
61. WATER INLET PRESSURE REGULATOR
63. CHECK VALVE FROM UF PUMP TO SAMPLE PORT
64. CHECK VALVE FROM SAMPLE PORT TO DRAIN
65. LOADING PRESSURE CHAMBER
69. AIR SEPARATION CHAMBER
71. ACID/ACETATE FILTER
72. BICARBONATE FILTER
73. FROM DIALYZER LINE FILTER
74. UF PUMP FILTER
75. DIALYSATE LINE FLOW INDICATOR
77. HEAT EXCHANGER
78. FLOW PUMP PRESSURE RELIEF VALVE
82. MIXING CHAMBER
90. DIASAFE PLUS FILTER
92. TRANSDUCER PROTECTOR

NOTES:
1.) ITEMS 28, 90, 92 ARE PART OF THE DIASAFE PLUS FILTER OPTION AND ARE NOT PRESENT ON ALL MACHINES.

UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOL ON ANGLE ±0.5° 2 PL 50.031 3 PL 50.005 INTERPRET DIM AND TOL PER ASME Y14.5M-1994		DRAWN	NAME	DATE
THIRD ANGLE PROJECTION		B. HOLMQUIST		7/21/00
Fresenius Medical Care				
2008K HYDRAULIC FLOW DIAGRAM				
COMMENTS:		SIZE	DWG. NO.	REV.
N/A		D	700072	E
DO NOT SCALE DRAWING		SCALE: 1:1	CAD: AUTOCAD	SHEET 6 OF 9

HYDRAULICS: 2008K WITH DIASAFE PLUS FILTER AND ONLINE CLEARANCE (HYDROBLOCK OR HYDROCHAMBER)



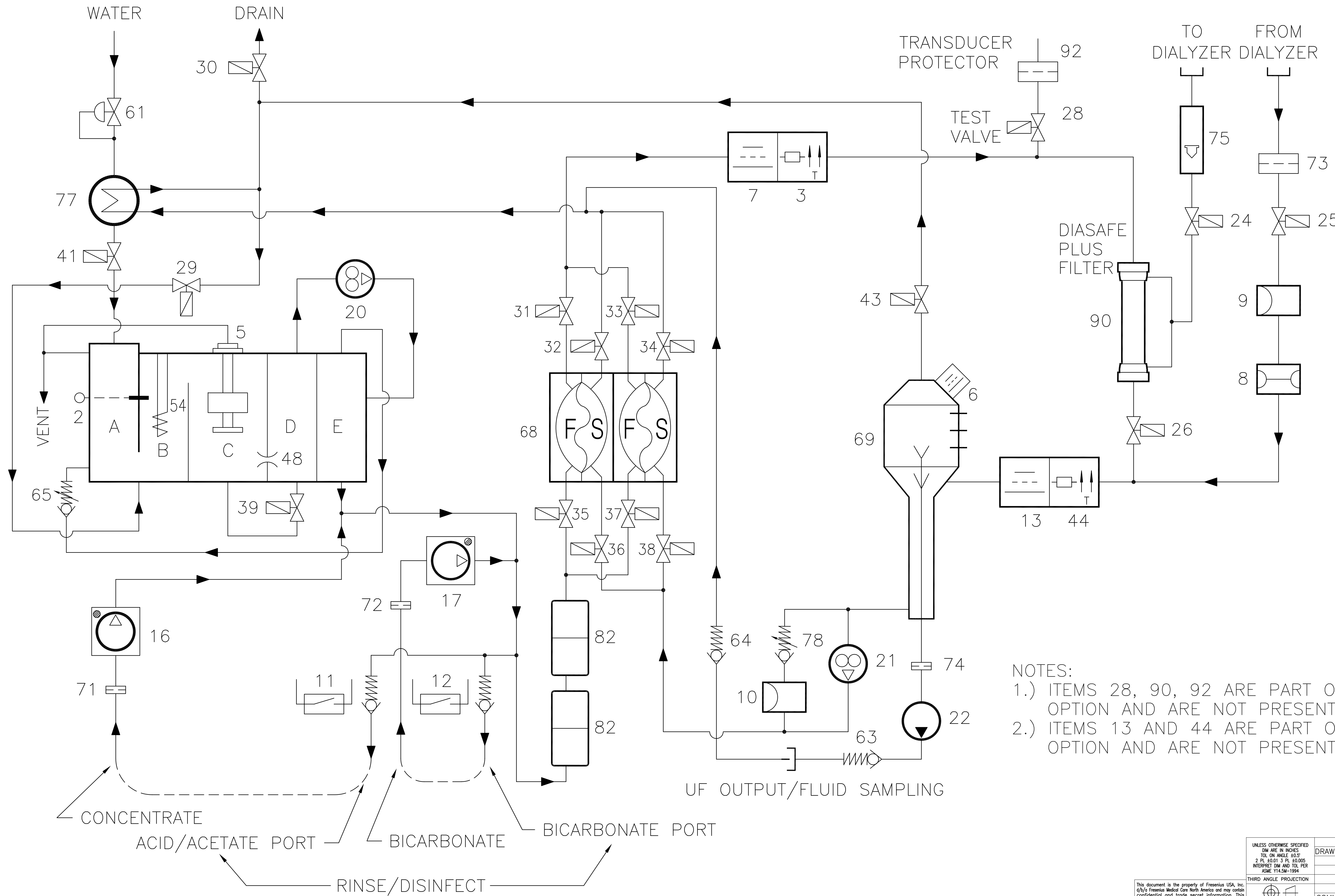
COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
10. CHAMBER FULL SWITCH
11. REED SWITCH CONCENTRATE WAND
12. REED SWITCH BICARBONATE WAND
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82. MIXING CHAMBER
90. DIASAFE PLUS FILTER
92. TRANSDUCER PROTECTOR

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UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOL ON ANGLE ±0.5° 2 PL 30.031 3 PL 30.005 INTERPRET DIM AND TOL PER ASME Y14.5M-1994	DRAWN B. HOLMQUIST DATE 7/21/00	NAME DATE	
THIRD ANGLE PROJECTION 		2008K HYDRAULIC FLOW DIAGRAM	
COMMENTS: N/A		SIZE D	DWG. NO. 700072
FINISH N/A		SCALE: 1:1	CAD: AUTOCAD
DO NOT SCALE DRAWING		SHEET 7 OF 9	REV. E

HYDRAULICS: 2008K WITH DIASAFE PLUS FILTER AND ONLINE CLEARANCE (HYDROCHAMBER AND ENHANCED BACKFLOW PREVENTION)



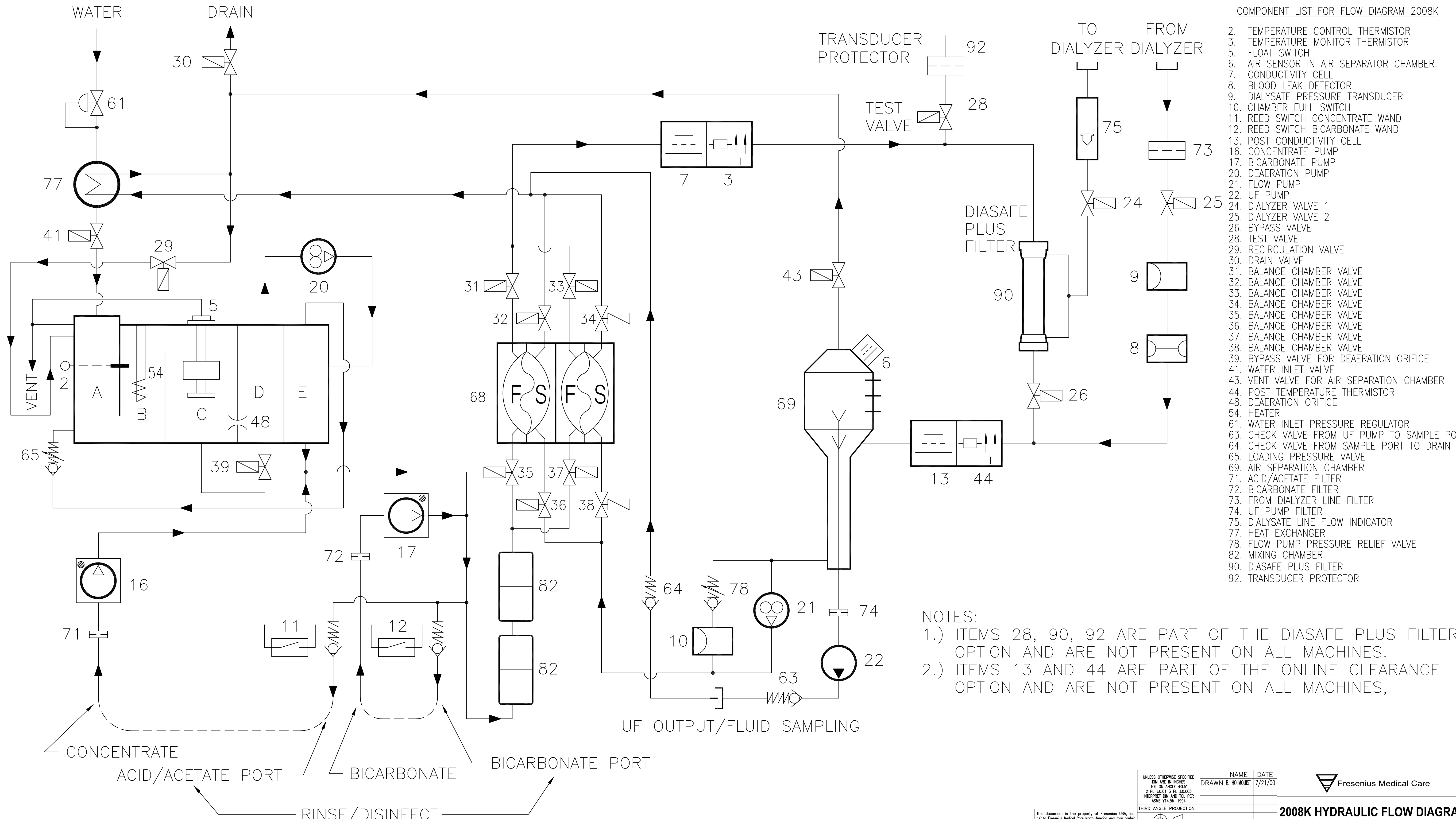
COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
9. DIALYSATE PRESSURE TRANSDUCER
10. CHAMBER FULL SWITCH
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12. REED SWITCH BICARBONATE WAND
13. POST CONDUCTIVITY CELL
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92. TRANSDUCER PROTECTOR

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UNLESS OTHERWISE SPECIFIED DIM ARE IN INCHES TOL ON ANGLE ±0.5° 2 PL. ±0.01 3 PL. ±0.005 INTERPRET DIM AND TOL PER ASME Y14.5M-1994		NAME	DATE	Fresenius Medical Care
THIRD ANGLE PROJECTION		DRAWN B. HOLMQUIST	7/21/00	
MATERIAL N/A		COMMENTS:		2008K HYDRAULIC FLOW DIAGRAM
FINISH N/A		N/A		
DO NOT SCALE DRAWING		SIZE	DWG. NO.	REV.
		D	700072	E
		SCALE: 1:1	CAD: AUTOCAD	SHEET 8 OF 9

HYDRAULICS: 2008K WITH DIASAFE PLUS FILTER AND ONLINE CLEARANCE (HYDROBLOCK AND ENHANCED BACKFLOW PREVENTION)



COMPONENT LIST FOR FLOW DIAGRAM 2008K

2. TEMPERATURE CONTROL THERMISTOR
3. TEMPERATURE MONITOR THERMISTOR
5. FLOAT SWITCH
6. AIR SENSOR IN AIR SEPARATOR CHAMBER.
7. CONDUCTIVITY CELL
8. BLOOD LEAK DETECTOR
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THIRD ANGLE PROJECTION		B. HOLMQUIST		7/21/00
MATERIAL FINISH DO NOT SCALE DRAWING		COMMENTS: N/A		
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2008K HYDRAULIC FLOW DIAGRAM				
SIZE D	DWG. NO. 700072	REV. E		
SCALE: 1:1	CAD: AUTOCAD	SHEET 9 OF 9		