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International Agreement Report

Thermal Mixing Tests in a Semiannular Downcomer With Interacting Flows From Cold Legs

Prepared by
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Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission
Washington, DC 20555

October 1986

Prepared as part of
The Agreement on Research Participation and Technical Exchange
under the International Thermal-Hydraulic Code Assessment
and Application Program (ICAP)

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SUMMARY

This report describes the test facility and test program for studying thermal mixing of high-pressure injection (HPI) water in the two-fifths scale model of three cold legs, semiannular downcomer and lower plenum of a pressurized water reactor. This test series has been carried out by mutual agreement on the pressurized thermal shock (PTS) information exchange between the U.S. Nuclear Regulation Commission and Imatran Voima Oy.

The test facility was originally designed to model the Finnish Loviisa plant but it was redesigned and modified for this test program. The facility can be operated at atmospheric pressure with loop and HPI flows from different cold legs in the area of interest to PTS. Transparent materials were used to allow flow visualization during the tests. The choice of transparent materials limit the upper temperature to 75 °C. The full buoyancy effect was induced by salt addition and the HPI temperature was used as a tracer.

The test matrix consists of 20 tests. The varied parameters were flow rates and the number and configuration of cold legs with HPI and loop flows. Four tests were done with decreasing loop flow temperature to simulate primary flows during steam line breaks.

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Many people at IVO's Hydraulic Laboratory made significant contributions to the work. Mr. Yrjö Tuokkola was responsible for the construction of the facility. Computer programming for data acquisition and reporting was done by Mr. Petri Vesikivi. Flow visualization drawings were done by Mr. Jouko Partonen.

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NOMENCLATURE

QUANTITIES

A	cold lef cross section area
d	pipe diameter
D	diameter
g	acceleration due to gravity = 9.81 m/s^2
Q	volumetric flow rate
Δt	accuracy of temperature measurements
$\Delta\rho$	density difference $\rho_{HPI} - \rho_L$
ρ	density
$Fr_{CL,HPI}$	cold leg Froude-number for HPI

$$Fr_{CL,HPI} = \frac{Q_{HPI} \; / \; A_{CL}}{(g \; D_{CL} \; \Delta\rho/\rho)^{1/2}}$$

INDICES

CL	cold leg
HPI	high pressure injection
L	loop flow

UNITS

1 dm^3/s	= 0.001 m^3/s = 1 l/s (liter per second)
1 dm^3/s	= 15.85 gal/min

ABBREVIATIONS

HPI	High Pressure Injection
IVO	Imatran Voima Oy
NRC	Nuclear Regulatory Commission (U.S.)
PTS	Pressurized Thermal Shock
PWR	Pressurized Water Reactor
VVER-440	Soviet-type PWR having power of 440 MW

1.0 INTRODUCTION

In 1983 a test facility was constructed at the Hydraulic Laboratory of Imatran Voima Oy (IVO) in Finland to study thermal mixing of cold high-pressure injection (HPI) water with hot primary coolant in a pressurized water reactor (PWR) during postulated overcooling accidents. The facility was built as a two-fifths scale model of the Loviisa VVER-440 reactor. An experimental program of about 50 tests was performed during the same year [1,2]

After completion of the first test series, IVO and the US Nuclear Regulatory Commission (NRC) made an agreement on Pressurized Thermal Shock (PTS) information exchange, and a new test series was decided to be performed with a reconstructed facility. Test conditions and modifications to the facility were defined by NRC. In this report the modified test facility and test series will be presented.

2.0 TEST FACILITY

2.1 Test Facility Design

The test facility was initially constructed as a 1 to 2.56 scale model of the Loviisa VVER-440 reactor. The facility contains a half of the circumference of the reactor downcomer made of acrylic plastic. The downcomer is semiannular in shape. With regard to the dimensioning affecting the flow, the dimensions of the downcomer are the same as used in previous tests, and they are given in Drawing 1. Figure 1 shows the model seen from outside of the pressure vessel.

The three cold legs were rebuilt for these tests. Their position with respect to the downcomer was changed in accordance with Drawing 1 to be asymmetric so that adjoining pipes formed angles of 30° and 60°. All the three cold legs are similar with regard to their geometry. They are straight in shape and have a diameter d_{CL} of 194 mm.

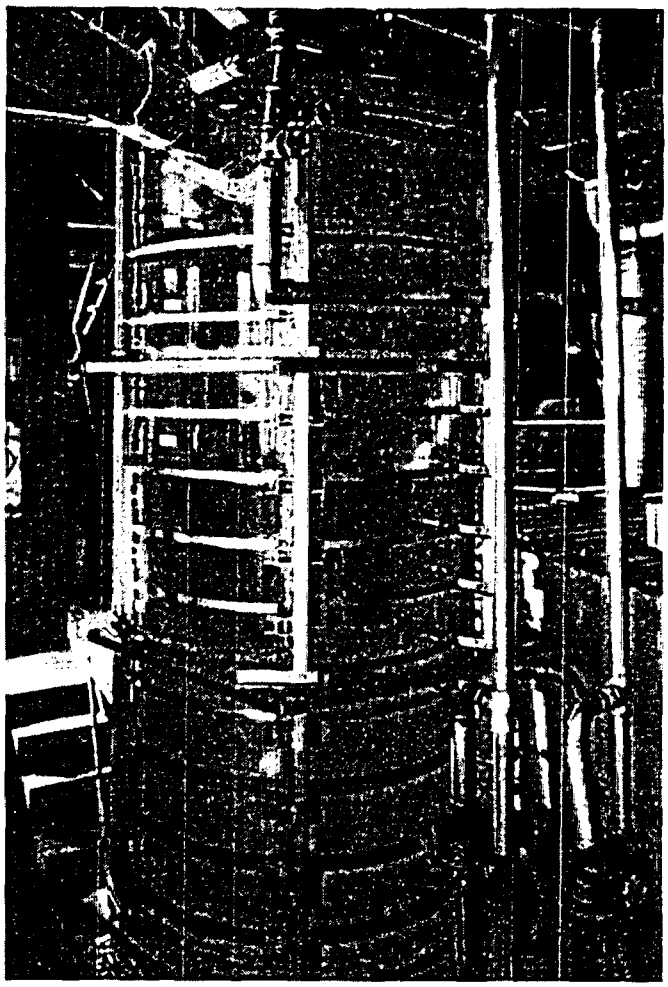


Figure 1. The facility seen from the pressure vessel side.

A required HPI flow could be directed to each cold leg. The HPI nozzles were placed at a distance of seven times the cold leg diameter measured from the downcomer wall. The diameter of the nozzles was 1/3 of the primary pipe diameter (d_{HPI} = 65 mm).

HPI water was injected from top of the cold leg perpendiculary to the pipe centre line. Flow equalizers shown in Drawing 1 (Det. 3) were fitted in HPI pipes before HPI nozzles to smooth the flow.

The flow was measured with rotameters shown in Figure 2. Hot loop flow was measured with a magnetic flow meter (type FISHER-PORTER, D = 65 mm) which had been calibrated before being fitted into the model.

During the test program the water system pipelines were modified to adapt to the flow arrangements required by new test conditions. Drawing 2 shows the piping in the final state in which all the tests required could be performed.

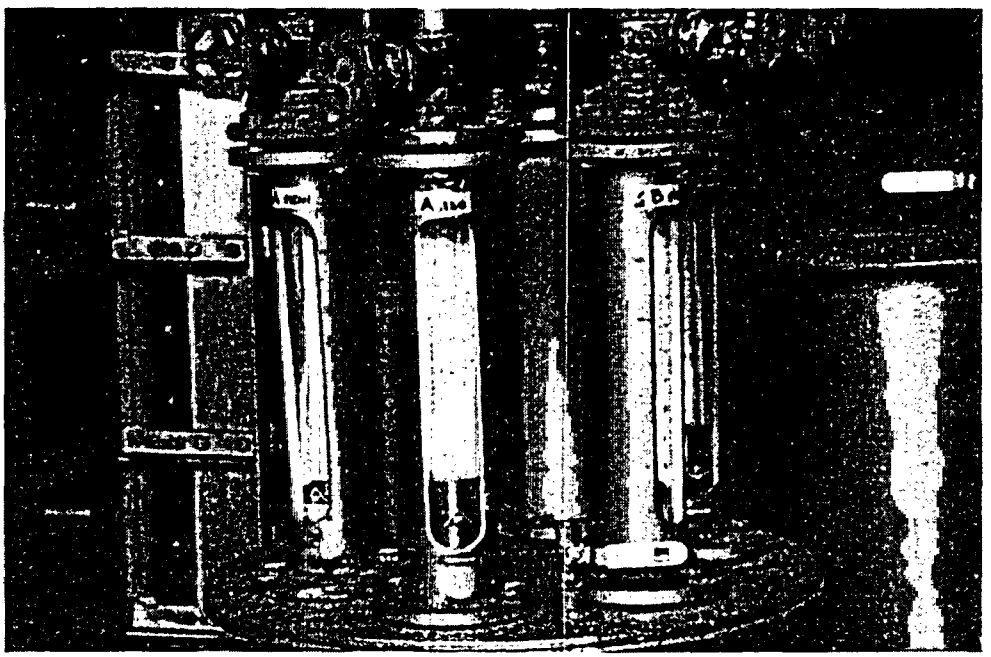


Figure 2. Rotameters used for HPI flow measurement, fixed to the cover of the distributing tank.

The perforated plate was also removed for these tests from the lower plenum. In previous tests the primary coolant flowed through this plate from the downcomer to the lower plenum.

2.2 Test Arrangements

Drawing 2 gives a basic illustration of the test facility. Two heat-insulated metal tanks having a total operating capacity of 8 m^3 were constructed for the hot water. The tanks were connected to each other with pipes so that they could be used both together and separately.

Both tanks were provided with three immersion heaters having an output of 15 kW each for heating the water. The heating efficiency available thus totalled 90 kW.

The hot water was pumped from the tanks to the cold leg required. The flow was controlled by means of a gate valve.

The primary coolant flow then continued from the cold legs of the main circulation loops to the downcomer and further to the lower plenum. During the tests the water was led from there through a pipe to the surge tank, from which it flowed over the overflow edge out of the facility. The level of the overflow edge was chosen so that an overpressure of about 0.01 bar was maintained in the downcomer top.

Before each test the facility was heated up by recirculating hot water so long that the temperature distribution was uniform with respect to the water in the hot tank. For recirculation the model was connected to the hot tanks by means of a back-flow pipe.

HPI water was taken from the cold tank having an operating capacity of 5 m^3. The pipeline was constructed so as to allow before the test recirculation of the HPI water back to the cold tank through the rotameters for e.g. control measures. At the time zero of the test the HPI flow was turned into the required cold legs by three-way cocks.

The dye added to the HPI water allowed flow visualization. It was used in tests in which the flow was examined by photographing. The dye used was rhodamine.

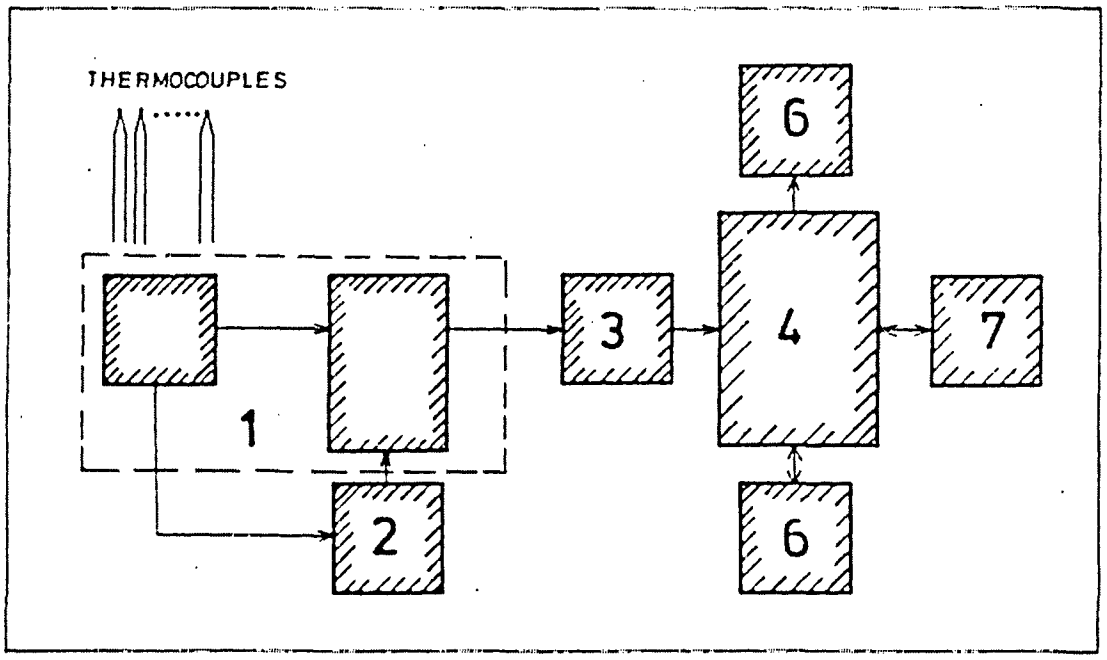
The HPI temperature was lowered by recirculating the water of the cold tank through the heat exchanger. The tank water was cooled using tap water, the temperature of which was lower than that of the brine in the tank.

2.3 Measurement System

The purpose of the test series was to measure mixing of the hot primary water and the cold HPI water in this particular geometry. A special task was to confirm good mixing in the downcomer with interacting flows from different cold legs. For this, the water temperature in different parts of the facility was recorded, and especially in the downcomer. Figure 3 shows the data acquisition and processing system used.

The temperature detectors used were NiCr-Ni thermocouples, each of which had been separately adjusted in the precision oven of the IVO Central Laboratory. The inaccuracies were found to be $\Delta t \leq \pm$ 0,5 °C with respect to the reference detectors.

Because the tests were made with salt water, the functioning of the electric detectors was checked in a salt solution the concentration of which corresponded to the water used in the tests. No changes were detected in the readings when the salinities varied between 0 % and 22 %.



1.	Data Acquisition/Control Unit	HP 3497A
2.	Digital Voltmeter	HP 3456A
3.	HP-IP Extender	HP 37203A
4.	Central Processing Unit	HP 1000/A700
5.	Graphics Plotter	HP 7550A
6.	Printer	HP 2934A
7.	Terminal	HP 2627A

Figure 3. Data acquisition system used in the measurements.

The response time of the thermocouple type used in the tests with regard to a temperature change was studied by measuring the step response of a thermocouple. The measurement results are given in Figure 4. The detectors reproduced a temperature change of about 85 °C in less than 100 ms.

Figure 5 shows thermocouples fitted into the model, both to the pressure vessel wall and in a cold leg near a nozzle.

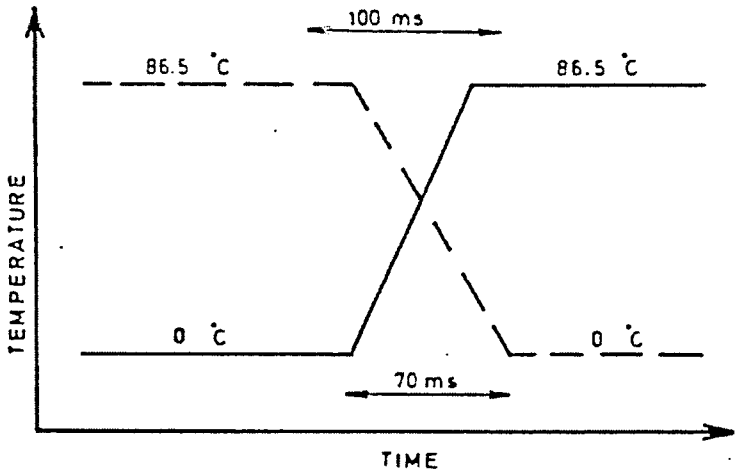


Figure 4. Step response of the used thermocouples.

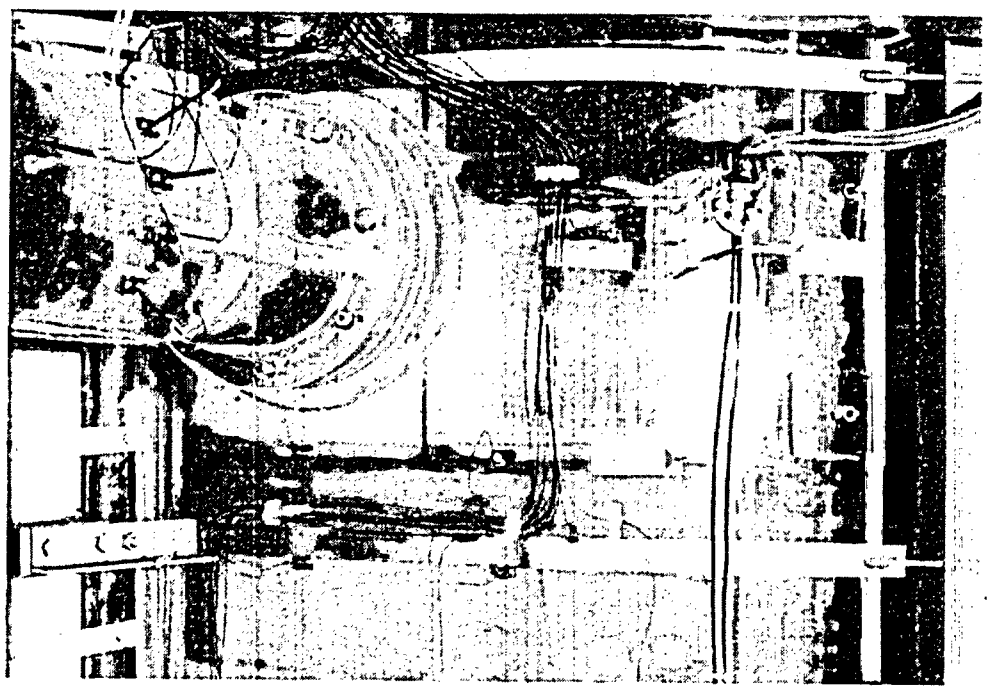


Figure 5. Thermocouples and a resistance detector (Pt-100) fitted into the facility.

In addition to the thermocouples, three calibration/reference detectors were also fitted into the model for temperature measurement. They were resistance detectors (Pt-100), which are very accurate and reliable. Their inaccuracy has been specified at $\Delta t \leq \pm 0.2$ °C. Owing to their high time constant, however, they are not suitable for measuring rapidly varying temperatures.

The readings of the resistance detectors were compared with the values given by the thermocouples under stationary conditions. During the tests it was thus possible to verify continuously the correctness of the measured results. By following the readings of the resistance detectors it was also possible to choose the starting moment of a test when the test facility had a uniform temperature distribution.

The resistance detectors were connected to the data acquisition system for follow-up only: their readings were not recorded.

The densities of the hot water and the cold HPI water were checked before each test by means of areometers.

2.4 Measurement Locations

At the beginning of the tests 60 thermocouples were fitted into the model. Later, the number of thermocouples was increased by 20, totalling thus 80. The increase was done so that the original numbering was not changed. Drawing 3 shows the measurement locations. The cold legs have been marked with letters A, B and C.

The point map has been drawn up from the core side. The dimensions have been given so that the 0 level of the vertical scale has been placed at the level of the centre lines of the cold legs. The 0 level of the horizontal scale is by the center line of the cold leg A.

Most of the thermocouples were placed in the downcomer at a distance of about 35 mm from the pressure vessel wall. Only probes #22 and #29 located on the line between legs A and B were placed differently. The probe # 22 measured the water temperature by the pressure vessel wall and probe # 29 by the core side wall. These measuring points are shown in the map by partly shaded circles.

The measuring period during which the measuring system read the points once lasted about 2.5 s. when the thermocouples totalled 80. The duration of the test could be freely chosen. The duration of each test is shown on the time axis of the result drawings.

3.0 TEST PROGRAM

3.1 Water Densities Used in the Tests

The structure of the model enabled the primary water temperature to be raised by about 75° to 80°. The HPI water temperature in the cold tank could be maintained at about 17° to 20°.

In the tests the difference between the densities of the primary water and the HPI water was about 195 kg/m³. This was induced so that the density of the HPI water was changed by dissolving salt ($CaCl_2$) in it. The densities used in the tests were following:

Hot water	ρ_L	≈	975 kg/m³
HPI water	ρ_{HPI}	≈	1170 kg/m³
difference	$\Delta \rho$	≈	195 kg/m³

This gives the following relative density difference:

$$\frac{\Delta \rho}{\rho} = \frac{\rho_{HPI} - \rho_L}{\rho_{HPI}} = 0.167$$

The density was verified by an areometer before each test. The accurate densities obtained in each test are given in the corresponding data sheet.

3.2 Measurement of the Specific Heat Capacity

The common behaviour of hot water and cold salt water was examined by mixing them and by measuring the temperature of the mixture.

In the test, 1 dm³ (= 10^{-3} m³) of hot water having a temperature of about 70 °C was poured to a vacuum vessel and its accurate temperature was measured. After that, 1 dm³ of water having a temperature of 22 °C and the density of which had been increased with salt to 1.174 kg/m³ was added to the vessel. Then the mixture temperature was measured. The results are shown in Table 1.

Cold water °C	Hot water °C	ρ_L	Mixture °C	Average °C	Difference °C
22.3	69.7	978	49.0	46.0	3.0
21.7	72.1	974	50.1	46.9	3.2
22.3	72.4	974	50.6	47.4	3.2
22.9	70.0	978	49.5	46.5	3.0
22.2	71.3	976	49.8	46.8	3.0
22.3	71.7	976	50.1	47.0	3.1
22.6	66.9	978	47.6	44.7	2.9
22.4	71.7	976	50.1	47.1	3.0

Table 1. Results of the specific heat capacity measurements.

The measurements show that the temperature of the mixture is 3.1 °C higher than the volumetric average temperature of the mixed waters. The variation was very small during the different tests.

From the figures given in Table 1 it can be calculated that the mixture temperature becomes about 2 °C higher than the average, if hot and cold salt water are mixed in equal weights instead of equal volumes.

3.3 Test Conditions and Results

In the tests the loop flow (Q_L) and the HPI flow (Q_{HPI}) were varied. The test conditions were divided into five groups:

Group 1: Tests in which interaction of plumes caused by HPI into two cold legs was studied. The loop flow was introduced to one cold leg only.

Group 2: Tests in which HPI was injected into one cold leg only, and loop flow was introduced in another cold leg.

Group 3: Tests in which loop flow was 0 dm^3/s in all cold legs.

Group 4: Tests in which the loop flow temperature was lowered stepwise during the measurements from 75 °C to 25 °C. The temperature decrease steps and the corresponding loop flow temperatures are shown on the temperature curve of detector # 58 in the result drawings. It gives the loop flow temperature from the cold leg C to the downcomer.

Group 5: Tests in which the plume interaction was studied when both HPI and loop flow were introduced to two cold legs.

In addition, tests were made in which flow behaviour and mixing in the downcomer were recorded by photographing.

Table 2 shows all the test conditions and the numbering of tests related to them. The test numbers refer to the corresponding result drawings.

In the result drawings has been given the water temperature at each measuring point of the facility as a function of time. The 0 point of the time axis was set to the moment when HPI was started.

The results of test #116 have not been given because the HPI flow varied considerably during the test. This resulted from incorrect functioning of the measuring device. The test was repeated and numbered to be test # 117.

TEST	GROUP	Q_{HPI} [dm³/s]			Q_L [dm³/s]		
		A	B	C	A	B	C
101	1	.73	.73	0	0	0	7.3
102	2	0	.42	0	0	0	4.2
103	1	1.48	1.48	0	0	0	10.4
104	1	1.48	0	1.48	0	10.4	0
105	1	0	1.48	1.48	10.4	0	0
106	3	.42	0	.42	0	0	0
107	2	1.48	0	0	0	0	14.8
108	1	0	.42	.42	4.2	0	0
109	2	1.04	0	0	0	0	4.2
110	2	.42	0	0	0	2.1	0
111	3	.42	.42	.42	0	0	0
112	3	1.04	0	1.04	0	0	0
113	3	0	1.48	1.48	0	0	0
114	4	1.04	0	0	0	0	4.2
115	4	0	.42	0	0	0	.84
117	4	0	.42	0	0	0	4.2
118	4	.42	0	0	0	0	4.2
119	5	1.04	0	1.04	2.08	0	2.08
120	5	0	1.48	1.48	0	2.96	2.96

Table 2. Test matrix

Q_{HPI} [dm^3/s]	[gal/min]	$Fr_{CL,HPI}$ -
0.42	6.6	0.4
0.73	11.6	0.7
1.04	16.5	1
1.48	23.5	1.42

Q_L [dm^3/s]	[gal/min]
0.84	13.2
2.08	33
2.96	47
4.2	66
10.4	165
14.8	235

$$Fr_{CL,HPI} = \frac{Q_{HPI} / A_{CL}}{(gD_{CL} \Delta\rho/\rho)^{1/2}}$$

Table 3. Used flow rates and corresponding cold leg Froude-numbers for HPI

3.4 Flow Visualization

In three tests the flows were recorded by photographing. The test conditions corresponded in accordance with the test matrix to the following tests:

Test # 102, in which the flows in the downcomer were photographed (figures A1 to A10).

Test # 106, in which were photographed the flow in the downcomer (figures B1 to B7) and the water stratification in the cold leg pipe A (figures C1 to C10).

Test # 113, in which the flow in the downcomer was photographed (figures D1 to D6).

The cold HPI water was dyed red to visualize the flow. The photographing moment/period has also been given. It indicates the time that has passed from the moment the HPI water was turned to flow into cold legs.

Behaviour of plumes in the downcomer was also recorded by drawing for tests #105, 108, 109, 112, 113, 115, 116, 118, 119 and 120. These have been presented in drawings 4 to 13. Some thermocouple readings have been added to each drawing to better illustrate the situation. In the case of changing behaviour, drawings have been made for different periods of time.

Drawings 4 and 5 (tests #105 and 108) show the typical behaviour of the tests of group 1: two HPI plumes tend to join and thermal stratification is seen in the downcomer because of the loop flow in the third cold leg. There is no flow through the surface of stratified layer. Hot water flows vertically in the nozzle area and mixes into vertical HPI-plumes.

Drawings 6 and 7 represent the corresponding behaviour of the tests in group 2. One vertical plume is formed and thermal stratification is again seen in the downcomer.

In drawings 8 and 9 are shown the mixing and interaction of two HPI plumes without any loop flow (group 3). The plumes show a tendency to join but most of the time they are unstable. The temperature of all the downcomer region decays exponentially and no stratification effects are seen in the downcomer.

Drawings 10 and 11 show two tests from group 4. During these tests HPI was introduced to one cold leg. Loop flow temperature in another cold leg was decreased gradually. These tests were aimed to simulate the situation during steam line break. Again the tendency of plumes to unstable behaviour is seen.

The situation where both loop flow and HPI takes place, in the same loop is shown by drawings 12 and 13. Mixing in the cold leg is very good but stratification is still present. This is illustrated by the cold leg flow distribution in the drawing 13. These tests belong to group 5.

4.0 CONCLUSIONS

The performed tests confirm good mixing in a semiannular downcomer with interacting buoyant plumes. Interacting plumes often show a tendency to join, especially if loop flow is maintained in another loop. When loop flows are very low or zero, interacting plumes are unstable, thus increasing mixing. In the case of unstable behaviour, plumes are not necessarily vertical all the time, but cold HPI plume can even turn to the side or upwards depending on the recirculation flows in the downcomer and on the fact how strong the plumes are.

In this report the test results have been presented without further interpretations. The given results will be utilized by NRC to asses the REMIX-code that has been developed for mixing calculations [3].

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[1] P. Mustonen, "Fluid and Thermal Mixing Tests of the Loviisa Pressure Vessel Downcomer", Imatran Voima Oy, Hydraulic Laboratory, Test Report RLB-322, March 1984.

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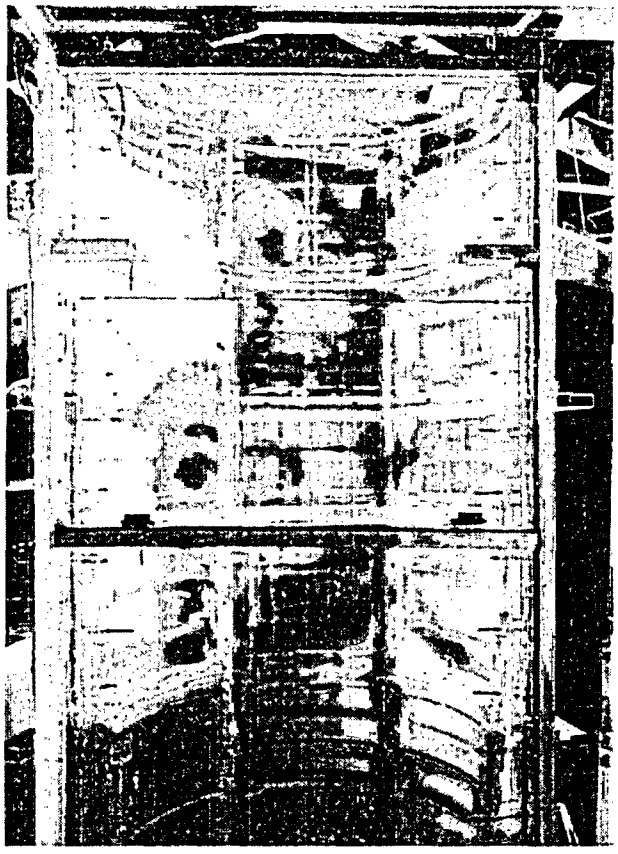


Figures A1 to A10
Test # 102
Vertical HPI-plume
and thermal
stratification in
the downcomer

Fig. A1

t = 17 sec

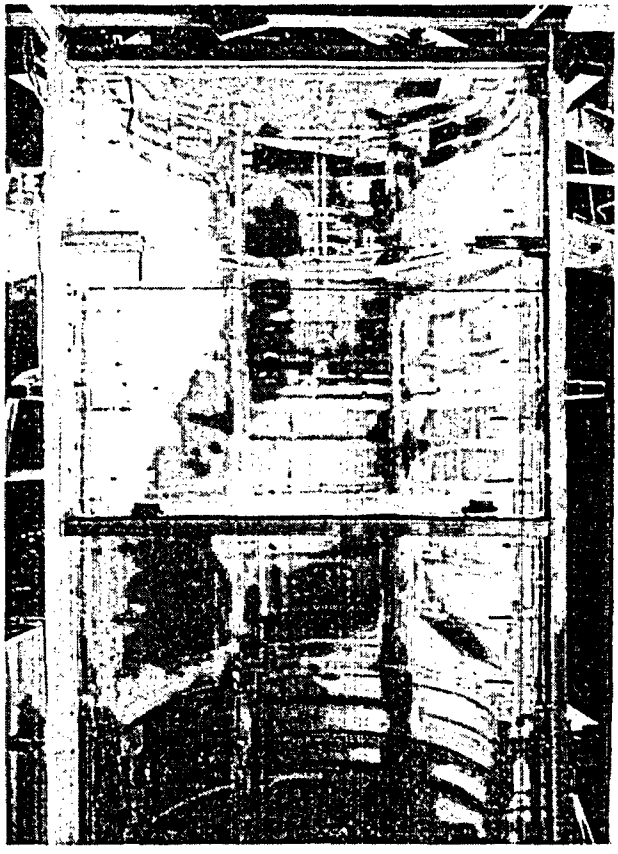


Fig. A2

t = 35 sec

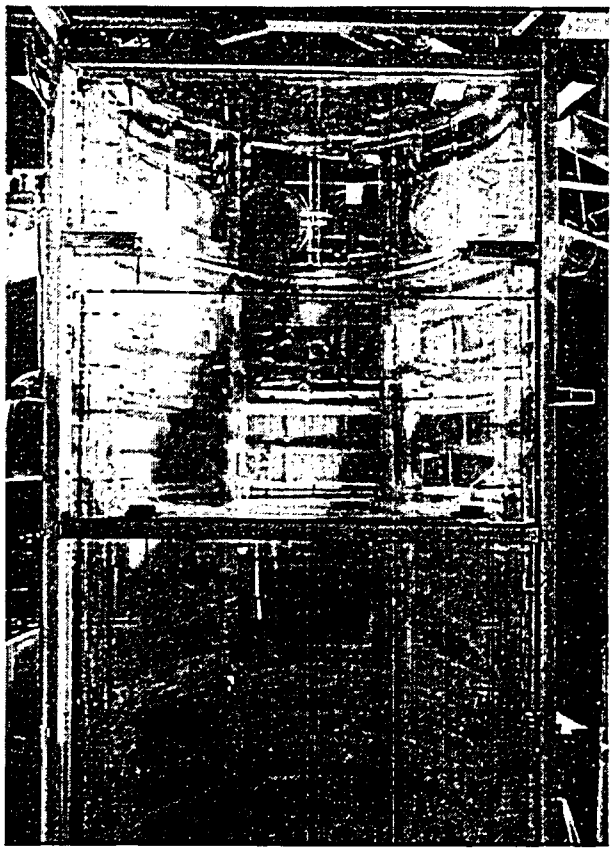


Fig. A3

t = 50 sec

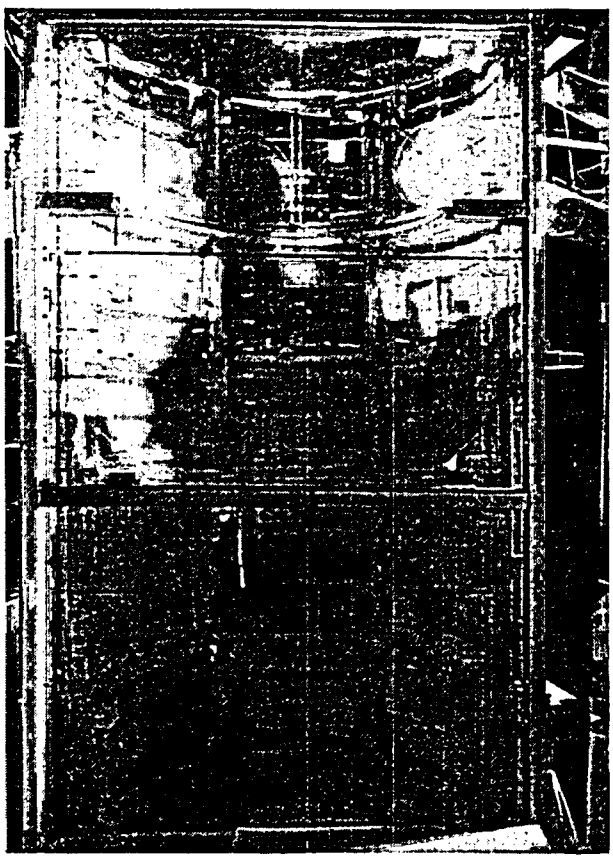


Fig. A4

t = 1 min 20 sec

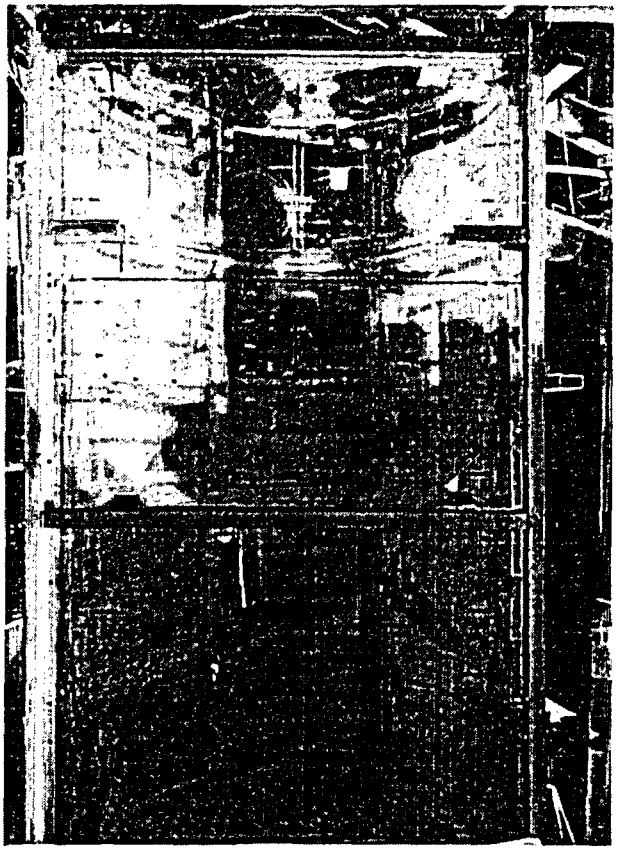


Fig. A5

t = 1 min 45 sec

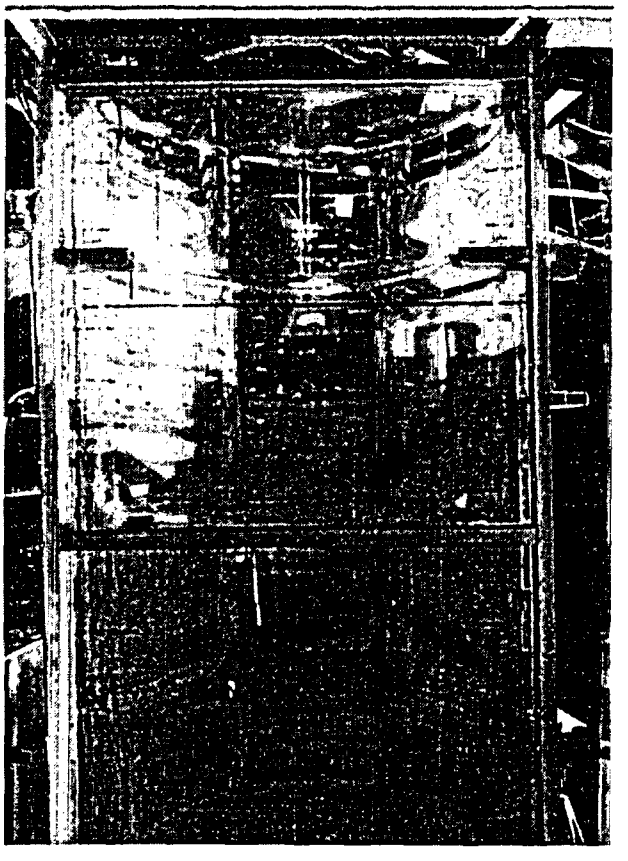


Fig. A6

t = 2 min 20 sec

Fig. A7

t = 3 min 36 sec

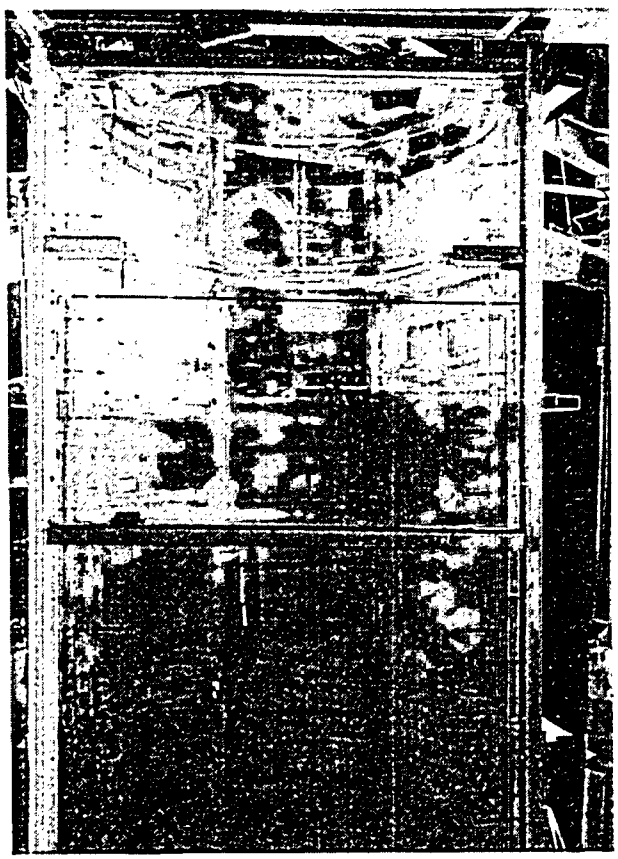


Fig. A8

t = 5 min 0 sec

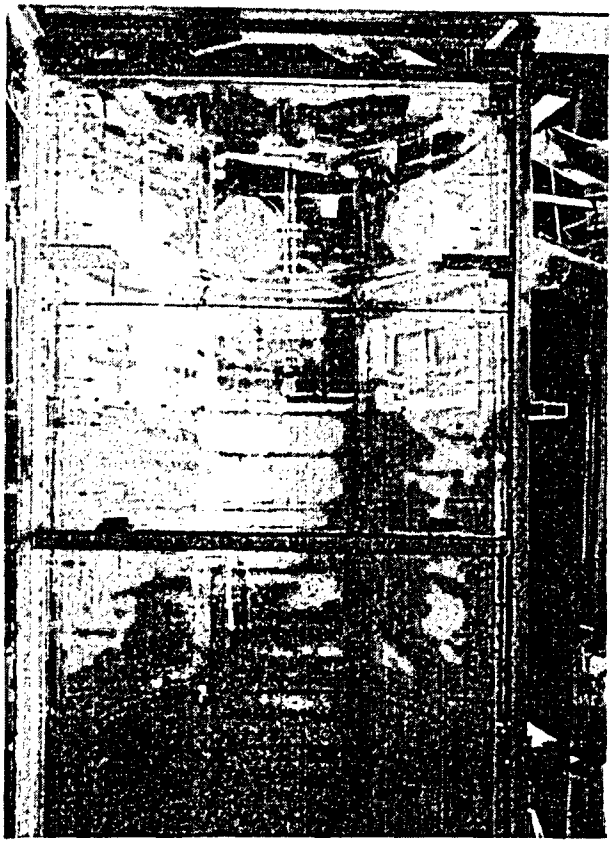


Fig. A9

t = 6 min 14 sec

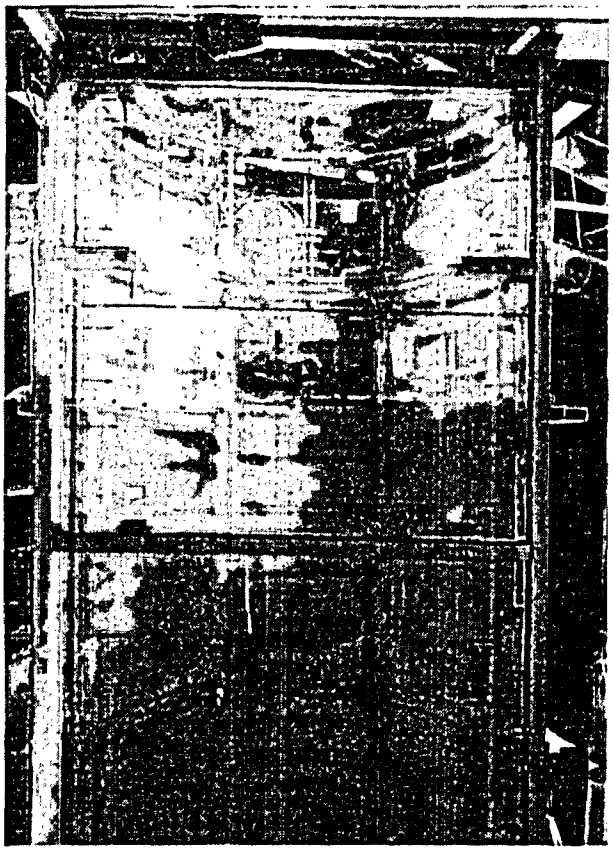
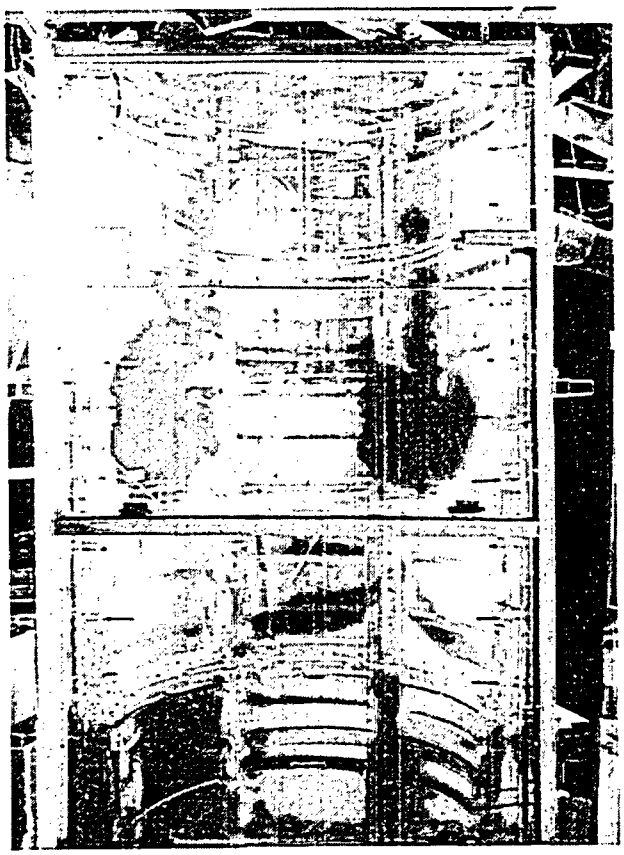


Fig. A10

t = 7 min 55 sec



Figures B1 to B7
Test # 106
Two vertical HPI-plumes in the down-comer

Fig. B1

t = 17 sec

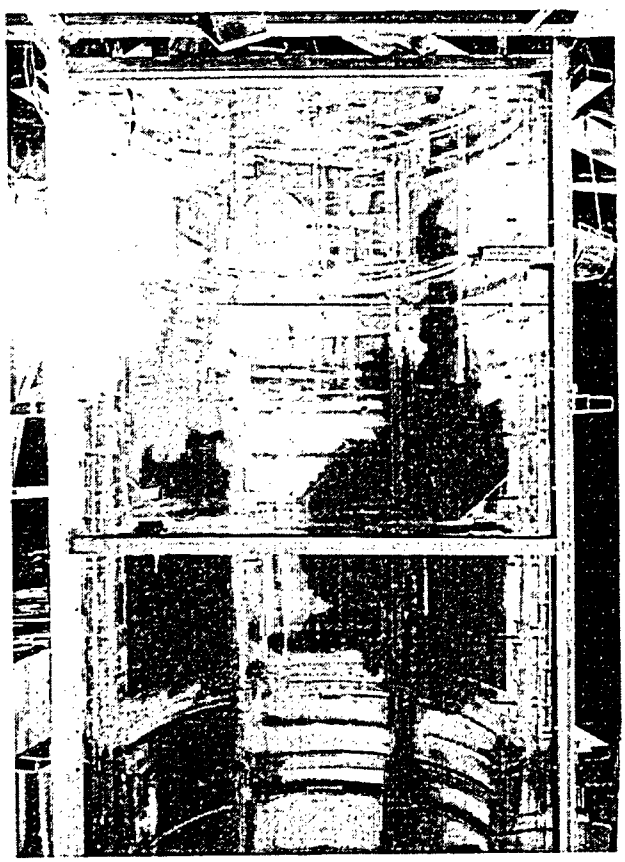


Fig. B2

t = 23 sec

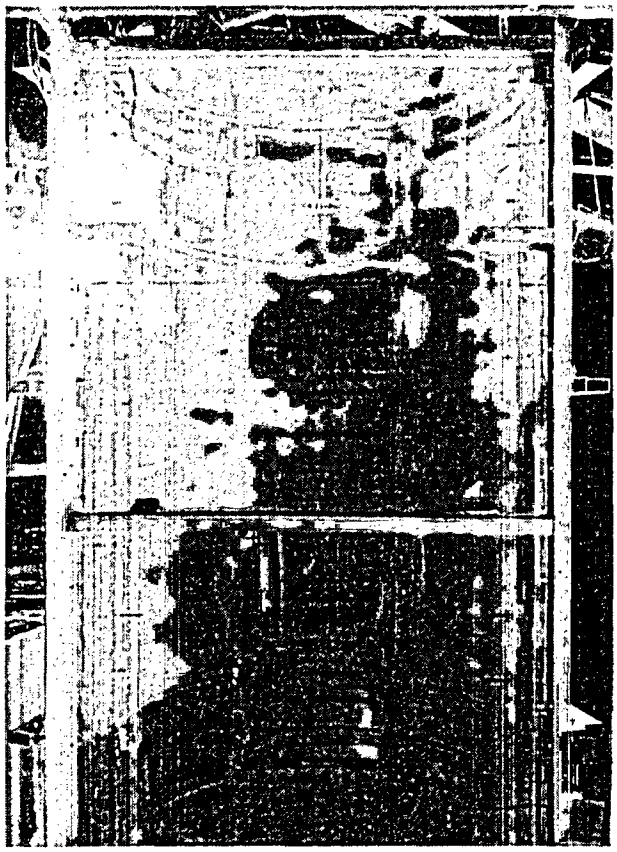


Fig. B3

t = 29 sec

Fig. B4

t = 35 sec

Fig. B5

t = 45 sec

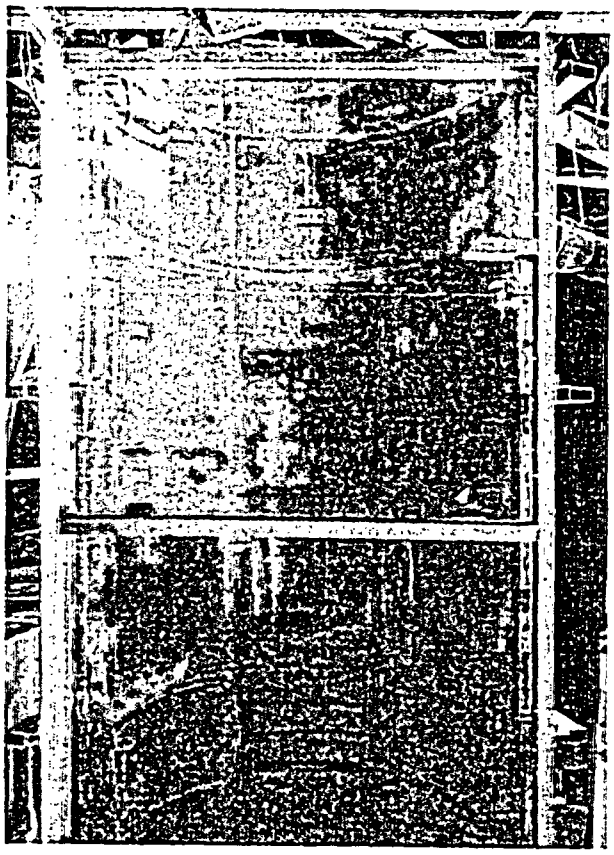


Fig. B6

t = 1 min

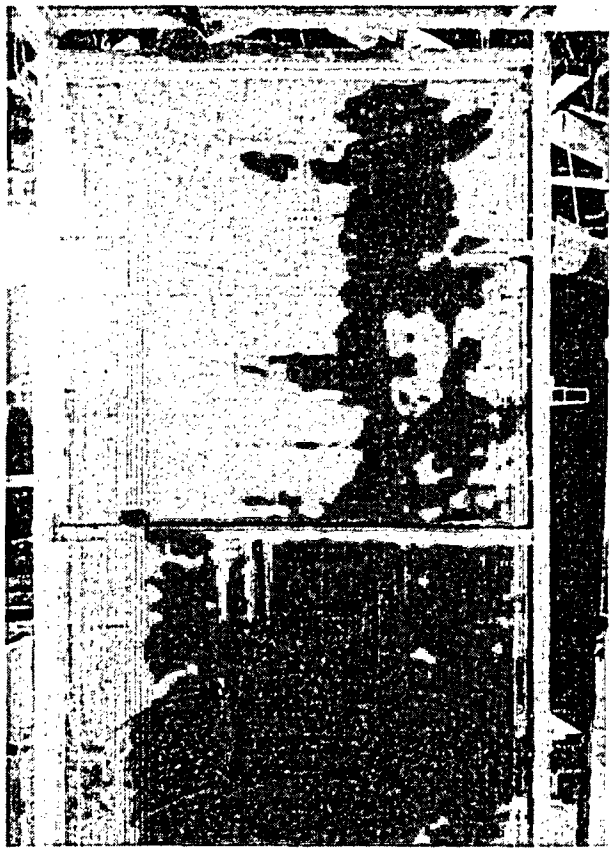


Fig. B7

t = 2 min

Figures C1 to C10. Test # 106. Stratification in the cold leg.

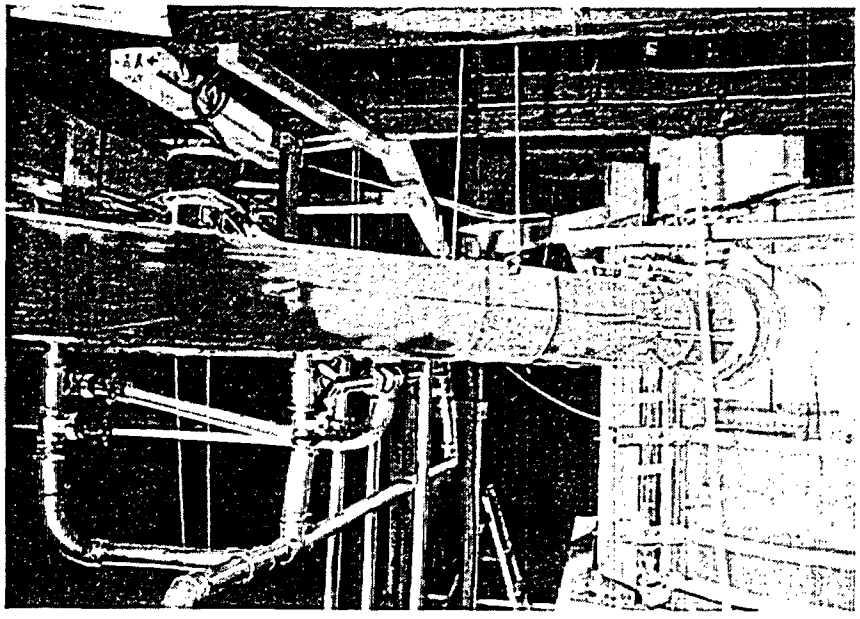


Fig. C1. t = 4 sec

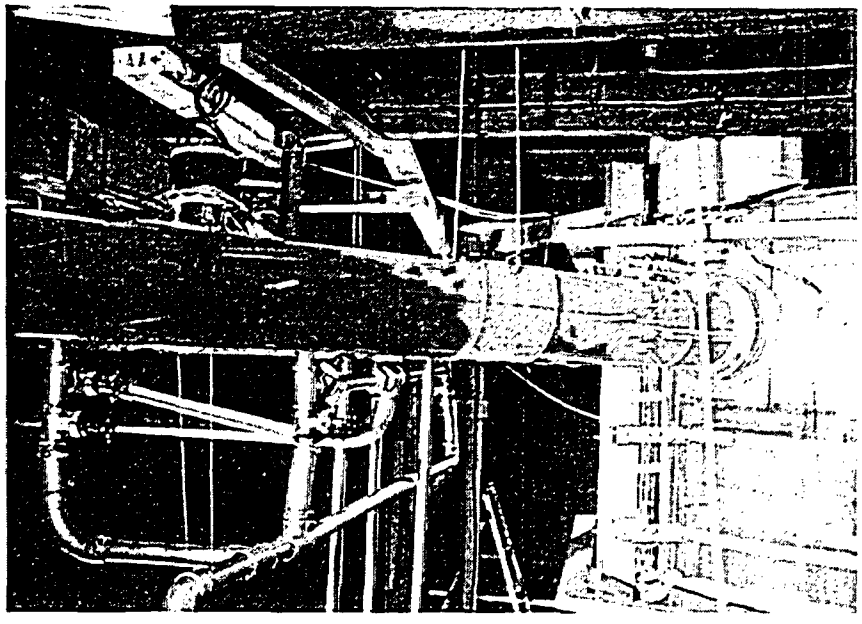


Fig. C2. t = 7.5 sec

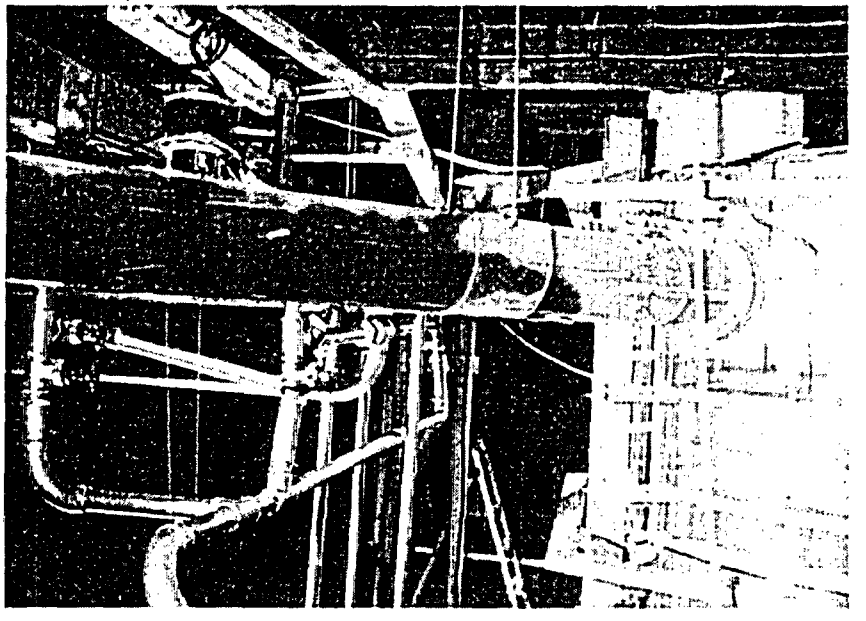


Fig. C3. t = 11 sec

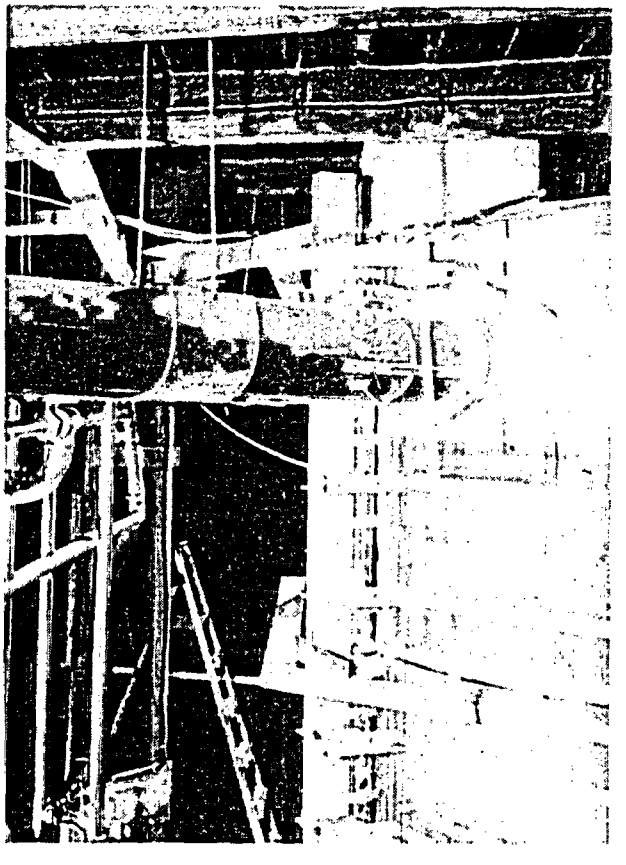


Fig. C4.

t = 14.5 sec

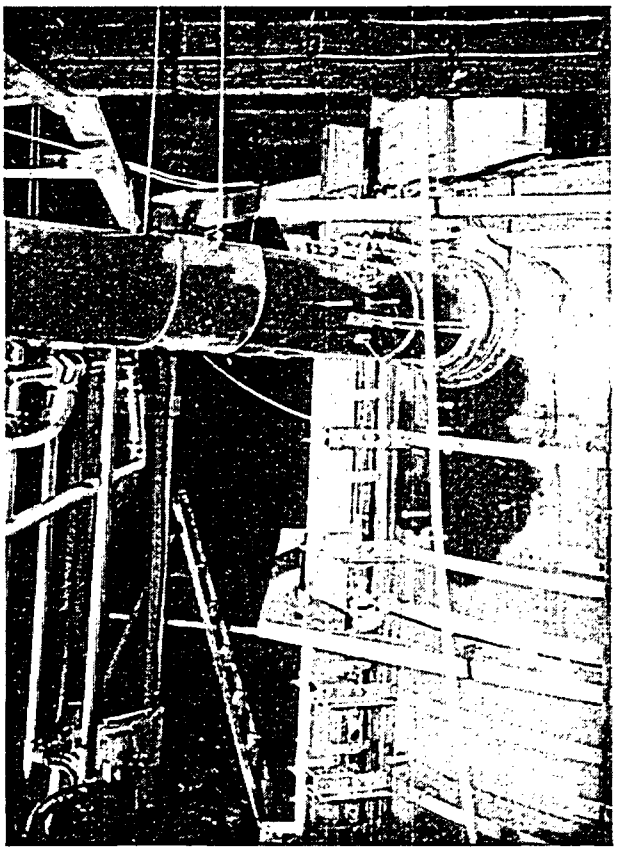


Fig. C5.

t = 18.5 sec

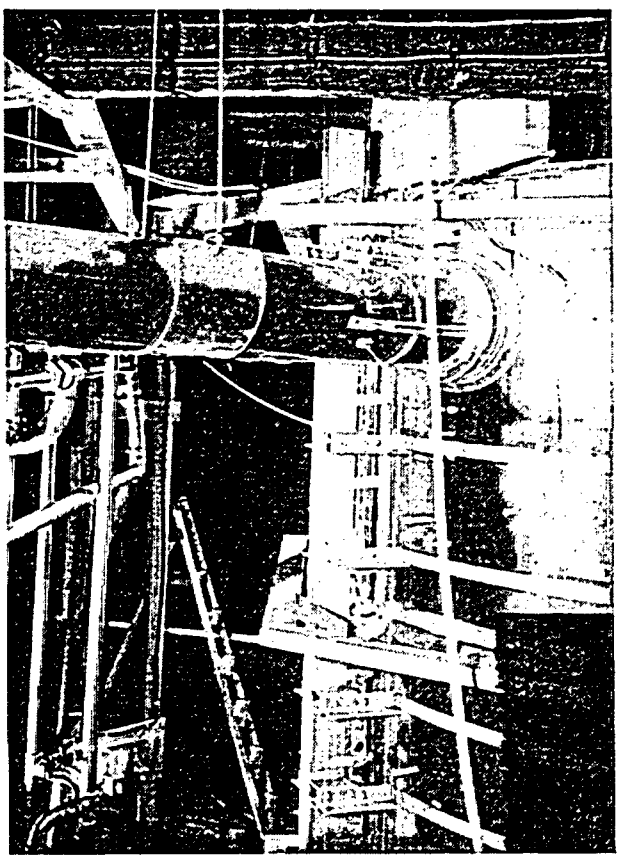


Fig. C6.

t = 21.5 sec

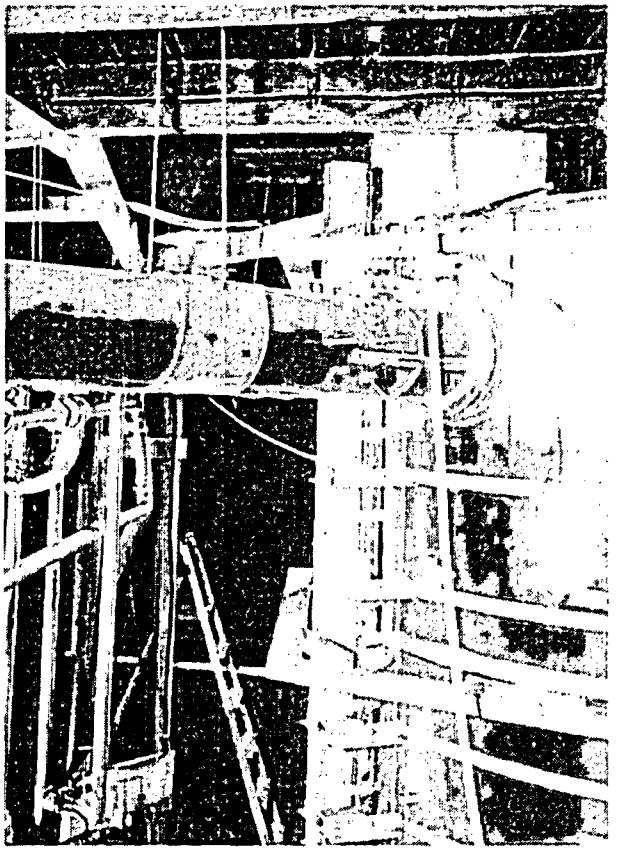


Fig. C7.

t = 24.5 sec

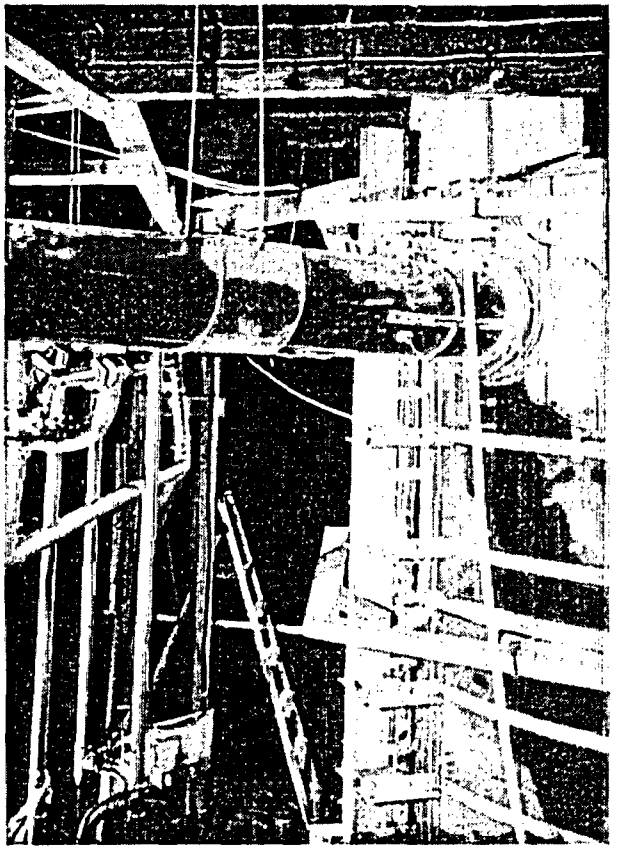


Fig. C8.

t = 28 sec

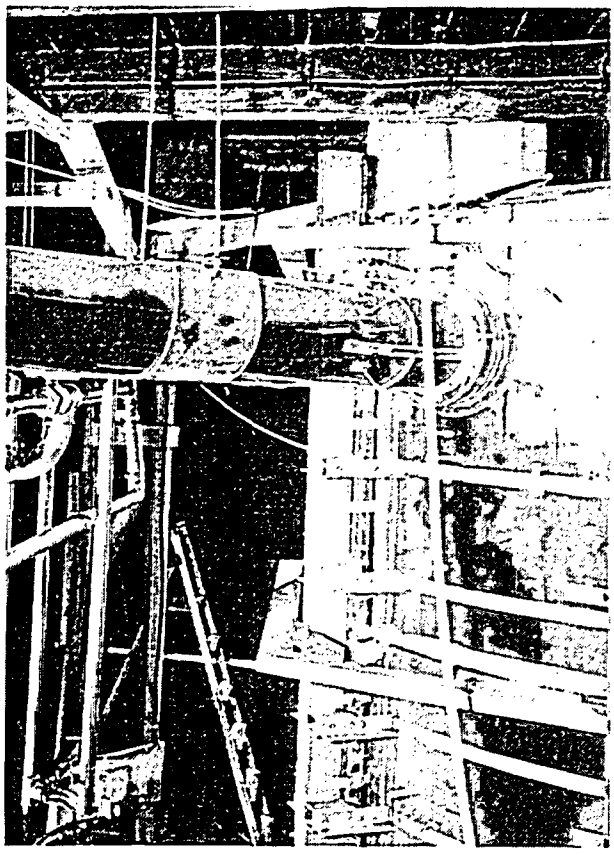


Fig. C9.

t = 40 sec

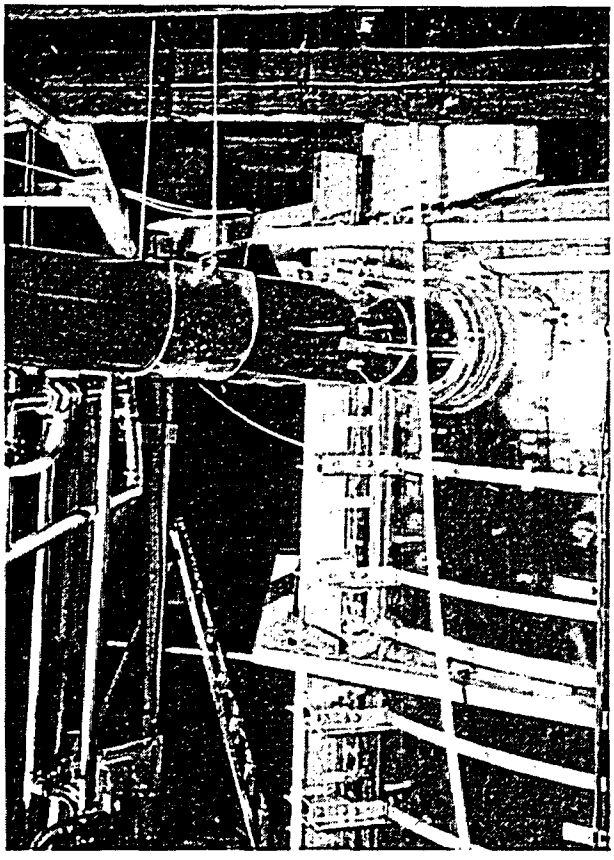
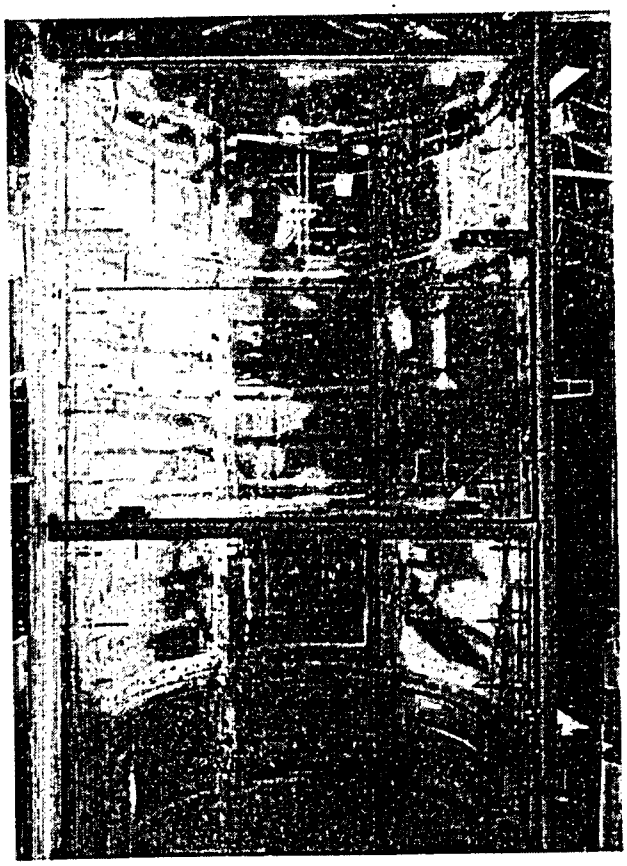


Fig. C10.

t = 1 min 5 sec



Figures D1 to D6
Test # 113
Mixing in the
downcomer

Fig. D1

t = 15 sec

Fig. D2.

t = 30 sec

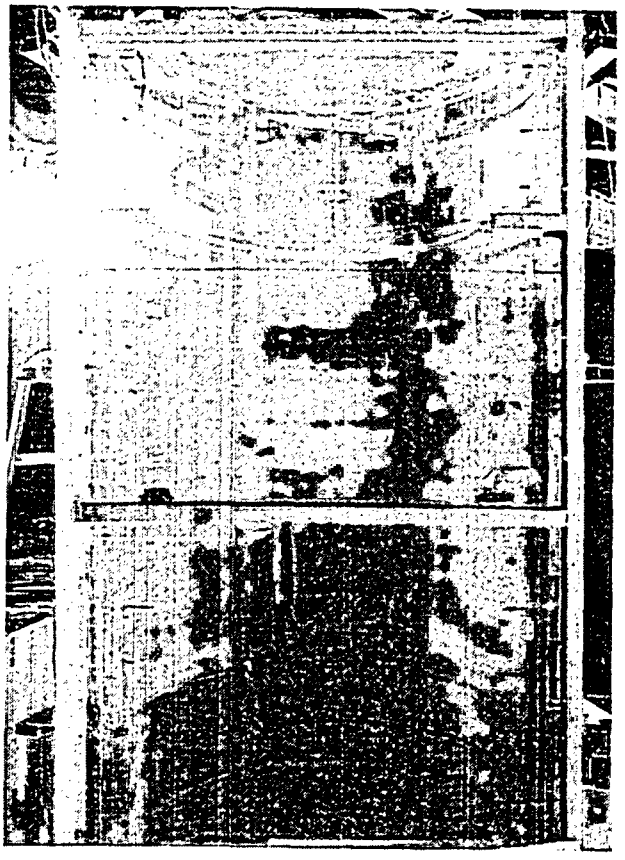


Fig. D3

t = 40 sec

Fig. D4

t = 50 sec

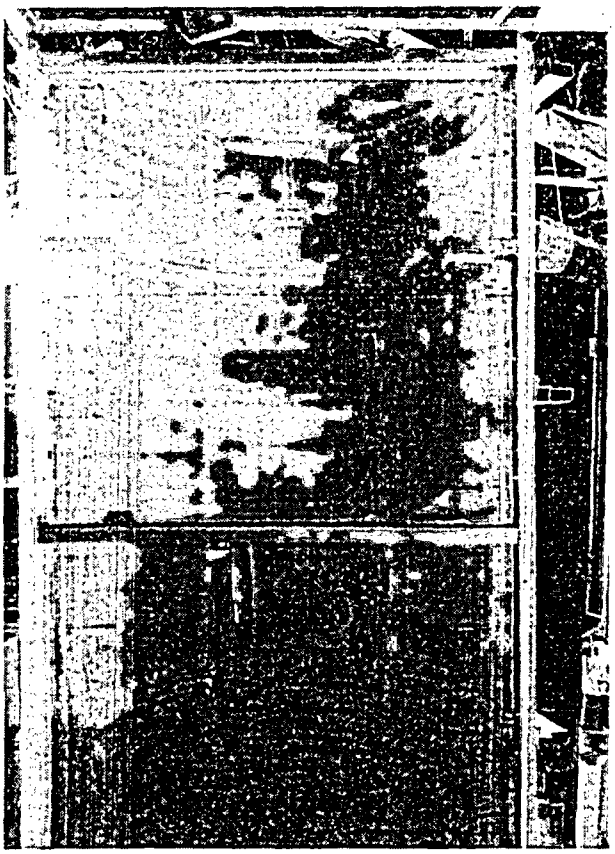


Fig. D5

t = 1 min 50 sec

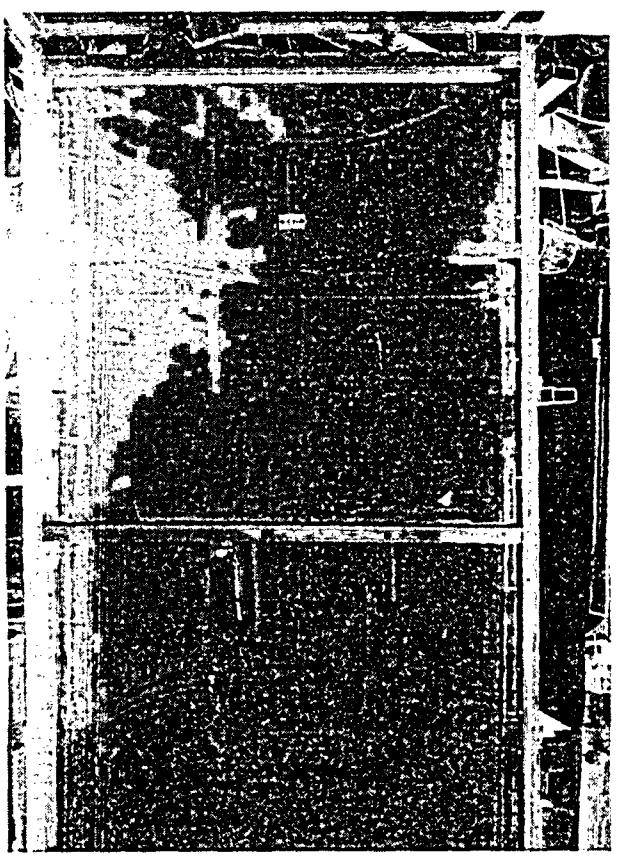
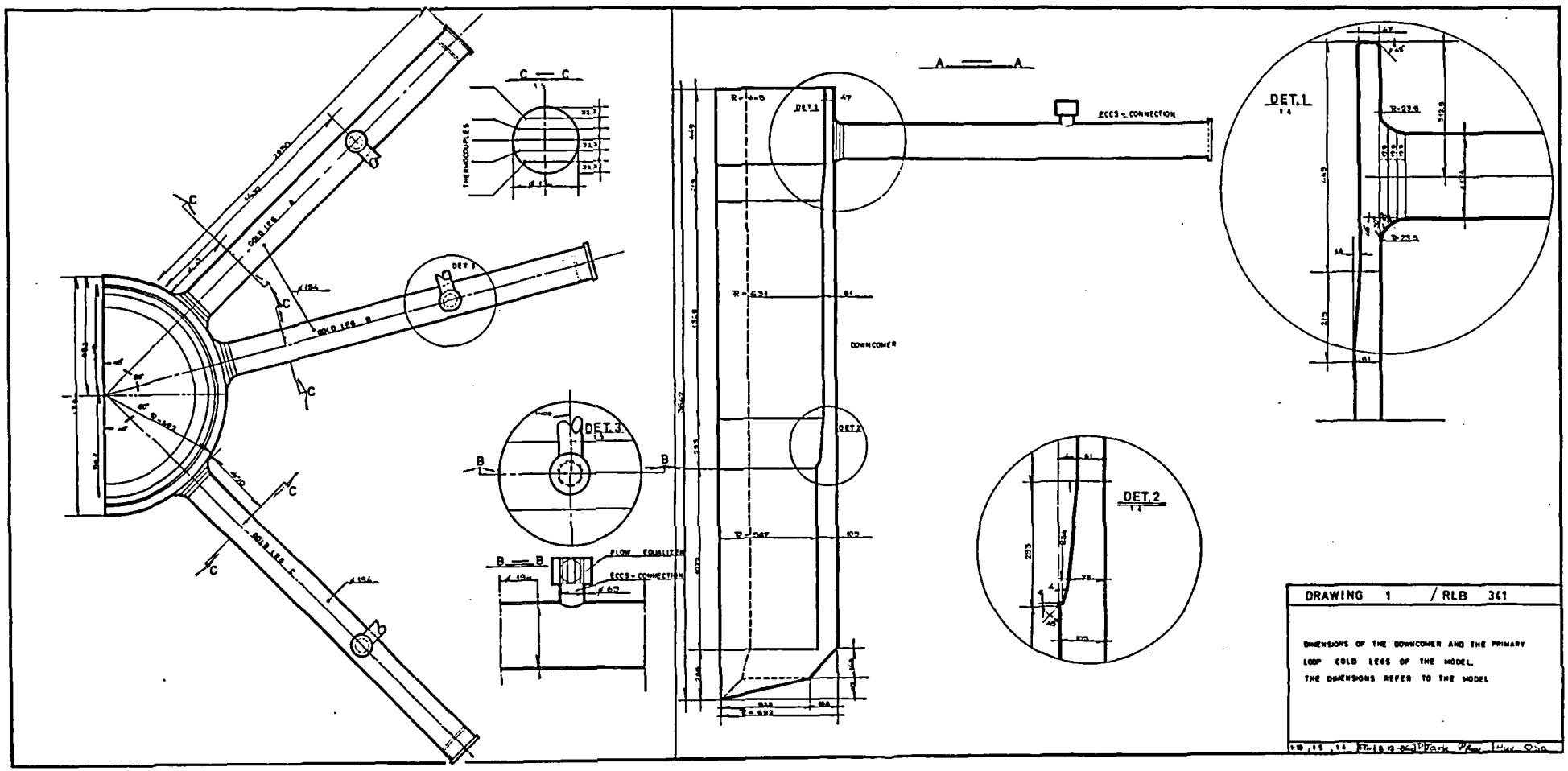
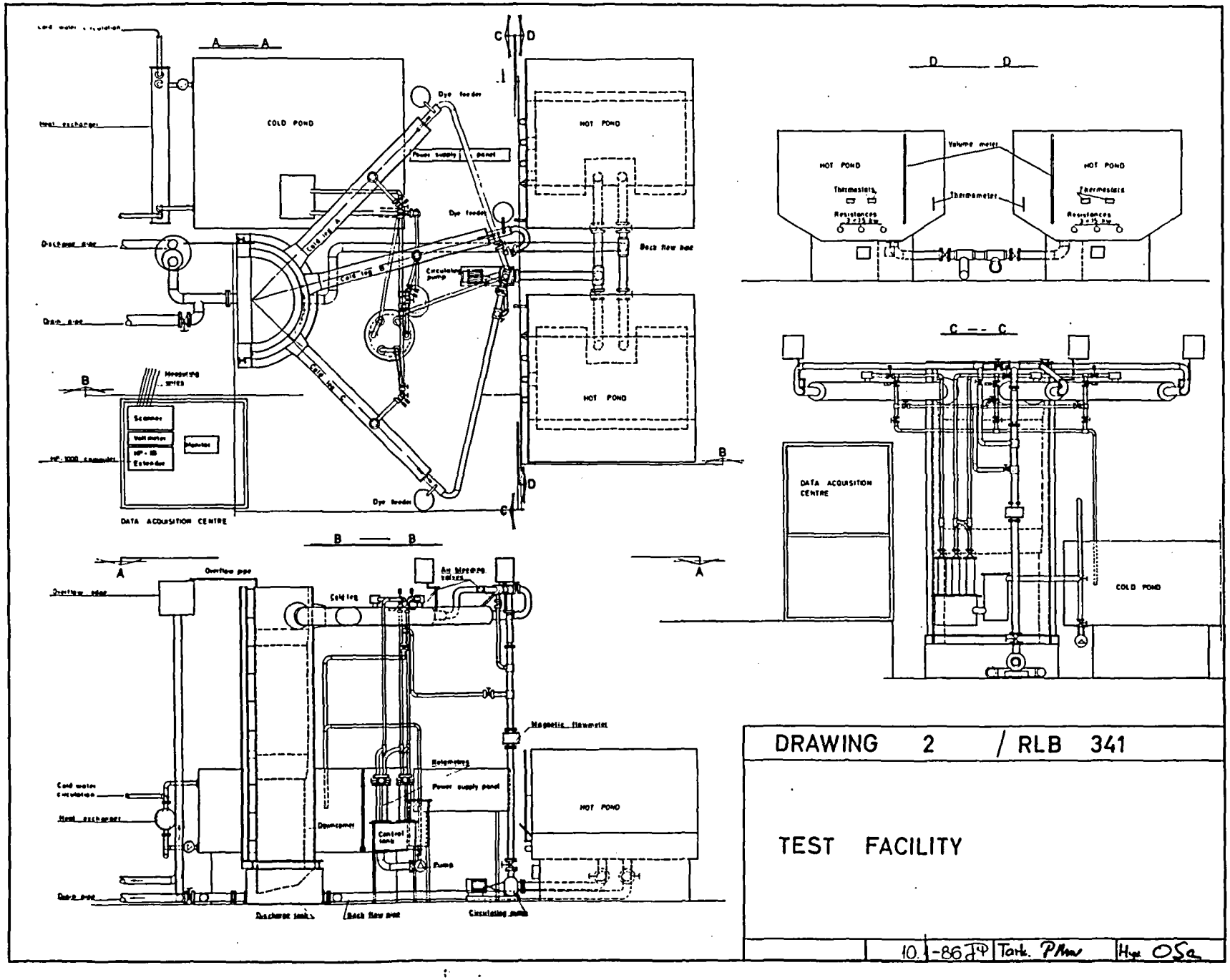


Fig. D6

t = 2 min 40 sec

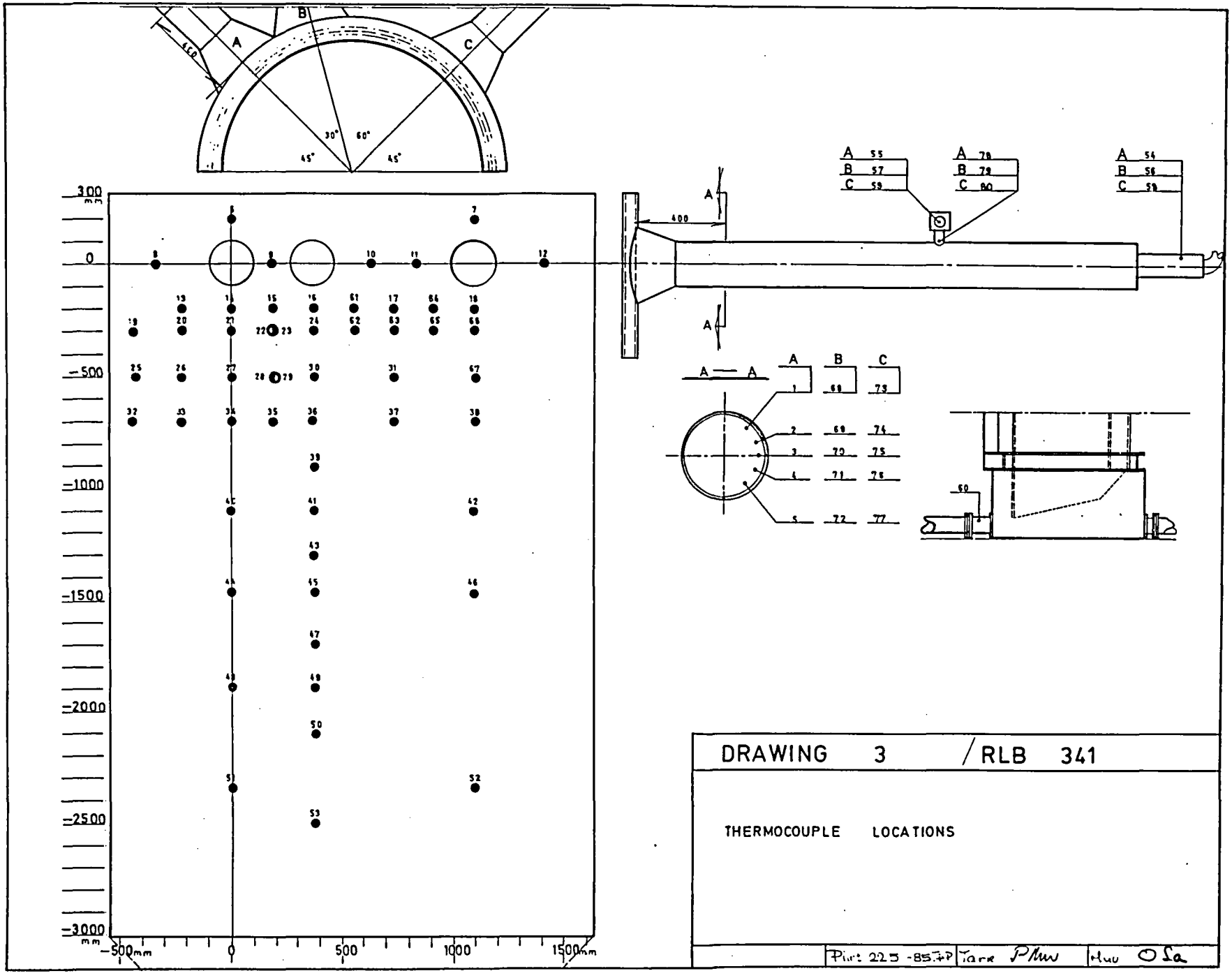

C — C
THERMOCOUPLES
COLD LEG A
COLD LEG B
COLD LEG C
DET.2
DET.3
B — B
FLOW EQUALIZER
ECCS - CONNECTION
A — A
DOWNCOMER
DET.1
DET.2
DET.1
DRAWING 1 / RLB 341
DIMENSIONS OF THE DOWNCOMER AND THE PRIMARY LOOP COLD LEGS OF THE MODEL.
THE DIMENSIONS REFER TO THE MODEL

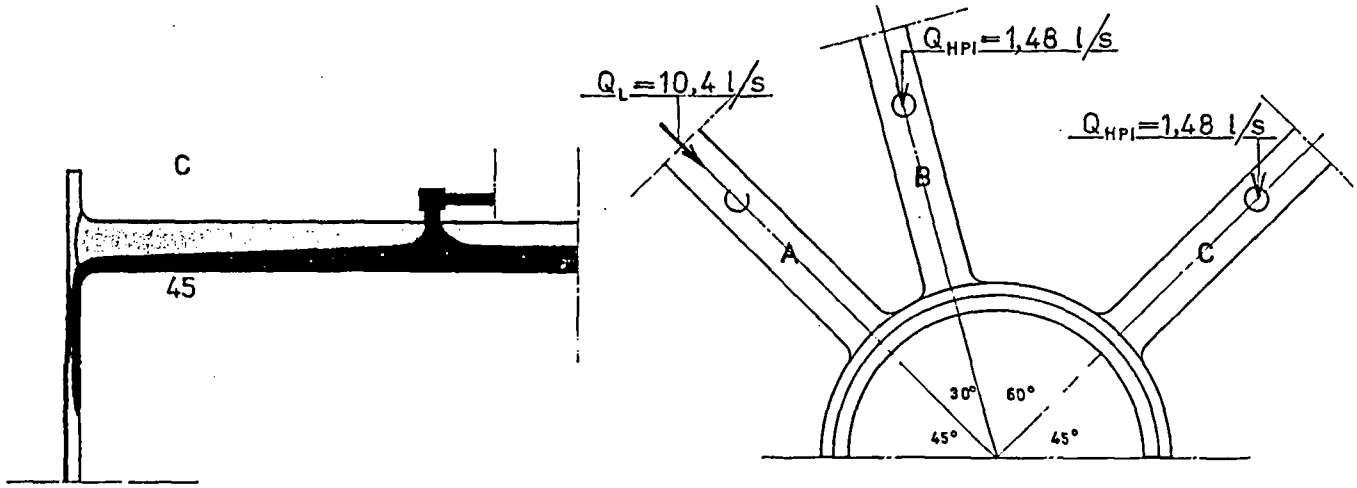


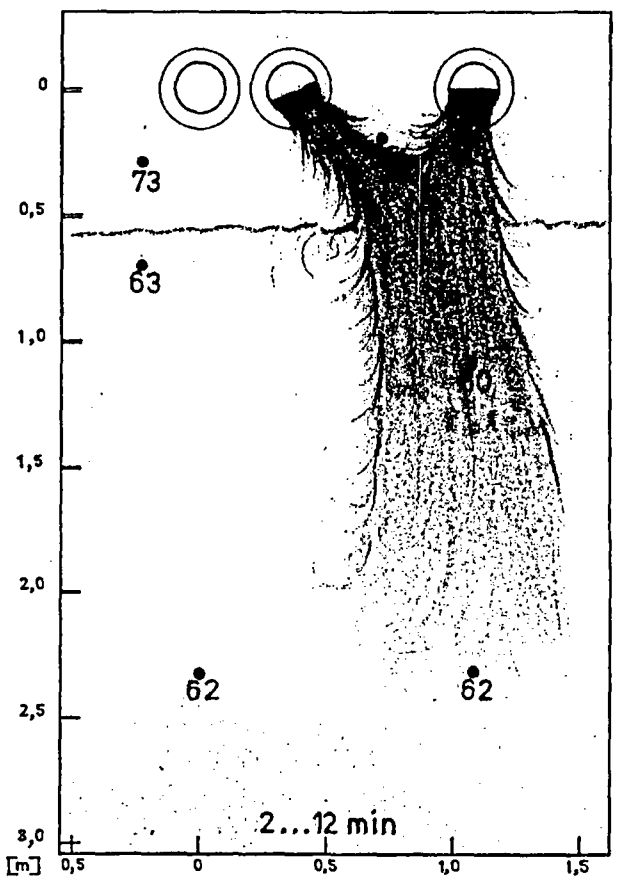
DRAWING 2 / RLB 341

TEST FACILITY

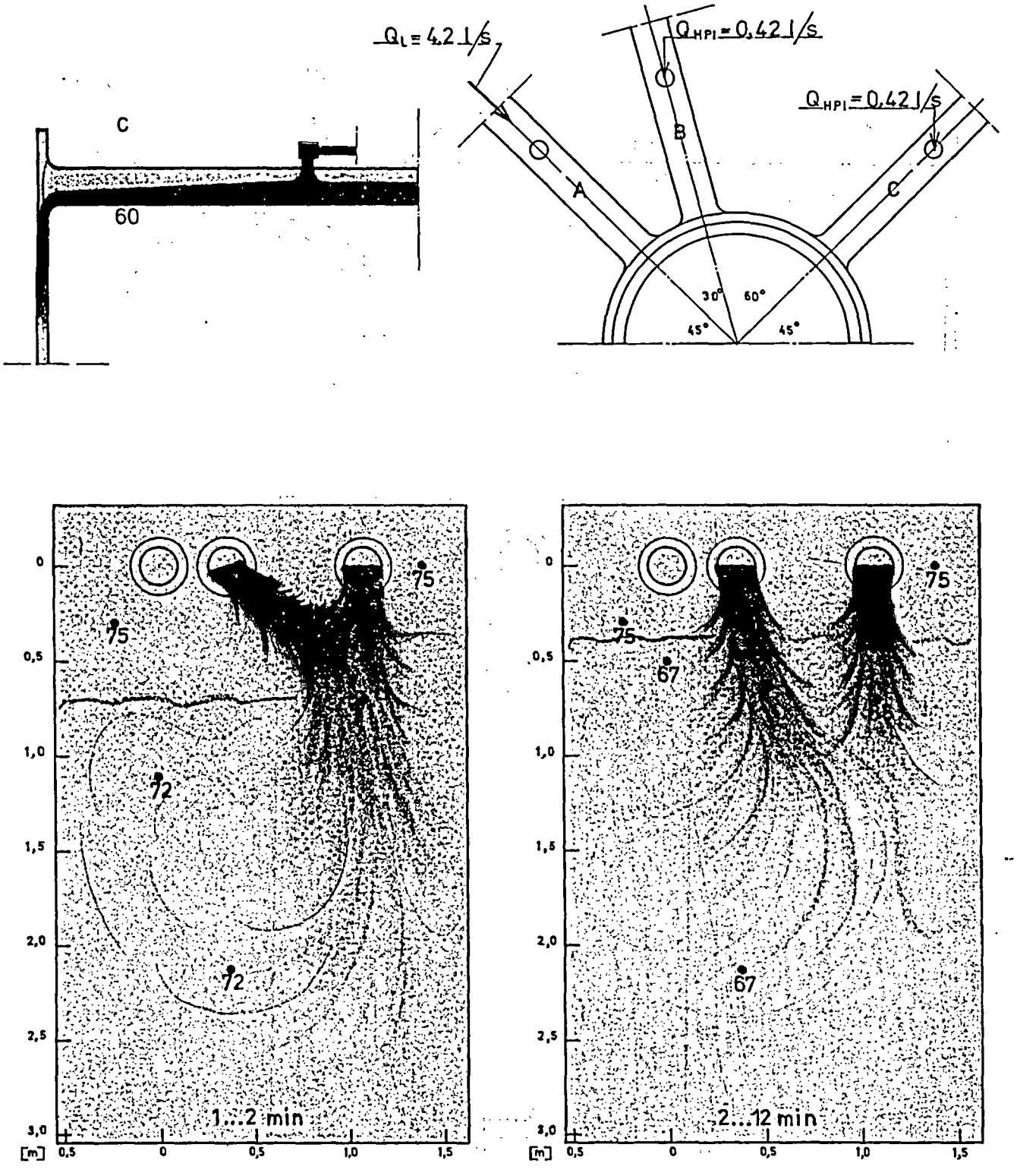
10.1-86 JP | Tark. | Hyr OSa


DRAWING 3 / RLB 341
THERMOCOUPLE LOCATIONS
A
B
C
30°
60°
45°
400
A — A
300
0
-500
-1000
-1500
-2000
-2500
-3000
mm
-500mm
0
500
1000
1500mm

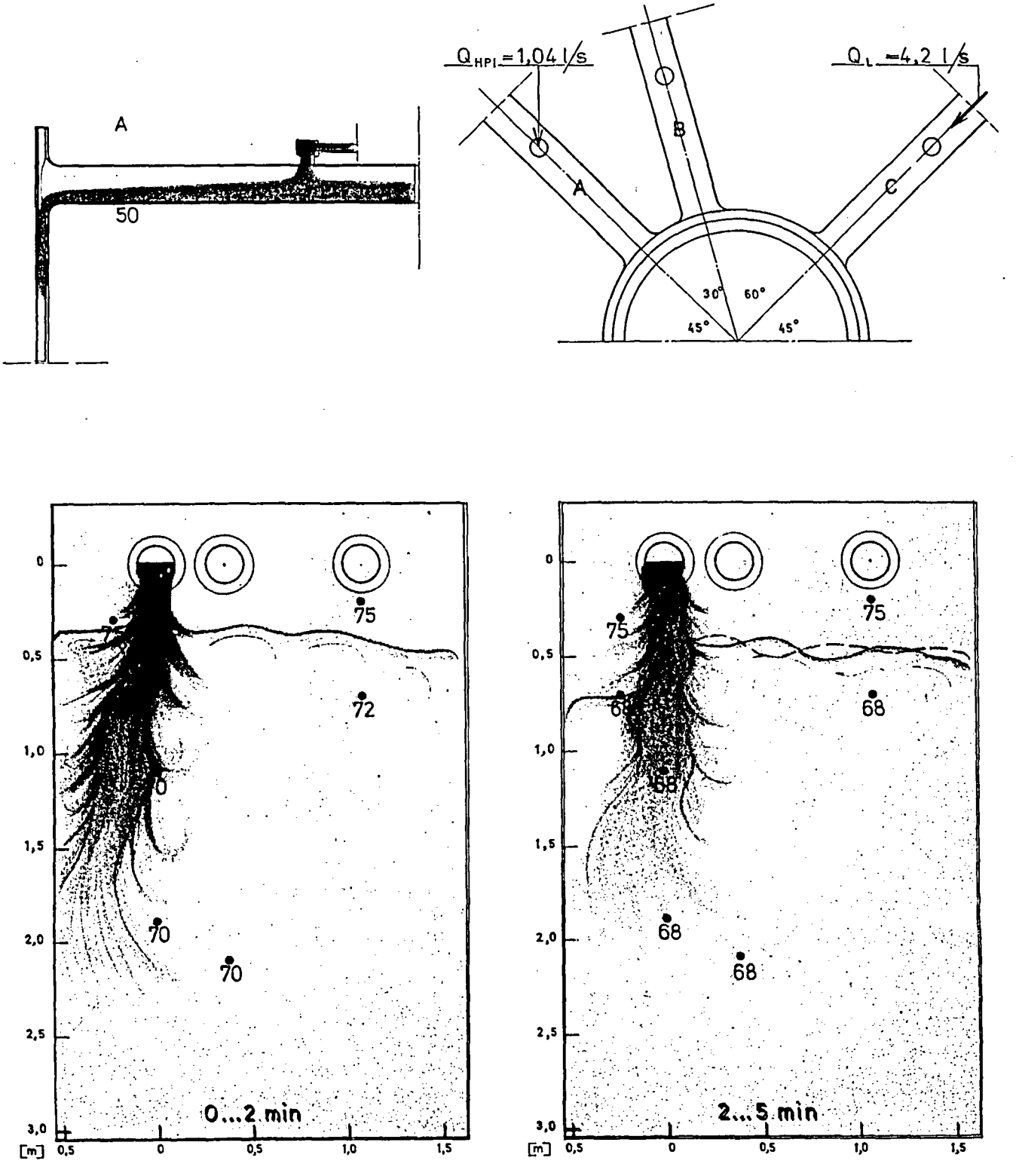




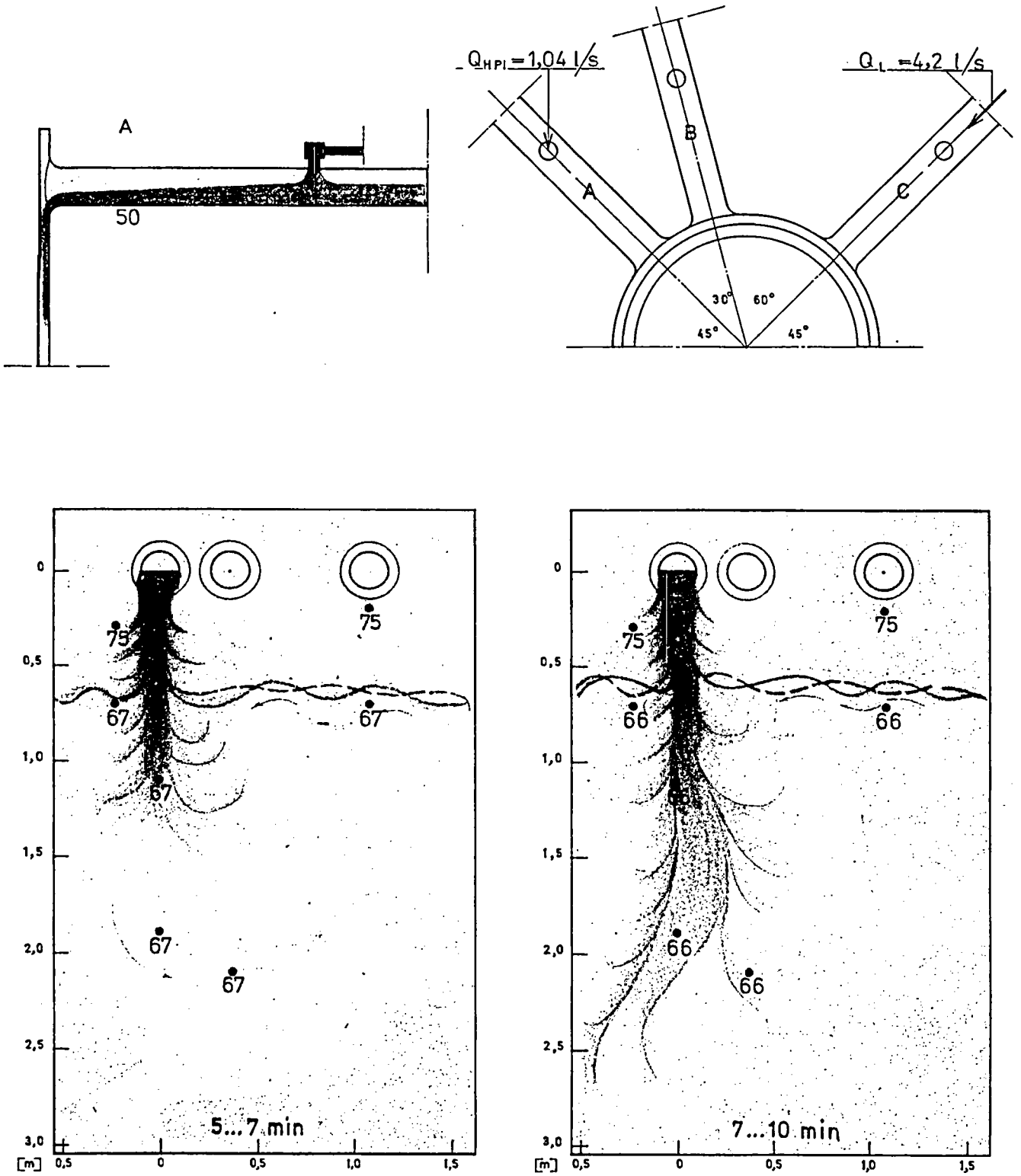
Drawing 4
Two vertical HPI plumes and thermal stratification in the downcomer in the test #105



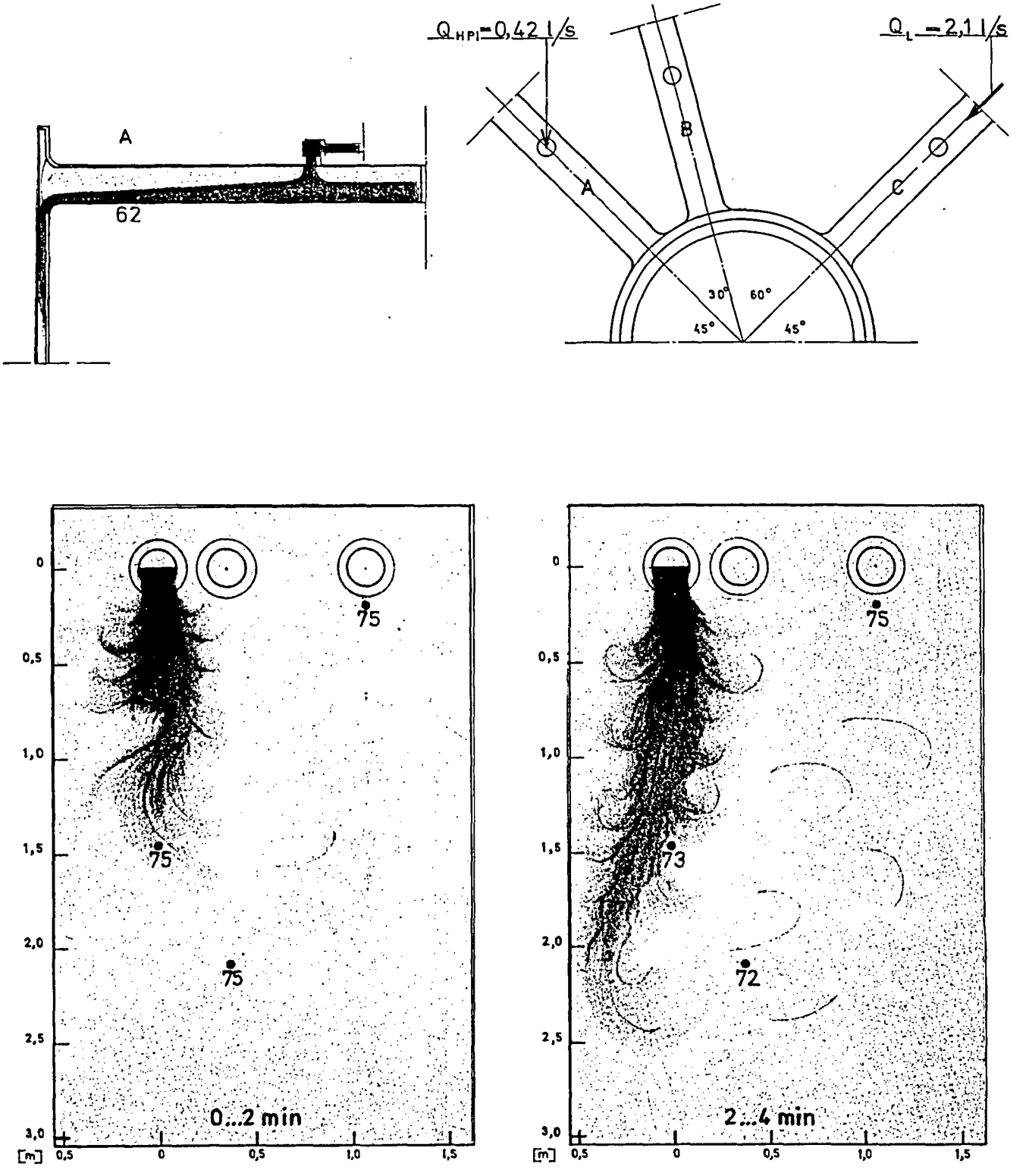
Drawing 5
Two vertical HPI plumes and thermal stratification in the downcomer in the test #108



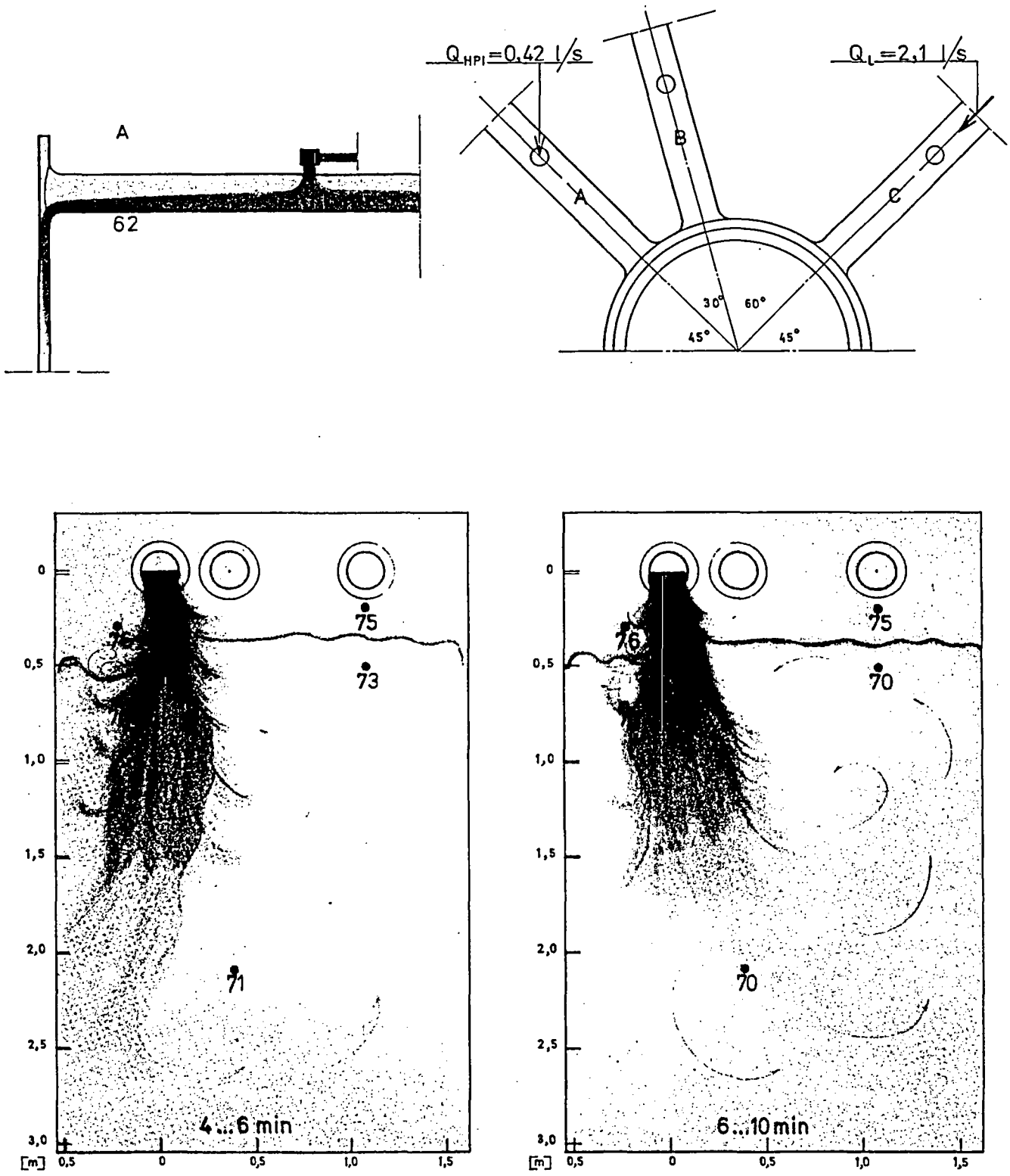
Drawing 6a
Vertical plume formation and thermal stratification in the downcomer in the test 109



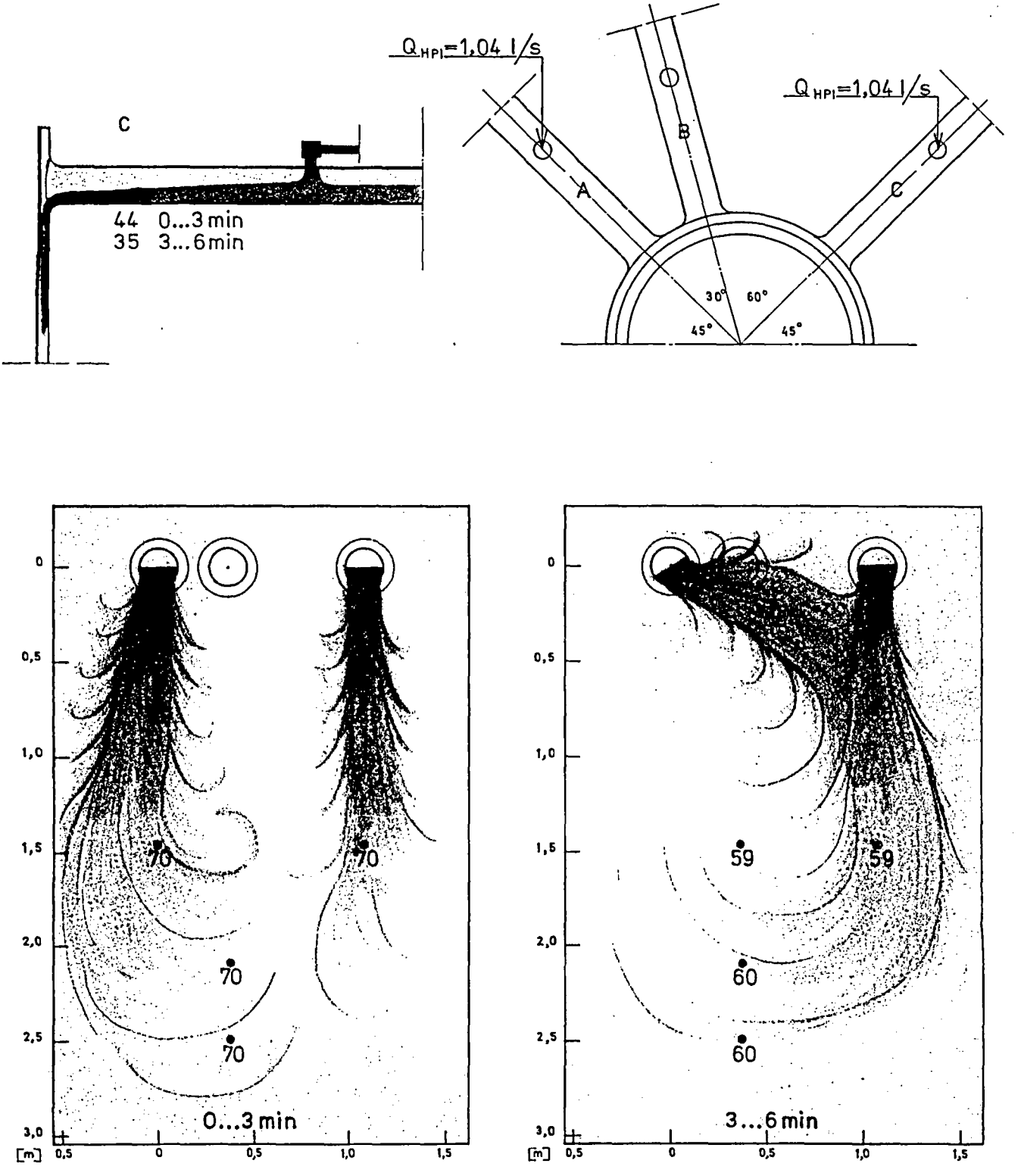
Drawing 6 b
Vertical plume formation and thermal stratification in the downcomer in the test #109



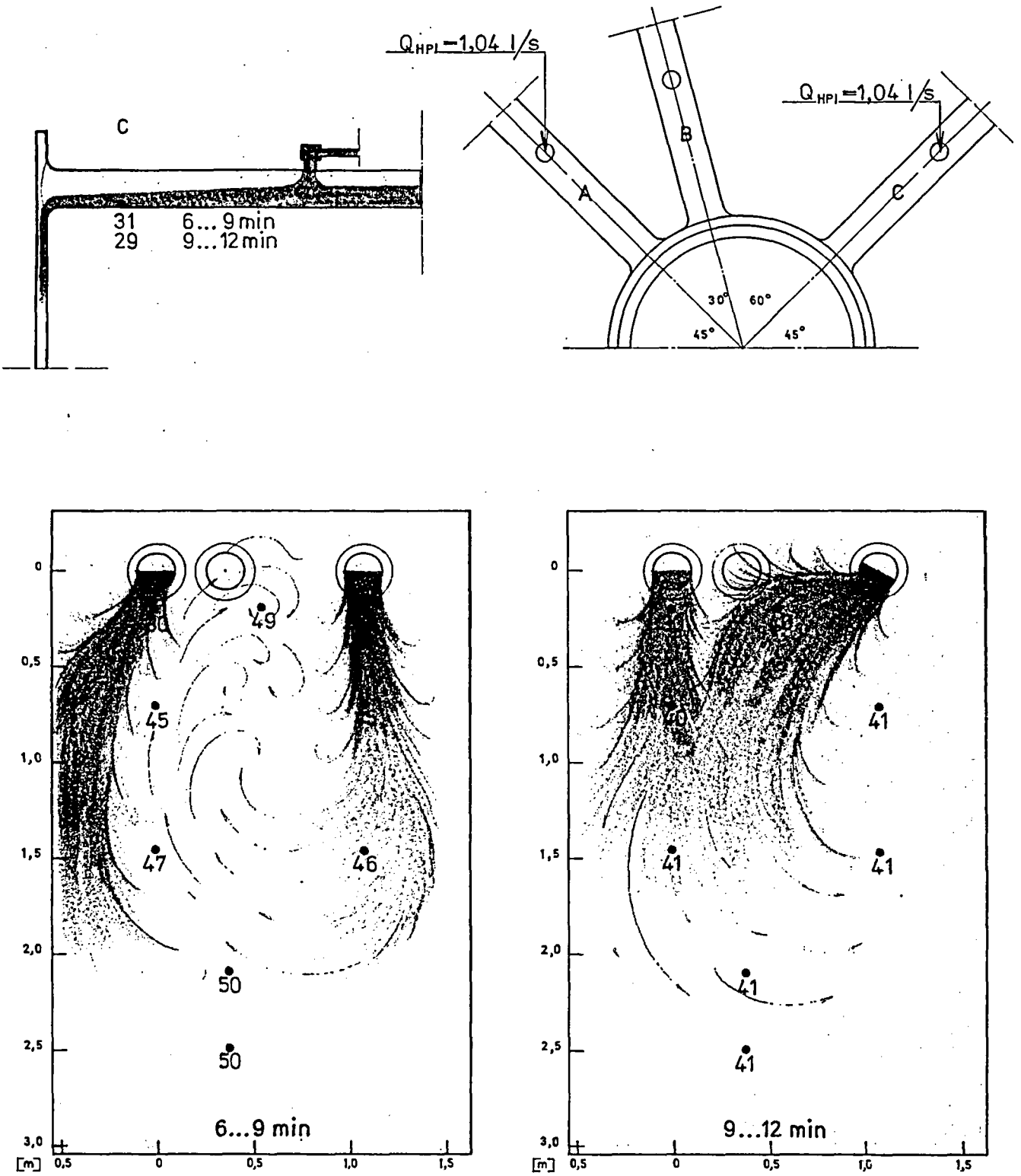
Drawing 7a
Vertical plume and thermal stratification in the downcomer in the test #110



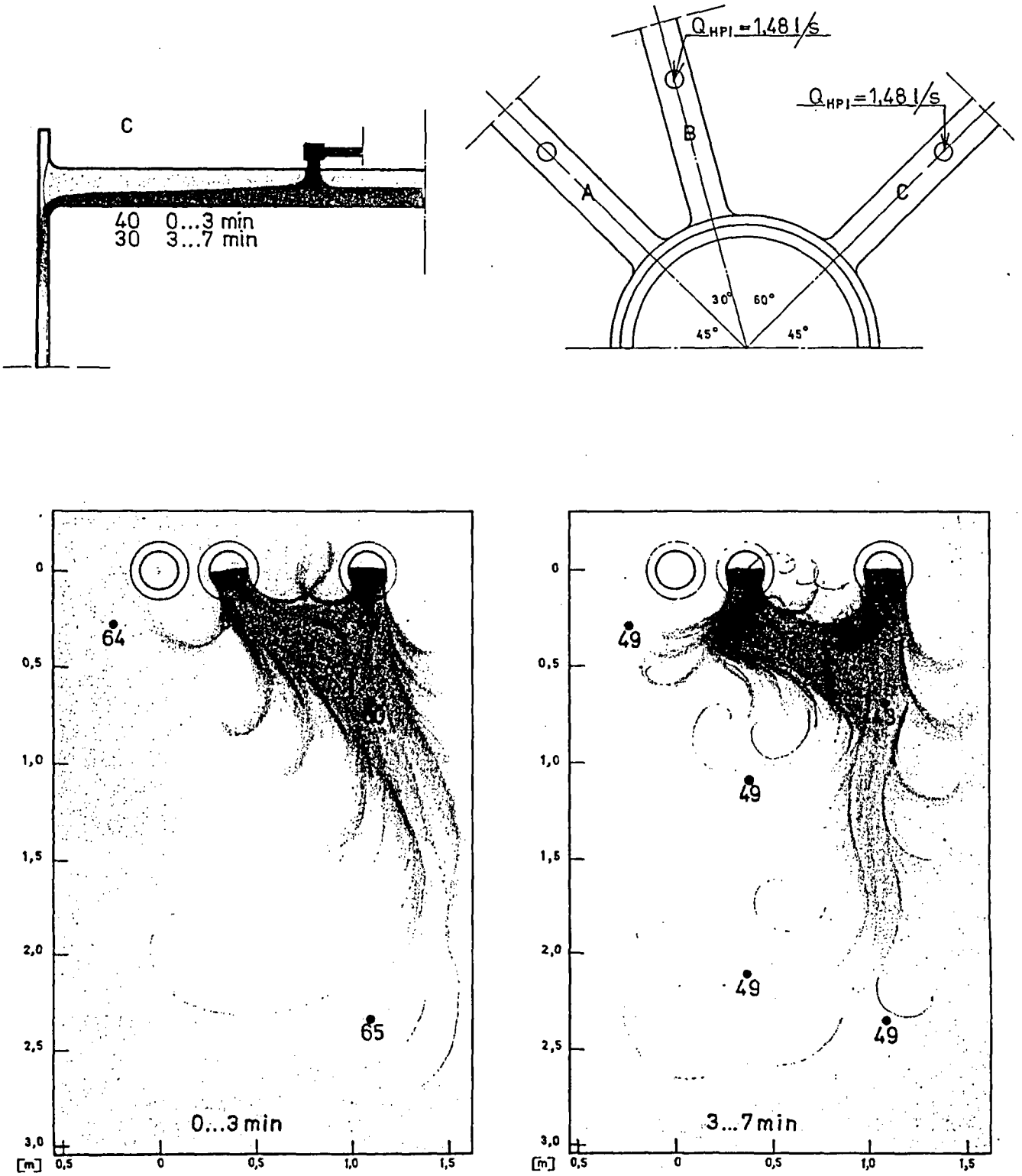
Drawing 7b
Vertical plume and thermal stratification in the downcomer in the test #110



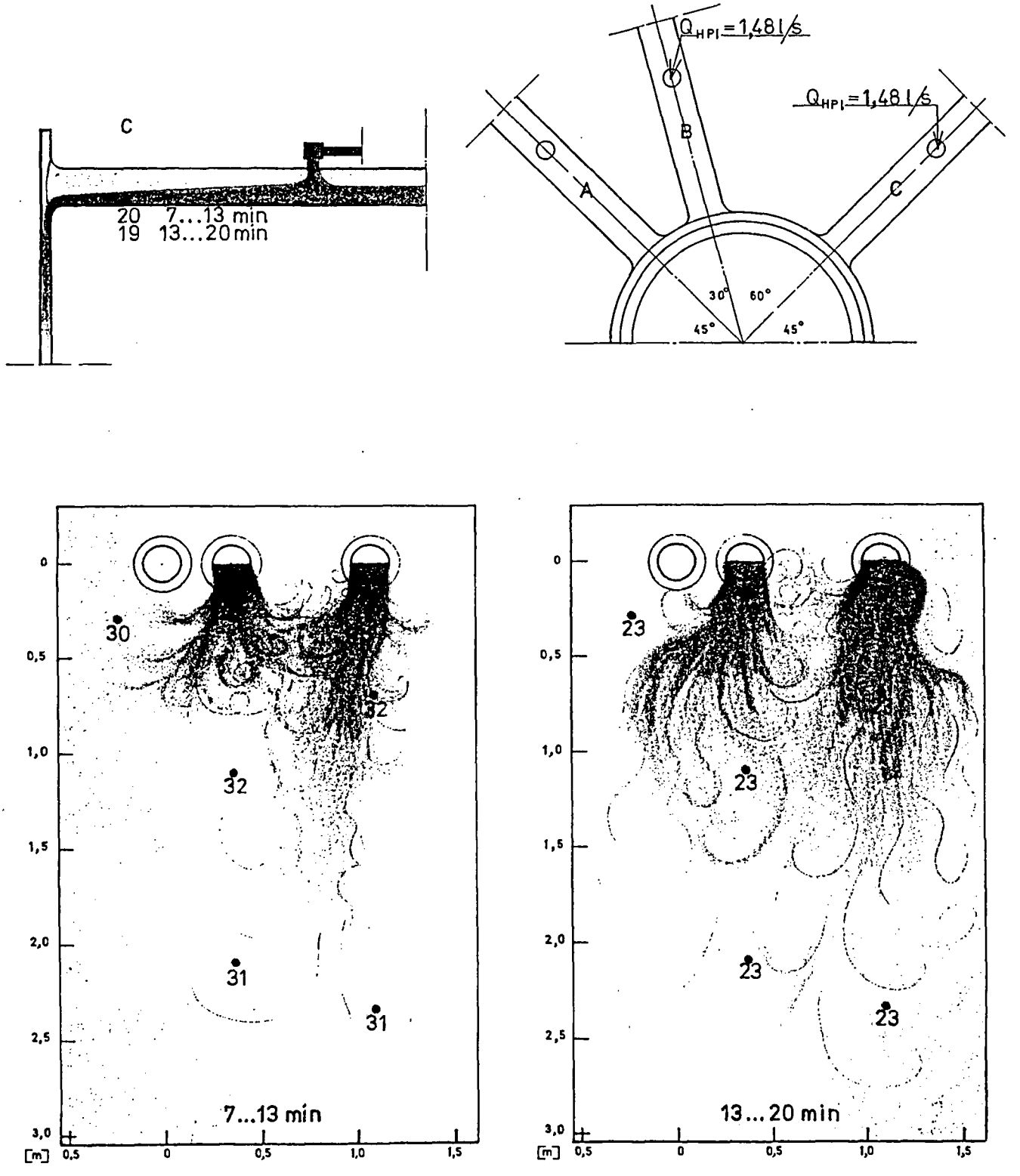
Drawing 8a
Interaction and mixing of two HPI plumes in the downcomer during the test #112



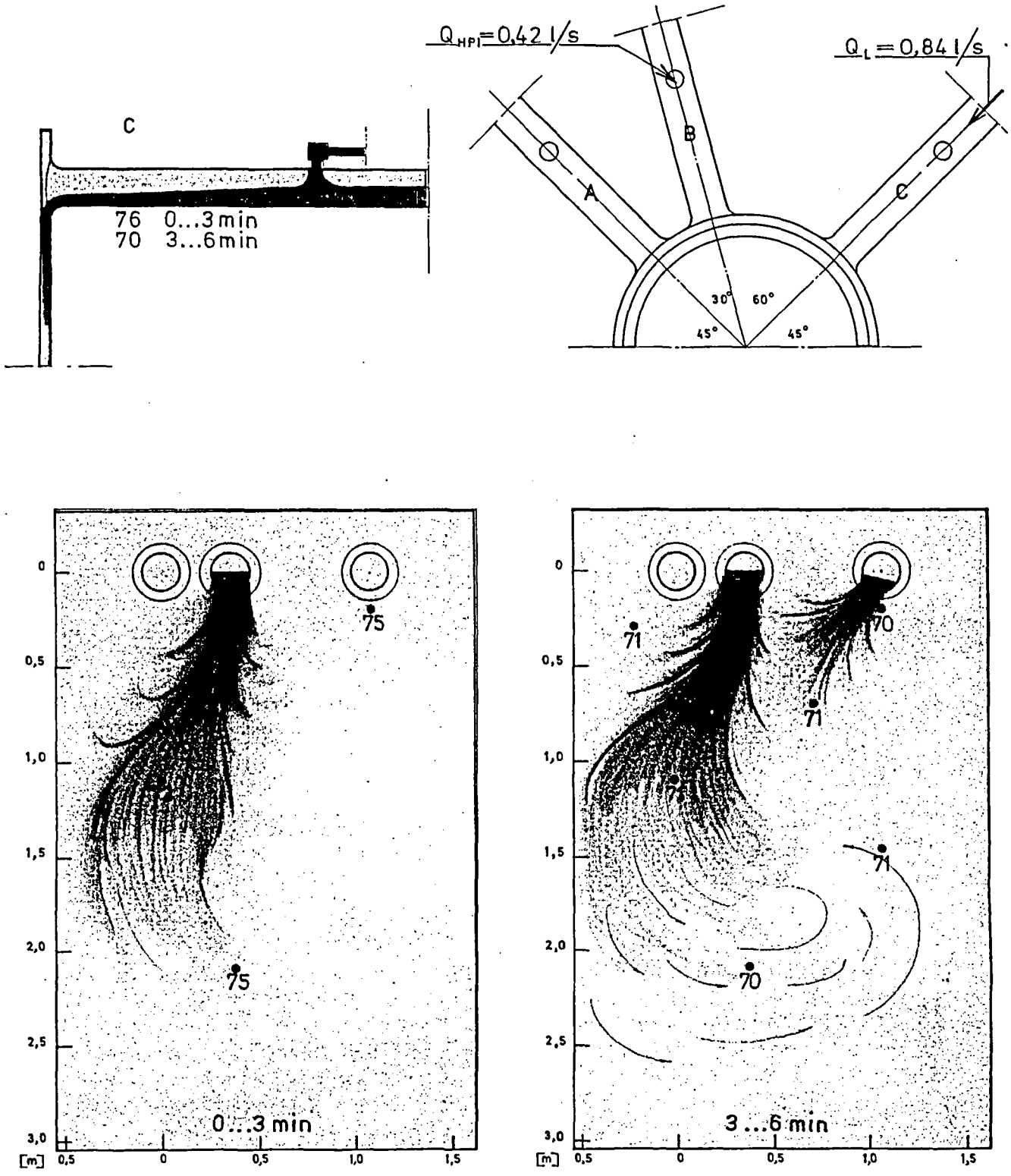
Drawing 8b
Interaction and mixing of two HPI plumes in the downcomer during the test #112



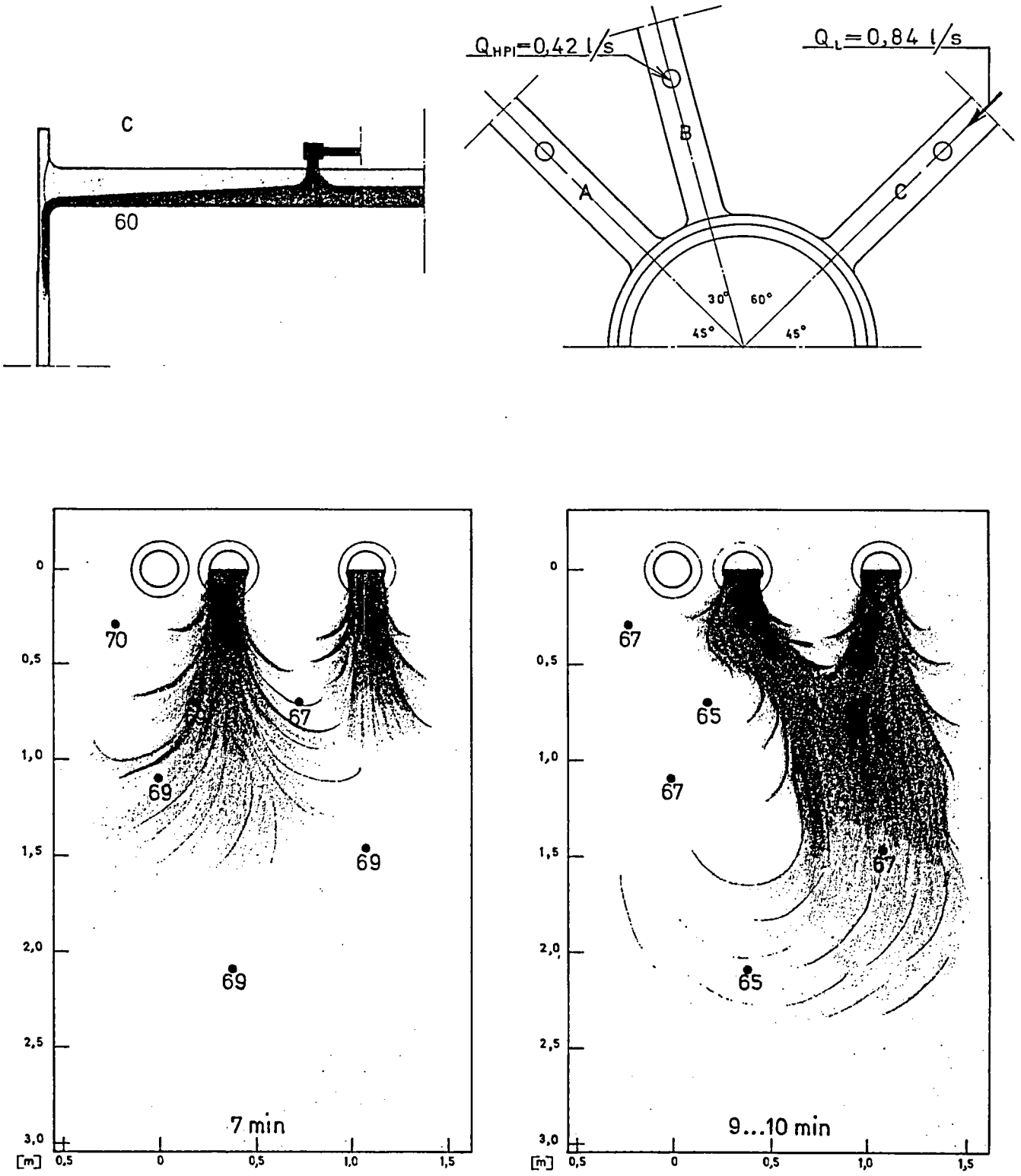
Drawing 9 a
Interaction and mixing of two HPI plumes in the downcomer during the test #113



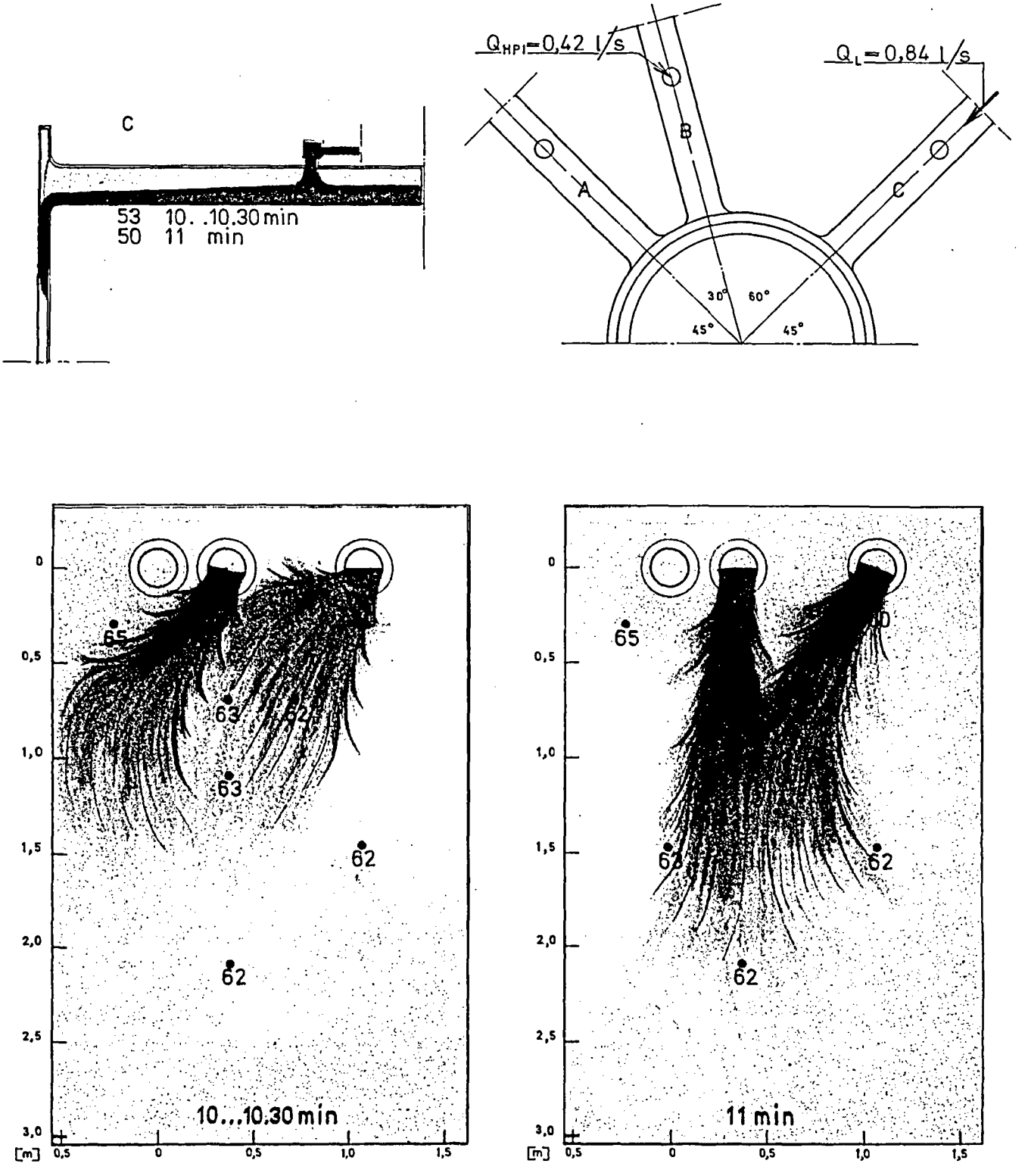
Drawing 9b
Interaction and mixing of two HPI plumes in the downcomer during the test #113



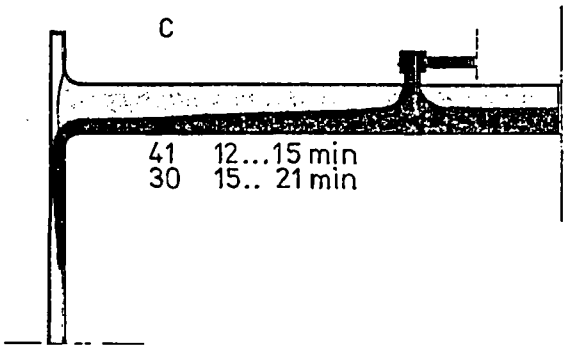
Drawing 10a
Interaction and mixing of one HPI plume and loop flow with stepwise decreasing temperature. Test # 115

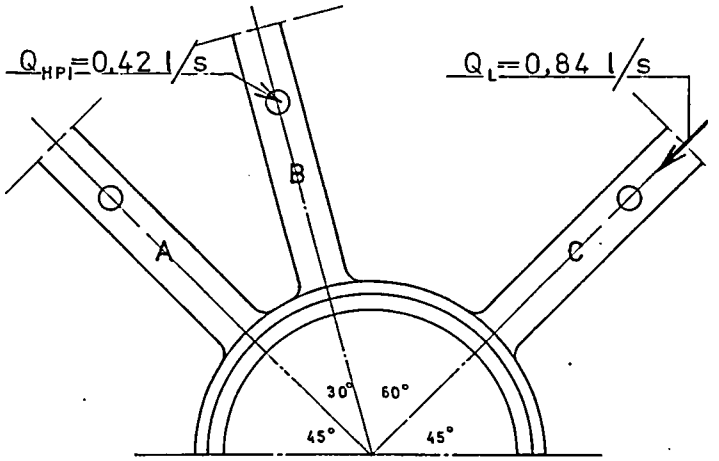


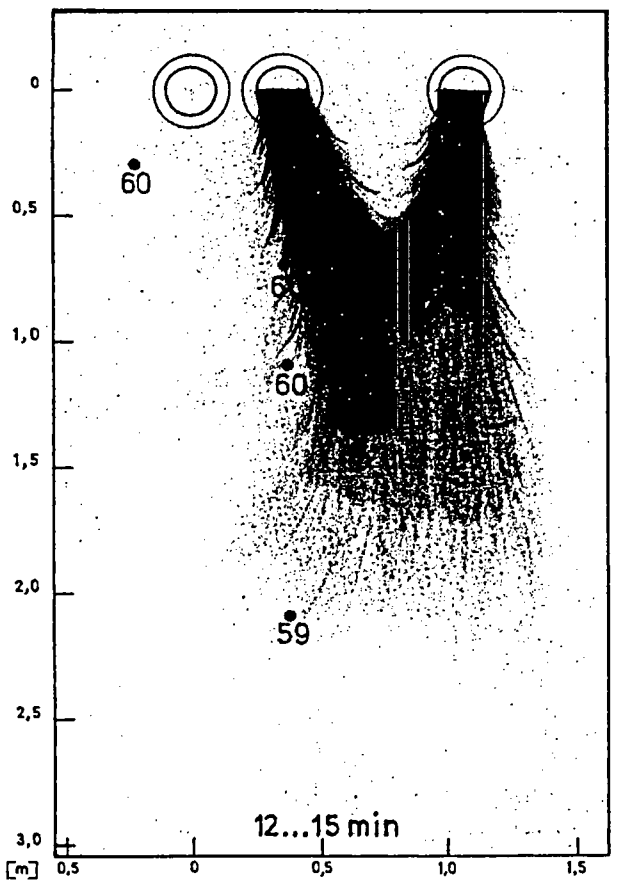
Drawing 10b
Interaction and mixing of one HPI plume and loop flow with stepwise decreasing temperature.Test #115

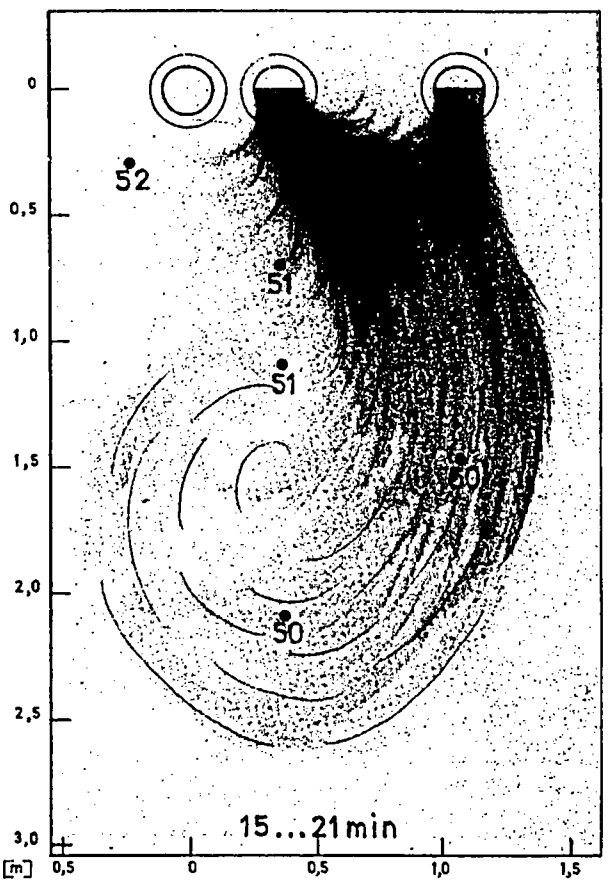


Drawing 10c
Interaction and mixing of one HPI plume and loop flow with stepwise decreasing temperature Test #115

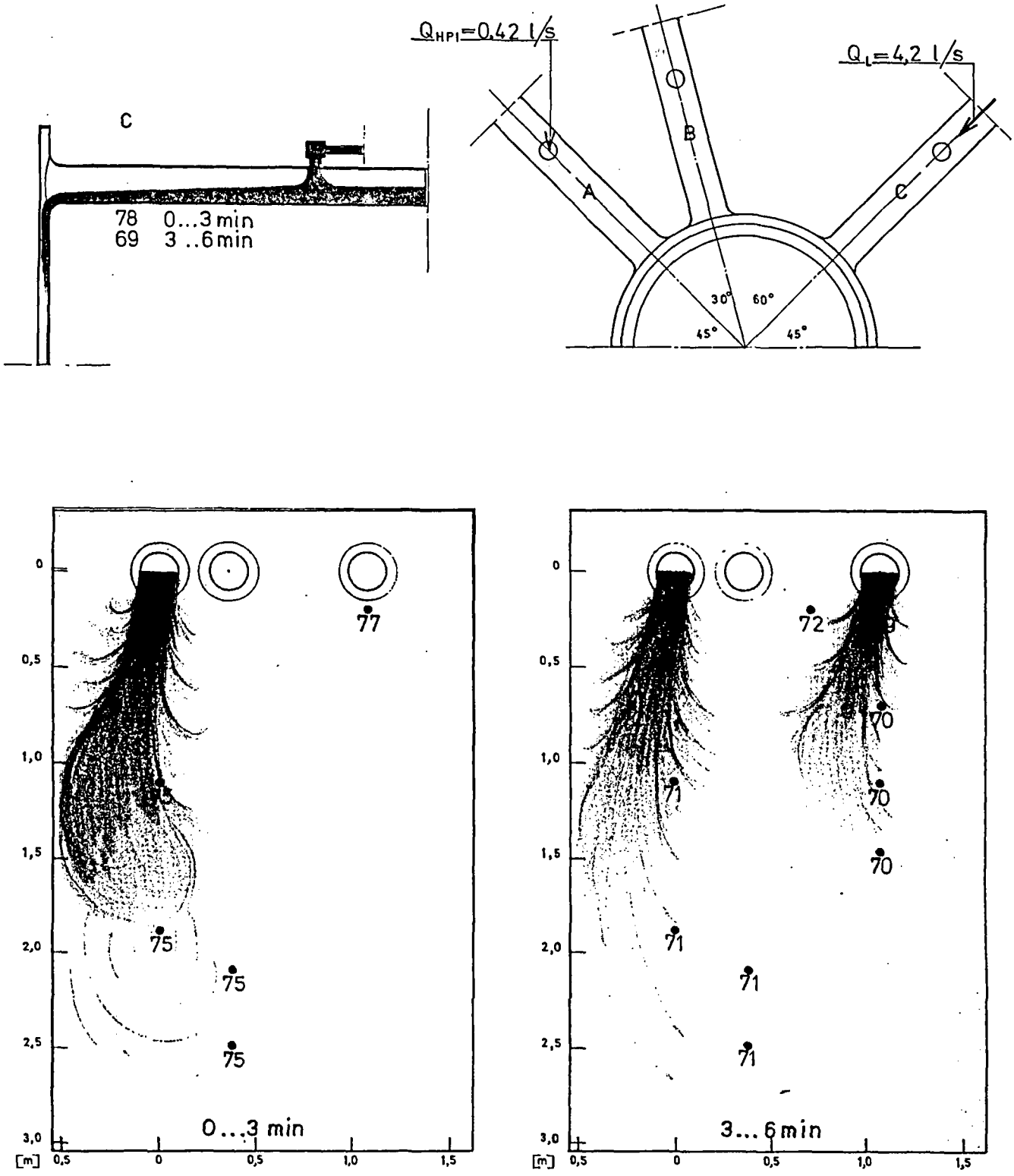




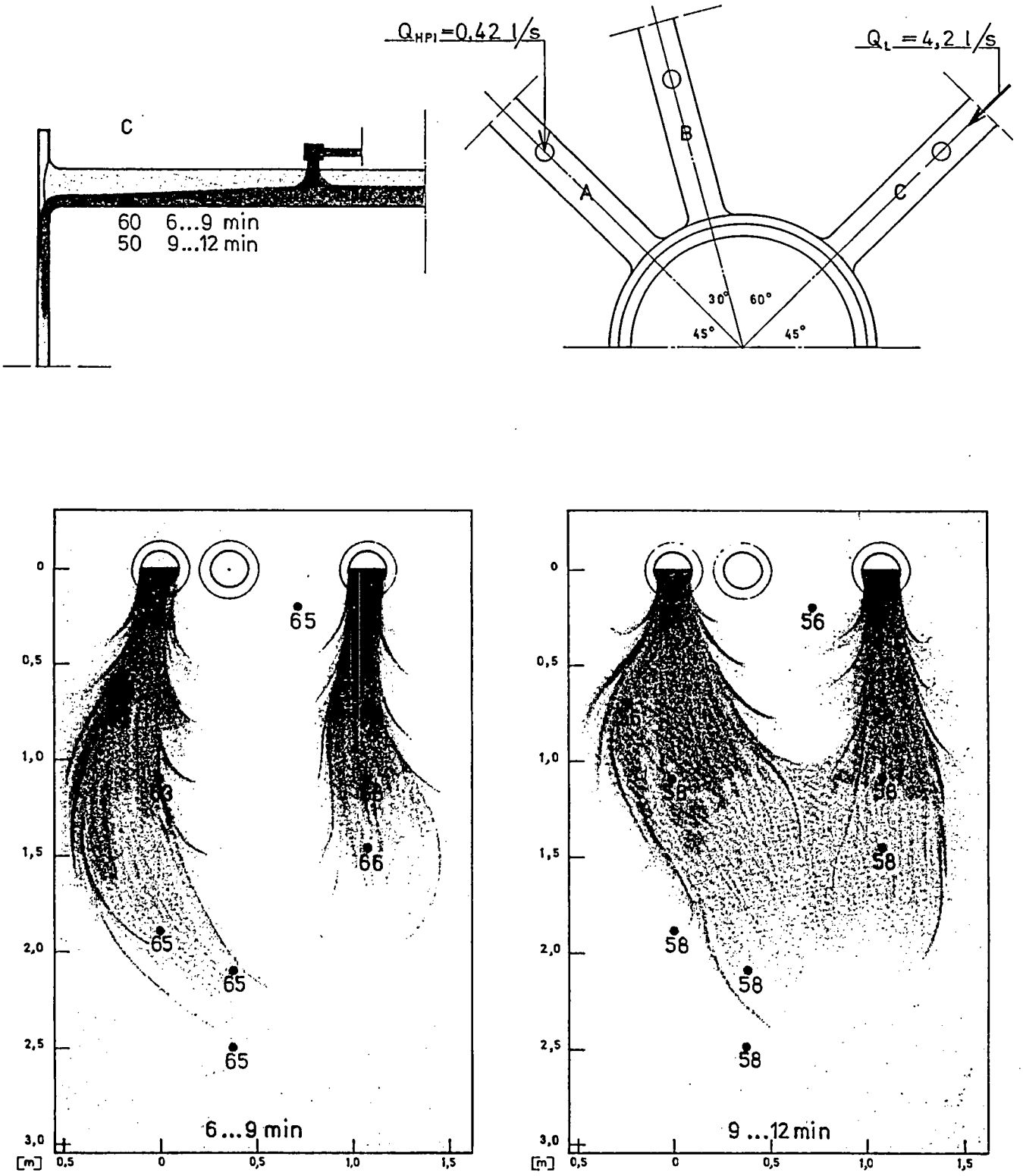




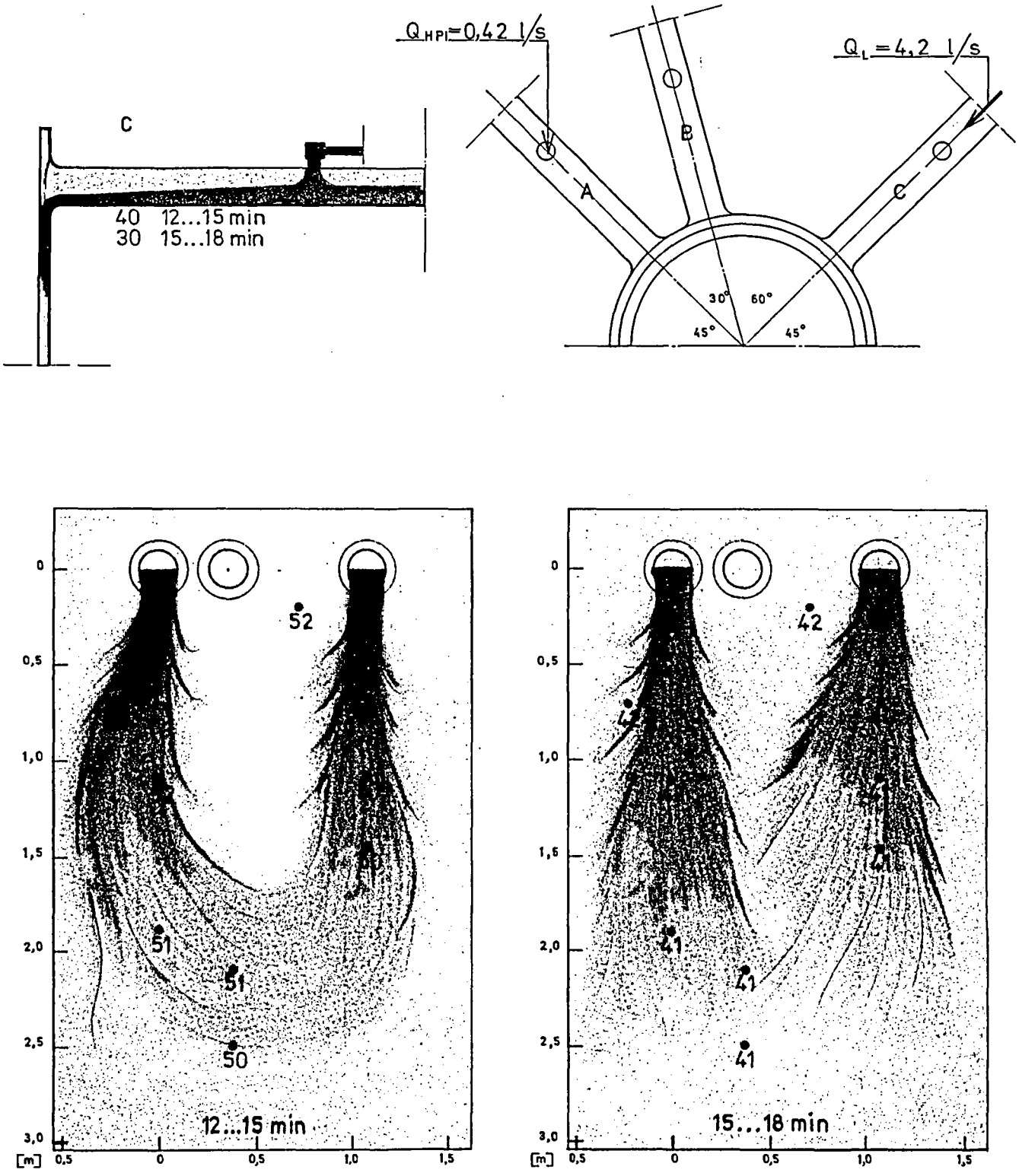
Drawing 10d
Interaction and mixing of one HPI plume and loop flow with stepwise decreasing temperature. Test #115



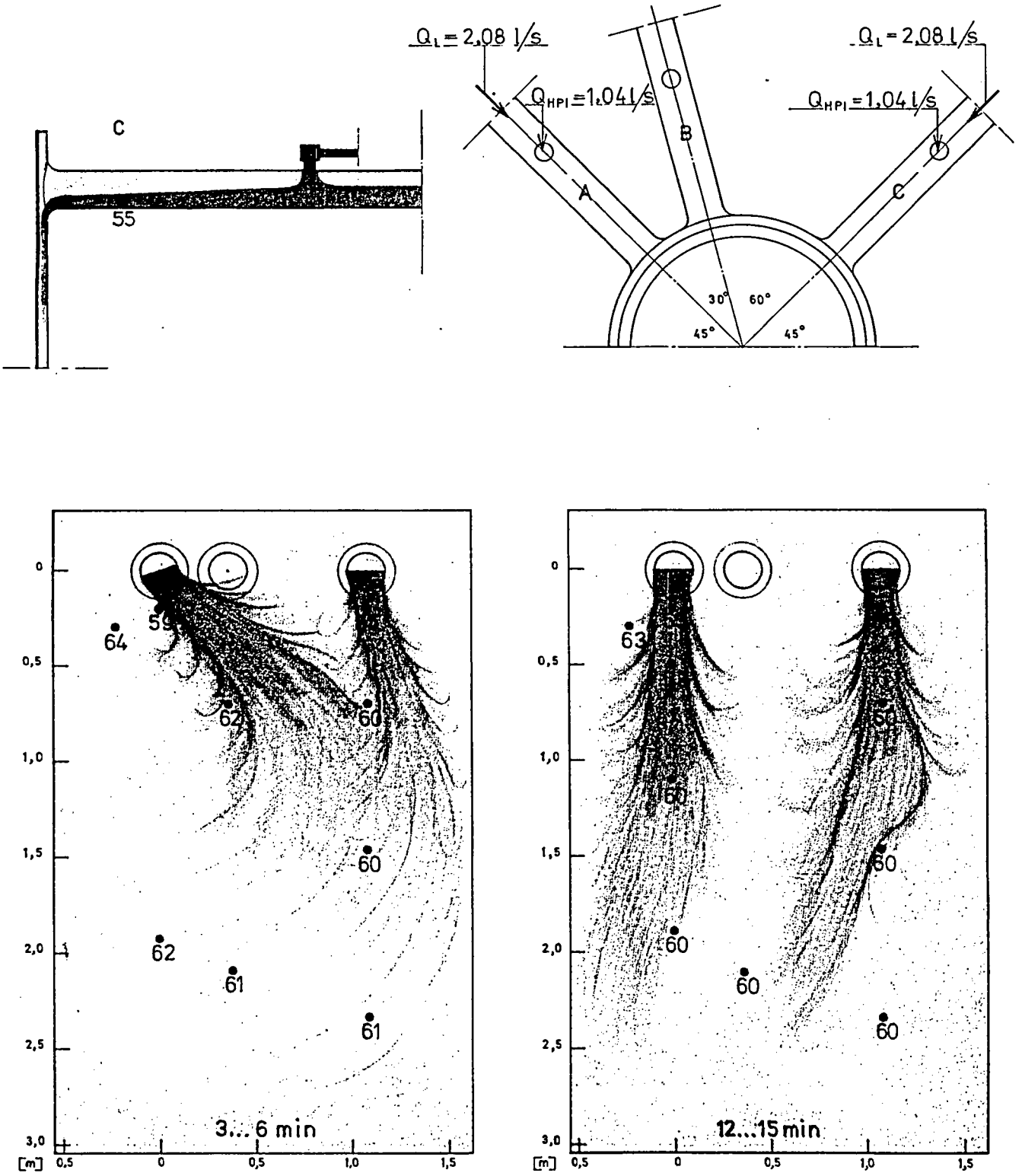
Drawing 11a
Interaction and mixing of one HPI plume and loop flow with stepwise decreasing temperature.Test #118



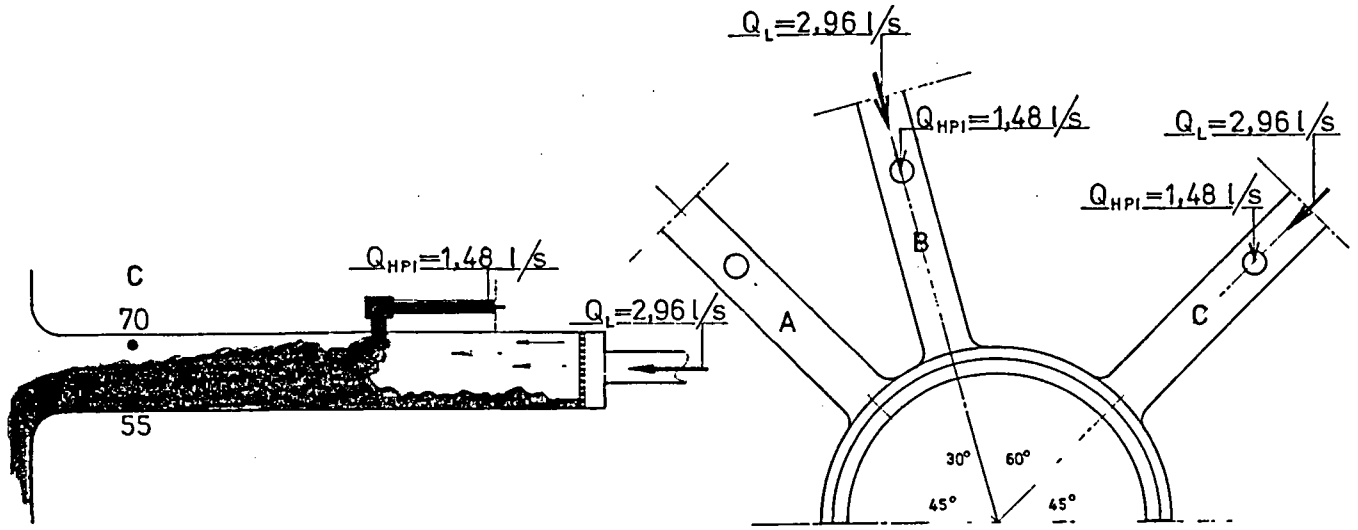
Drawing 11 b
Interaction and mixing of one HPI plume and loop flow with stepwise decreasing temperature. Test #118

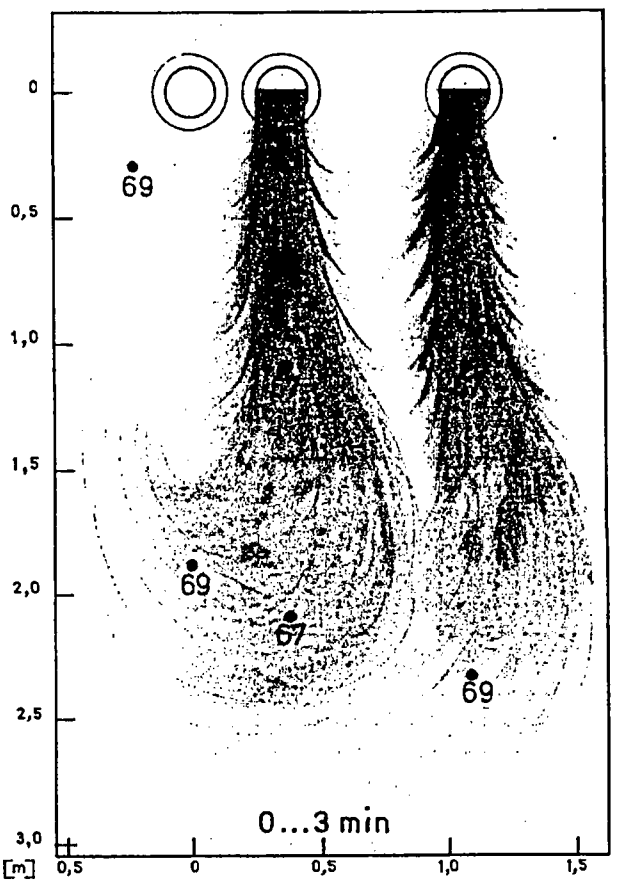


Drawing 11c
Interaction and mixing of one HPI plume and loop flow with stepwise decreasing temperature Test #118



Drawing 12
Mixing and interaction of two HPI plumes with loop flows Test #119



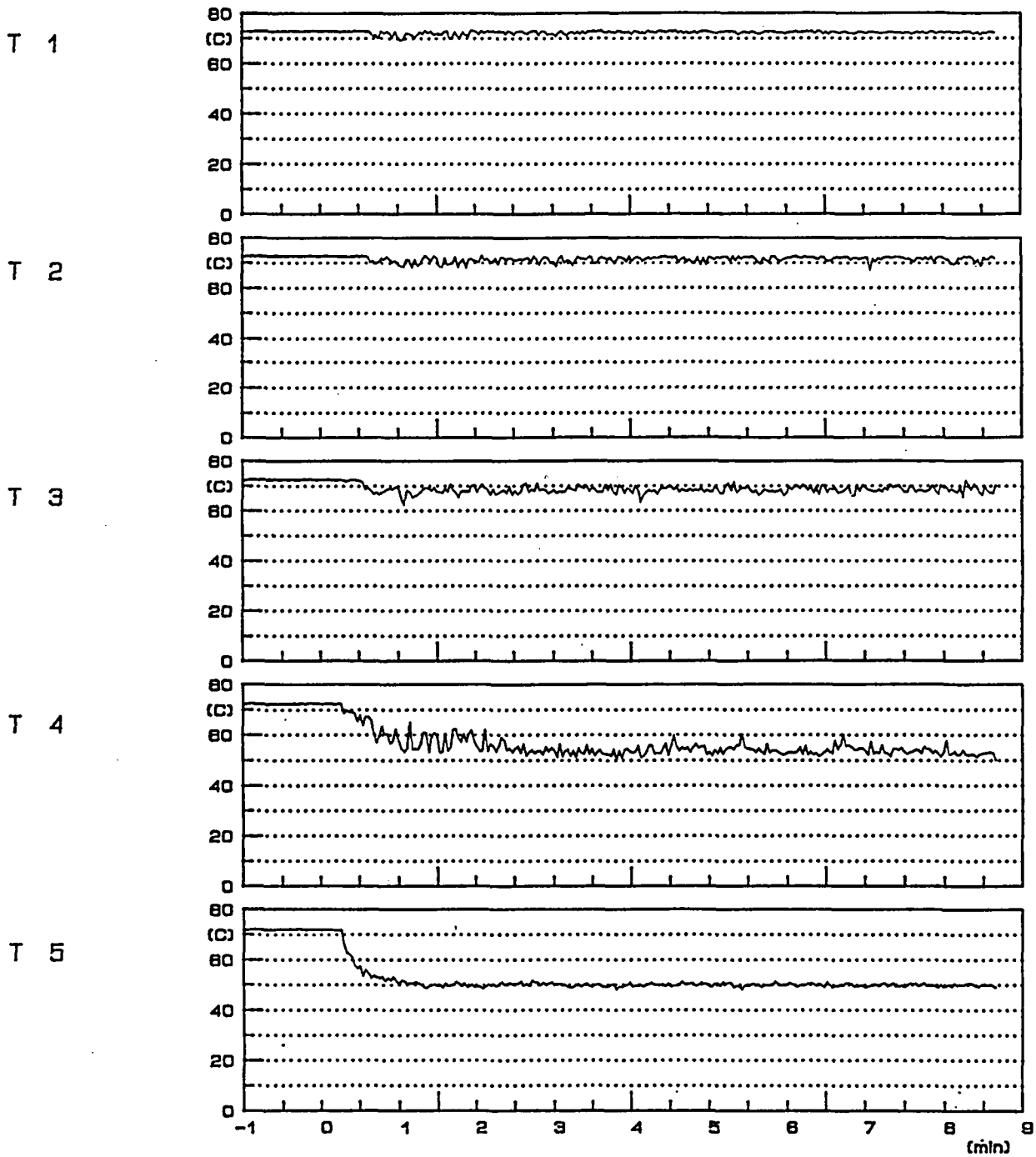


Drawing 13
Mixing of two HPI plumes with loop flows in the downcomer
Mixing of HPI with loop flow in the cold leg.
Test #120

6. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	101	Q_c =	7.3	dm^3/s	$Q_{HPI,A}$ =	.73	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	.73	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3

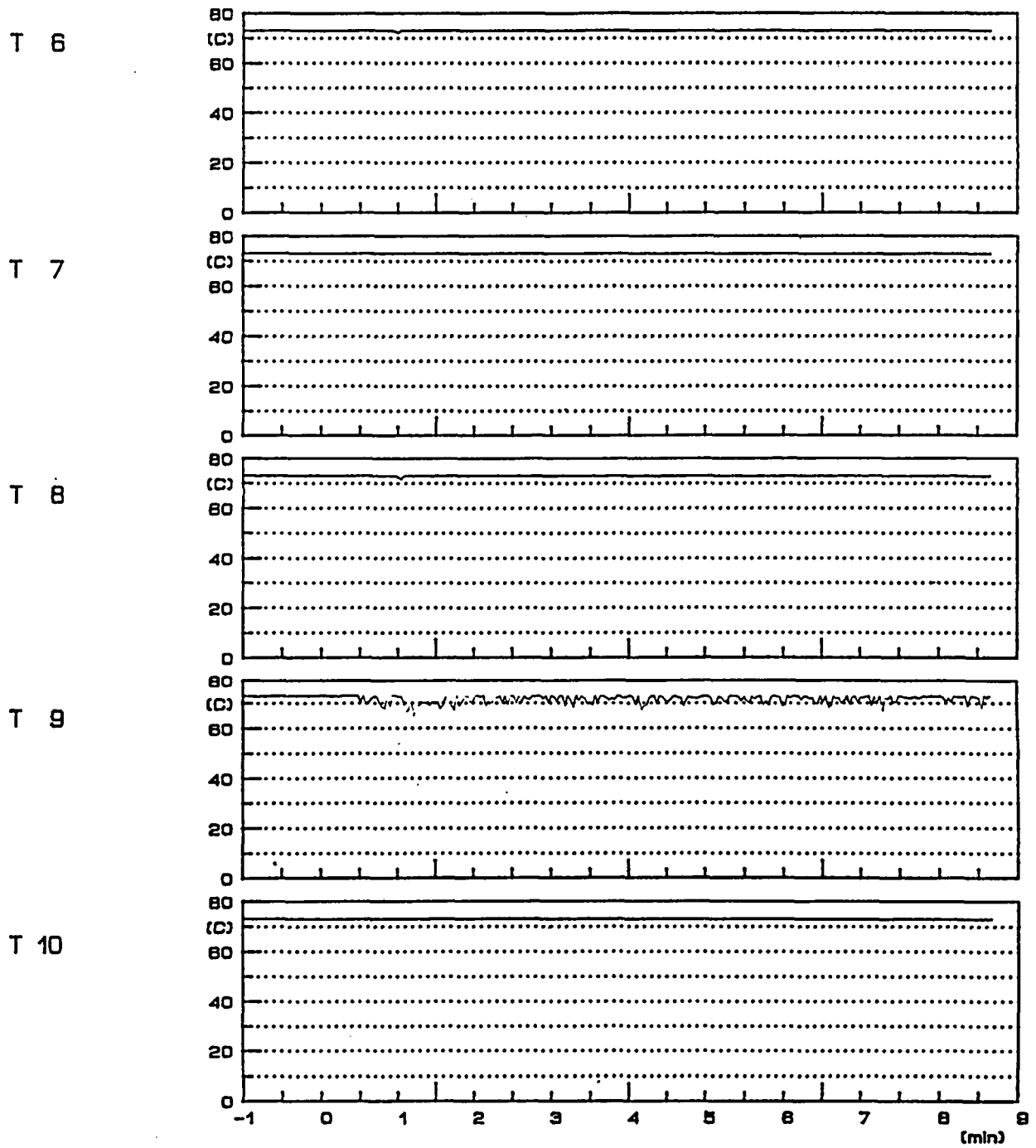


6. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 101

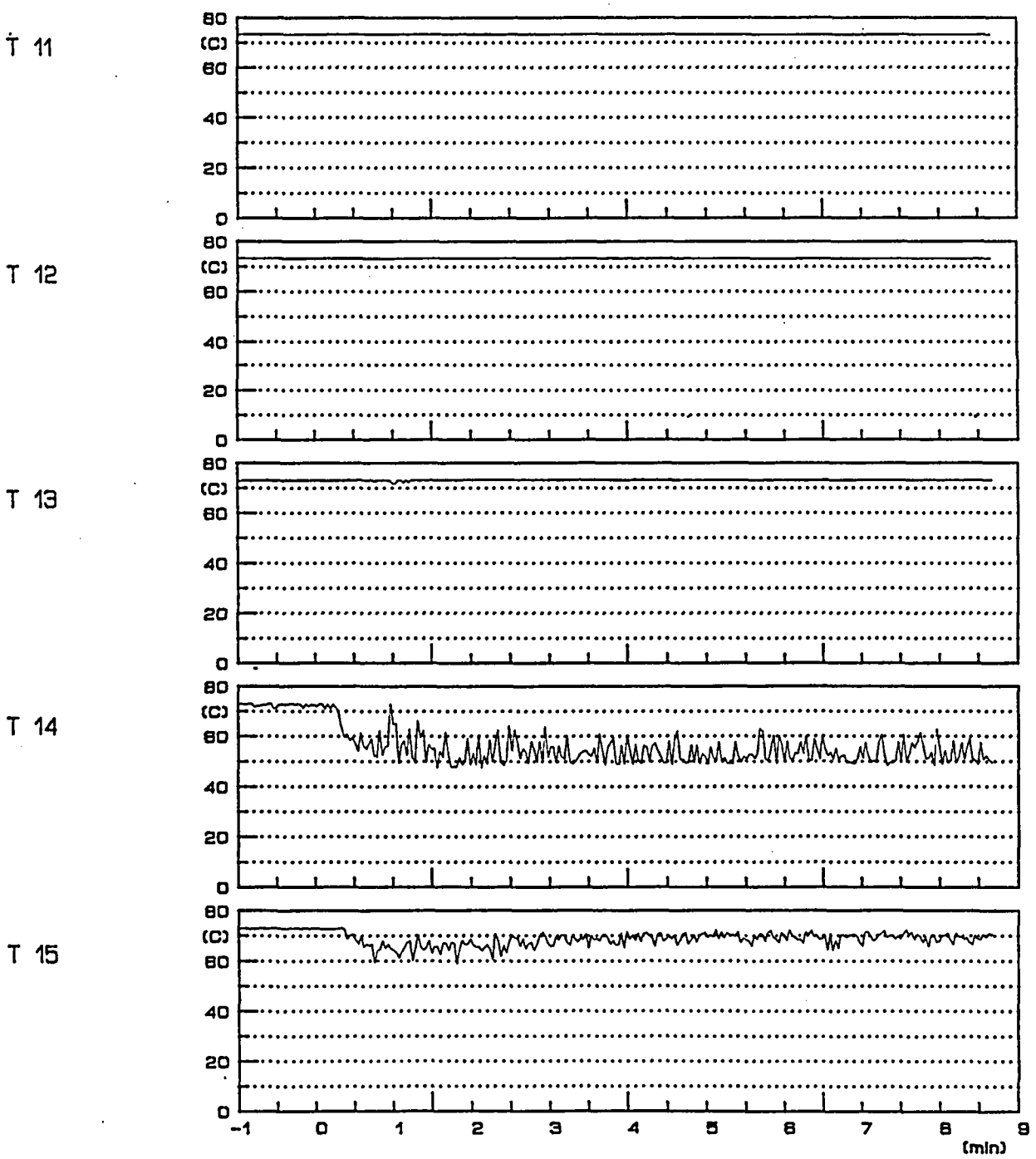
Q_c	=	7.3	dm^3/s	$Q_{HPI,A}$	=	.73	dm^3/s
ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	.73	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3



6. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	101	Q_c =	7.3	dm^3/s	$Q_{HPI,A}$ =	.73	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	.73	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3

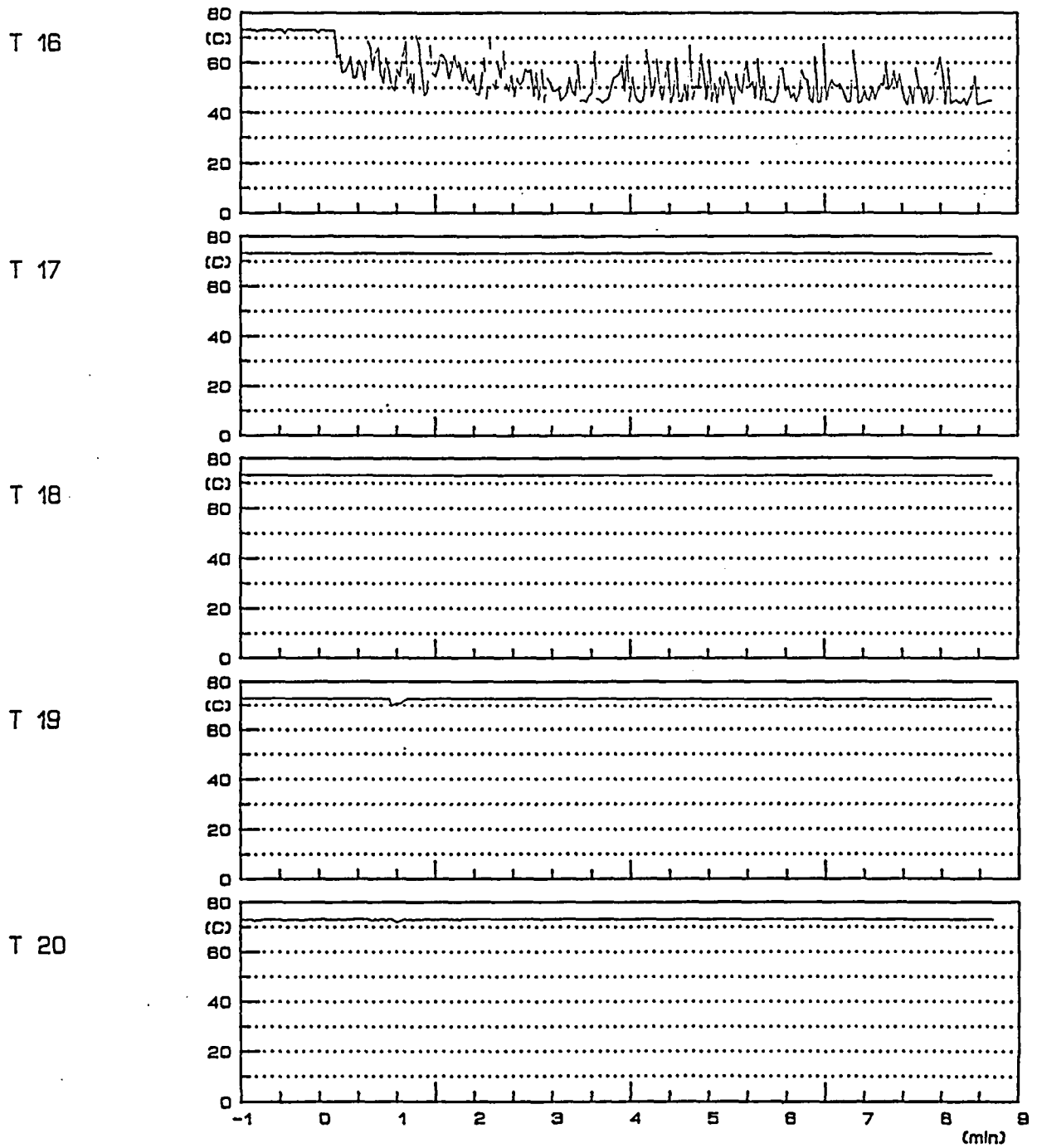


6. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 101

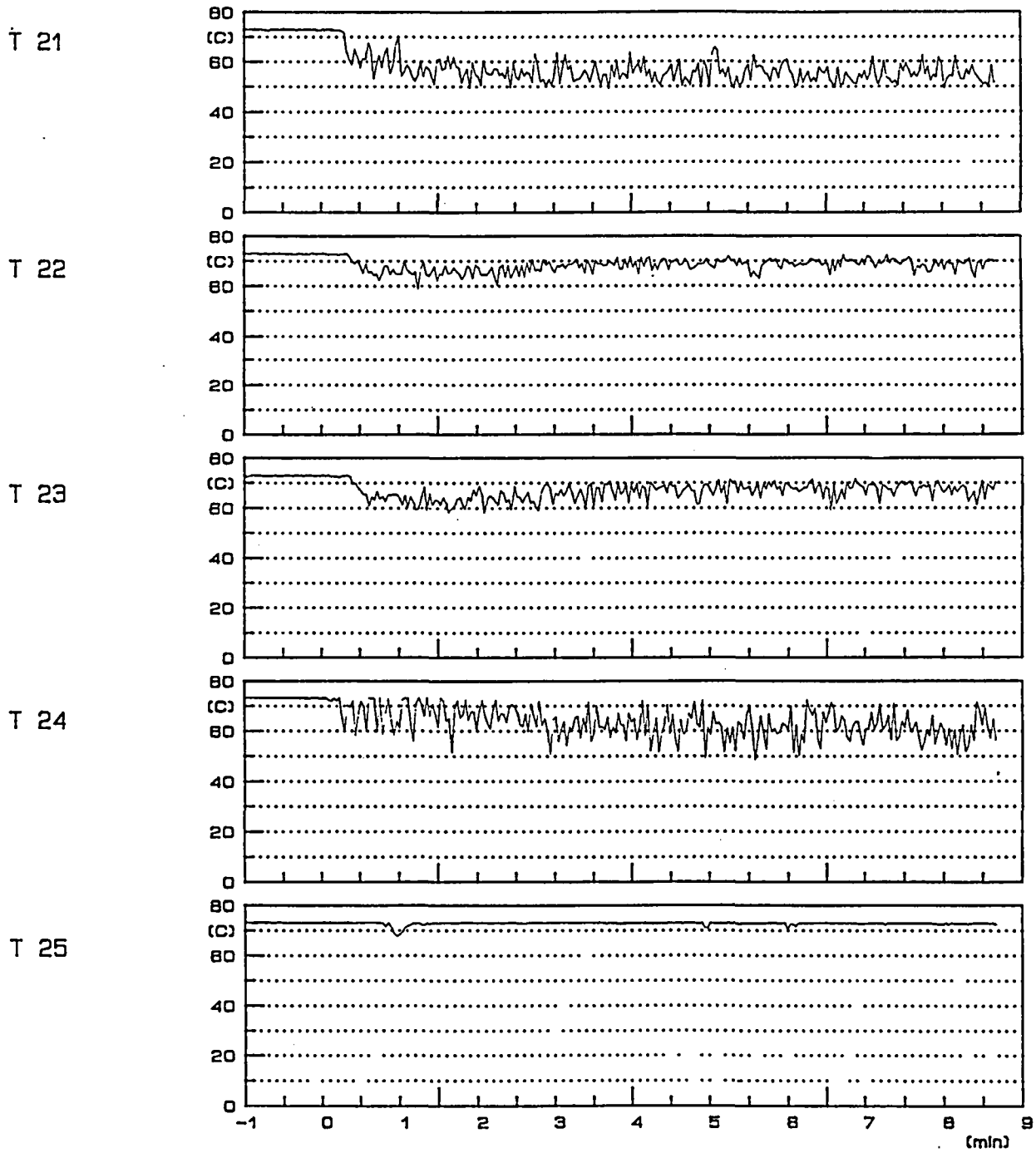
Q_c	=	7.3	dm^3/s	$Q_{HPI,A}$	=	.73	dm^3/s
ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	.73	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3



6. 6.1985

FLUID AND THERMAL MIXING TESTS

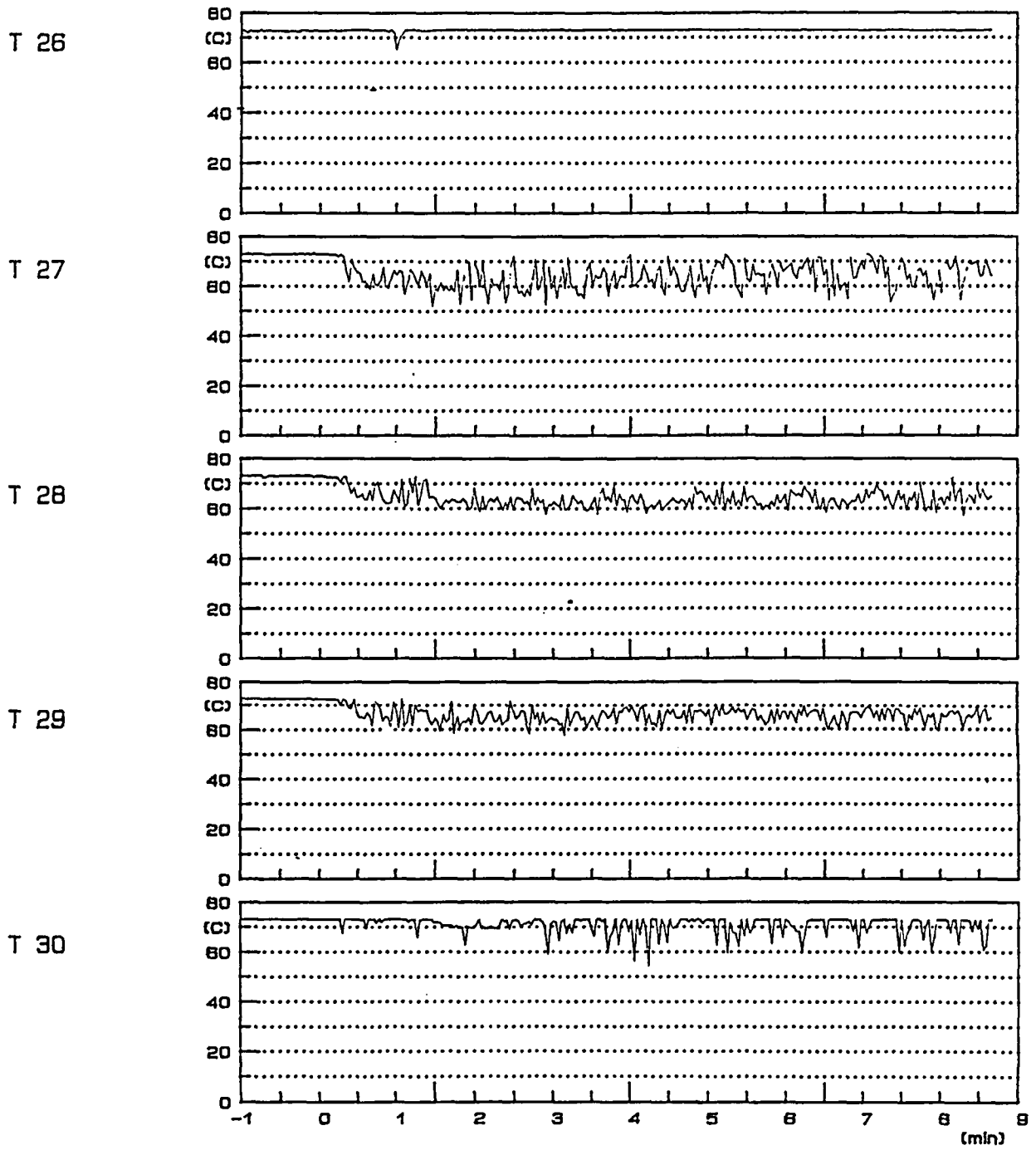
Test :	101	Q_c =	7.3	dm^3/s	$Q_{HPI,A}$ =	.73	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	.73	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



6. 6.1985

FLUID AND THERMAL MIXING TESTS

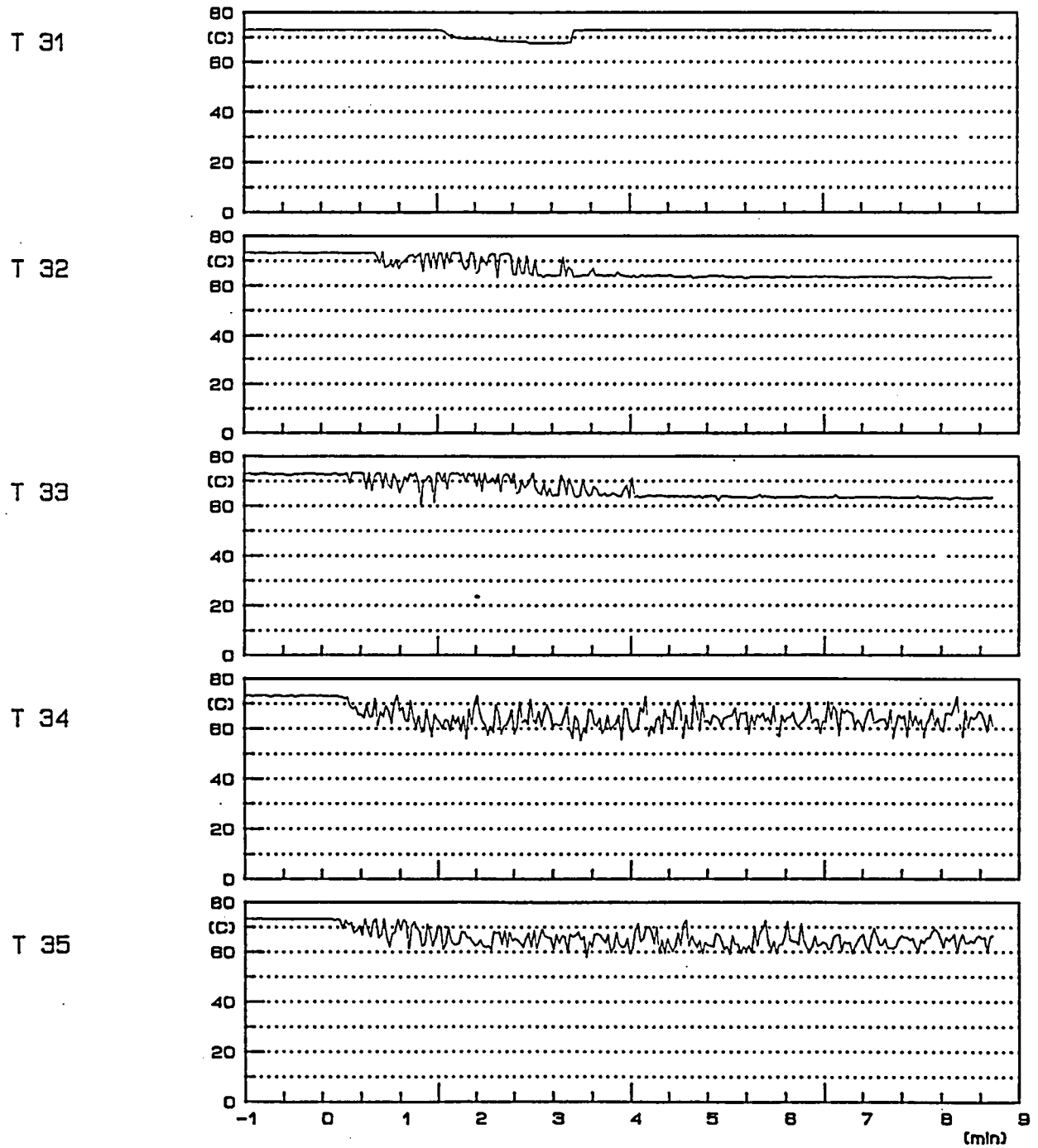
Test :	101	Q_c	=	7.3	dm^3/s	$Q_{HPI,A}$	=	.73	dm^3/s
		ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	.73	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1170.	kg/m^3



6. 6.1985

FLUID AND THERMAL MIXING TESTS

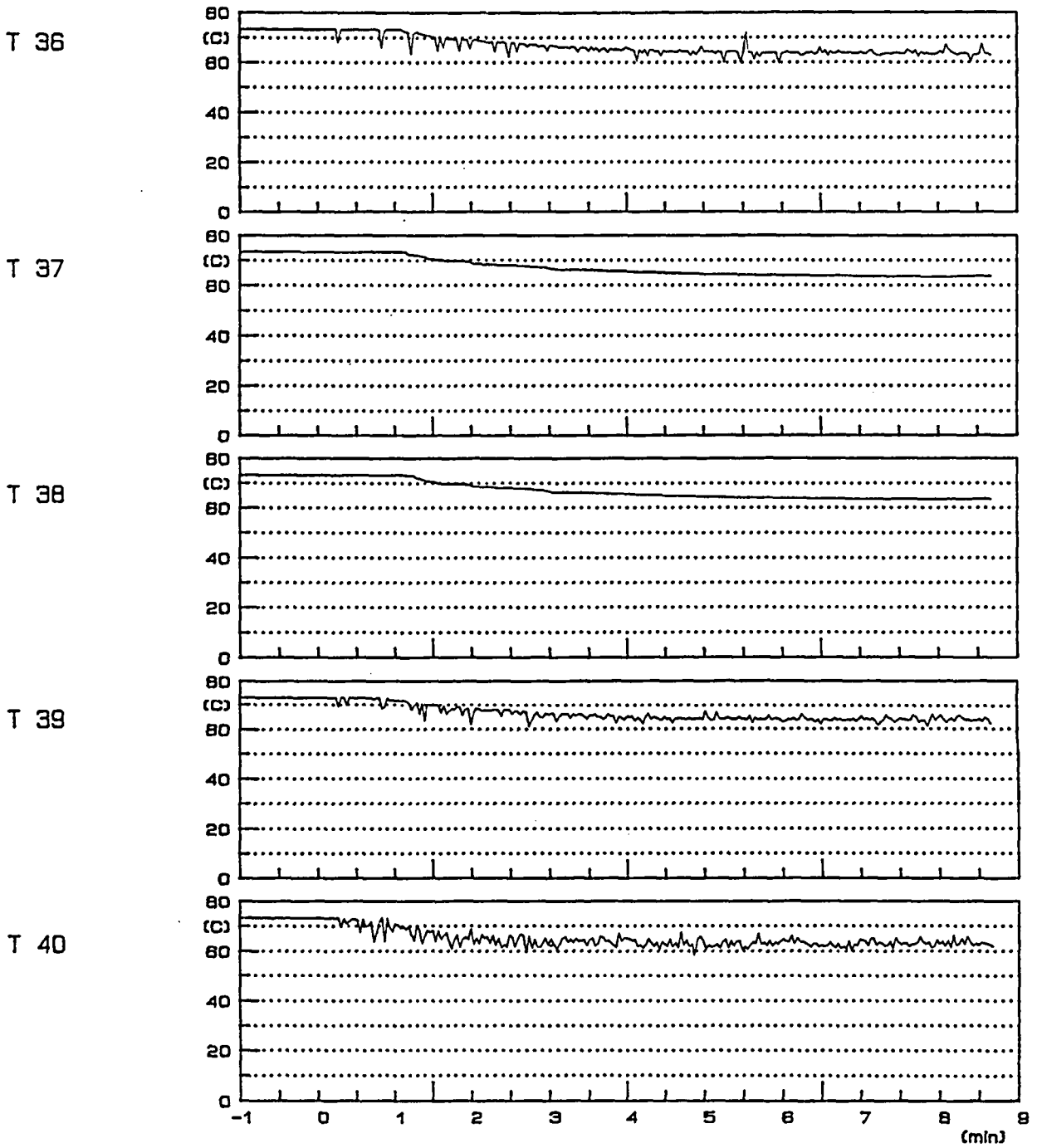
Test :	101	Q_c =	7.3	dm^3/s	$Q_{HPI,A}$ =	.73	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	.73	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



6. 6.1985

FLUID AND THERMAL MIXING TESTS

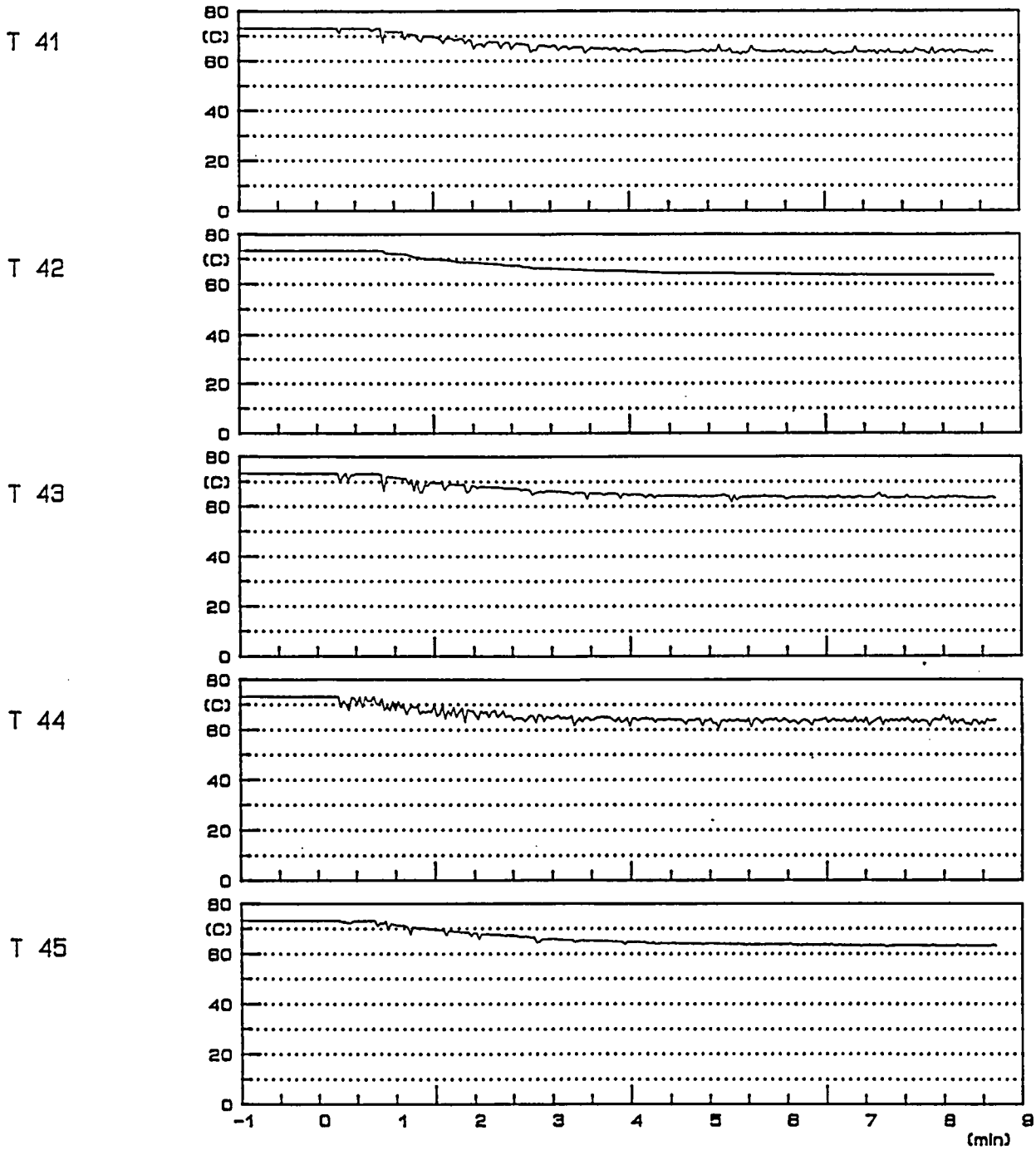
Test :	101	Q_c =	7.3	dm^3/s	$Q_{HPI,A}$ =	.73	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	.73	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



6. 6.1985

FLUID AND THERMAL MIXING TESTS

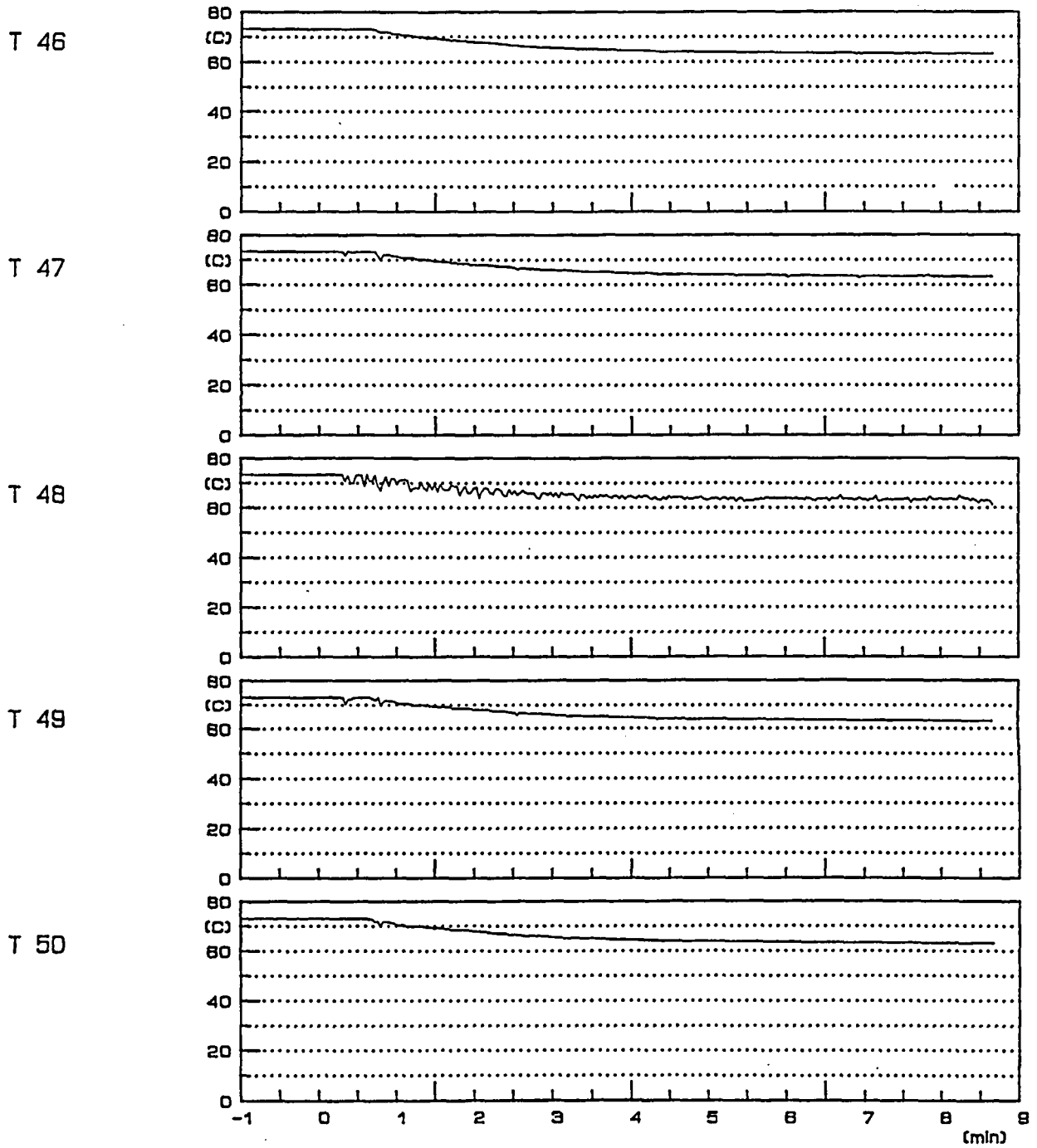
Test :	101	Q_c =	7.3	dm^3/s	$Q_{HPI,A}$ =	.73	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	.73	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



6. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	101	Q_c =	7.3	dm^3/s	$Q_{HPI,A}$ =	.73	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	.73	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3

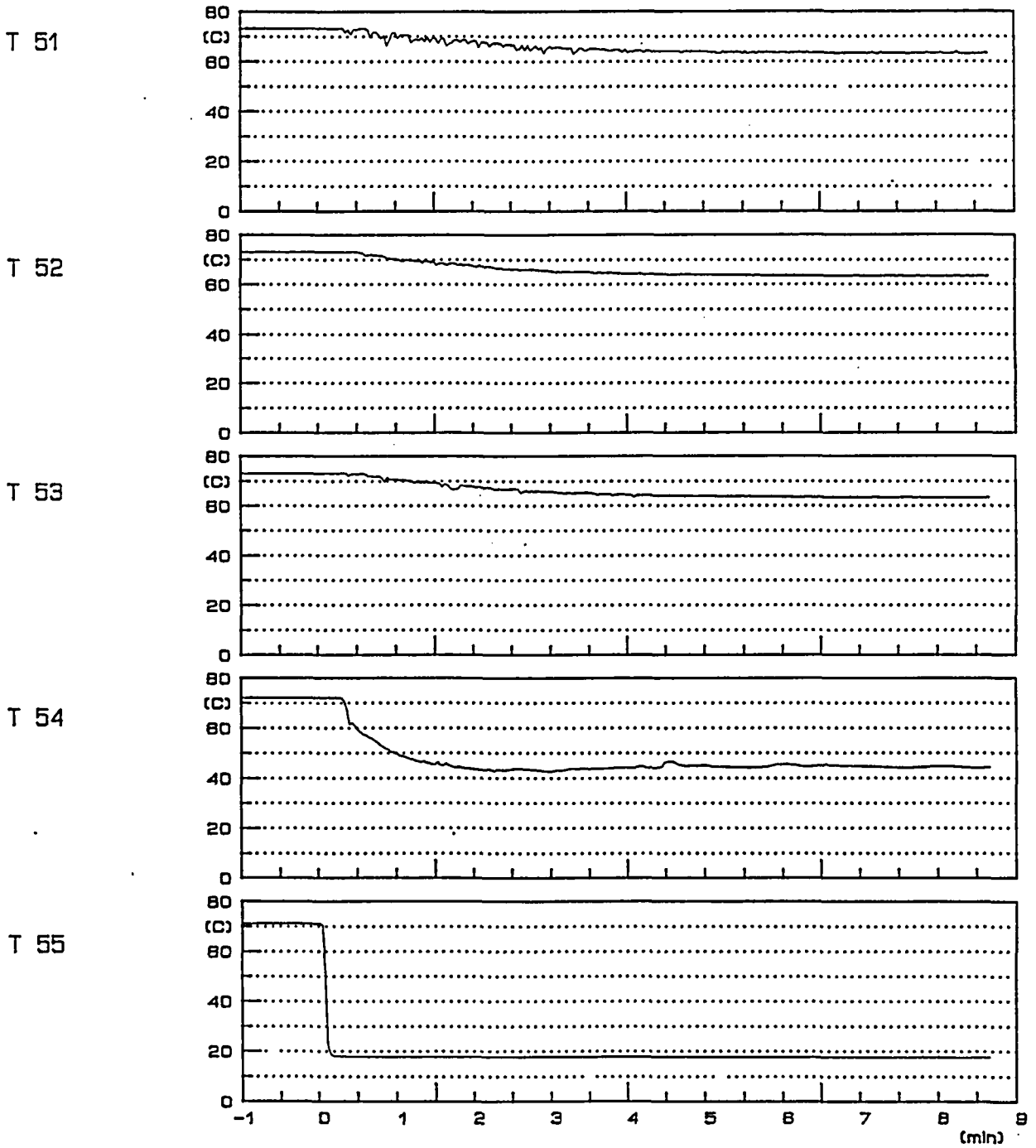


6. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 101

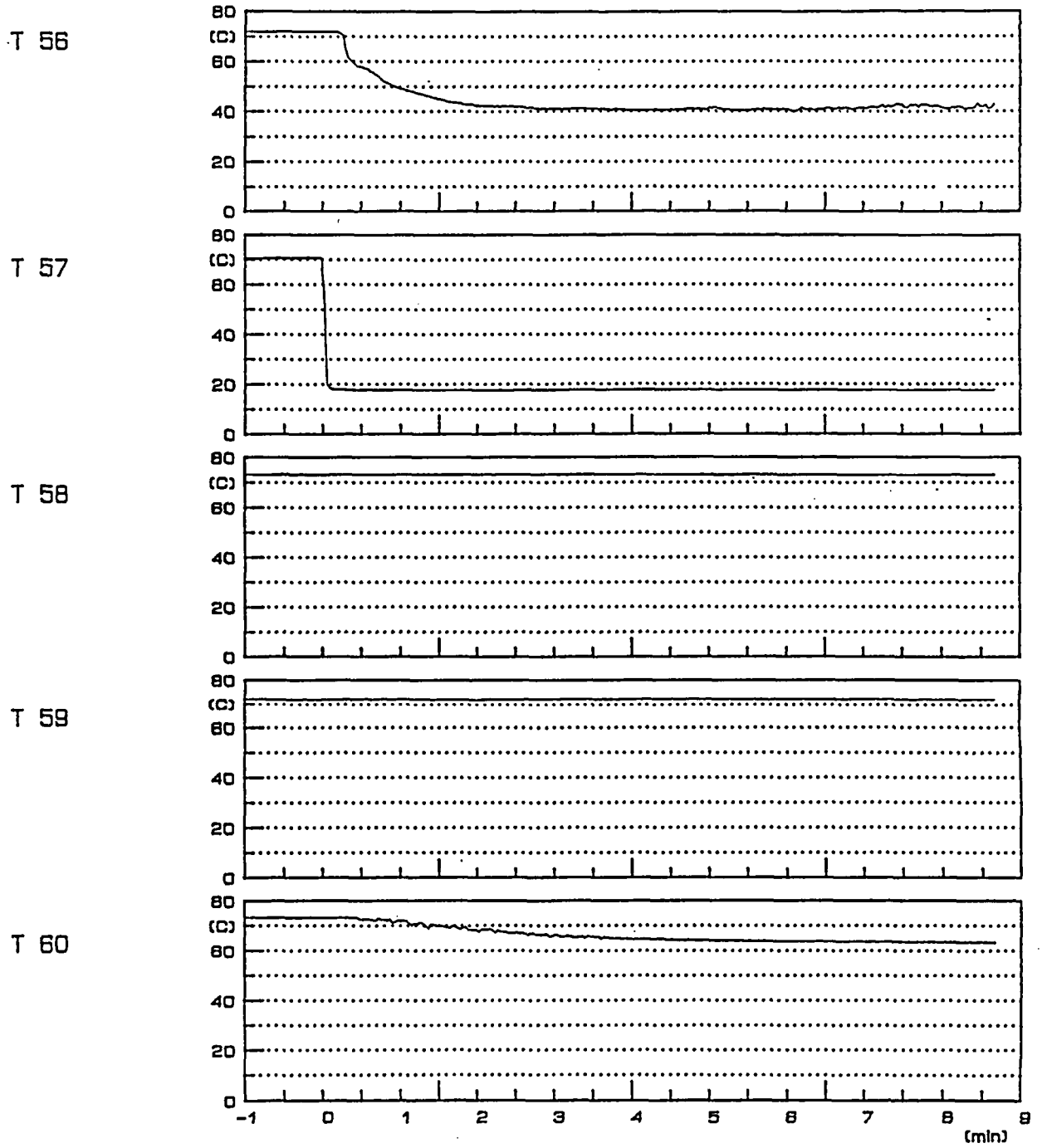
Q_c	=	7.3	dm^3/s	$Q_{HPI,A}$	=	.73	dm^3/s
ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	.73	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3



6. 6.1985

FLUID AND THERMAL MIXING TESTS

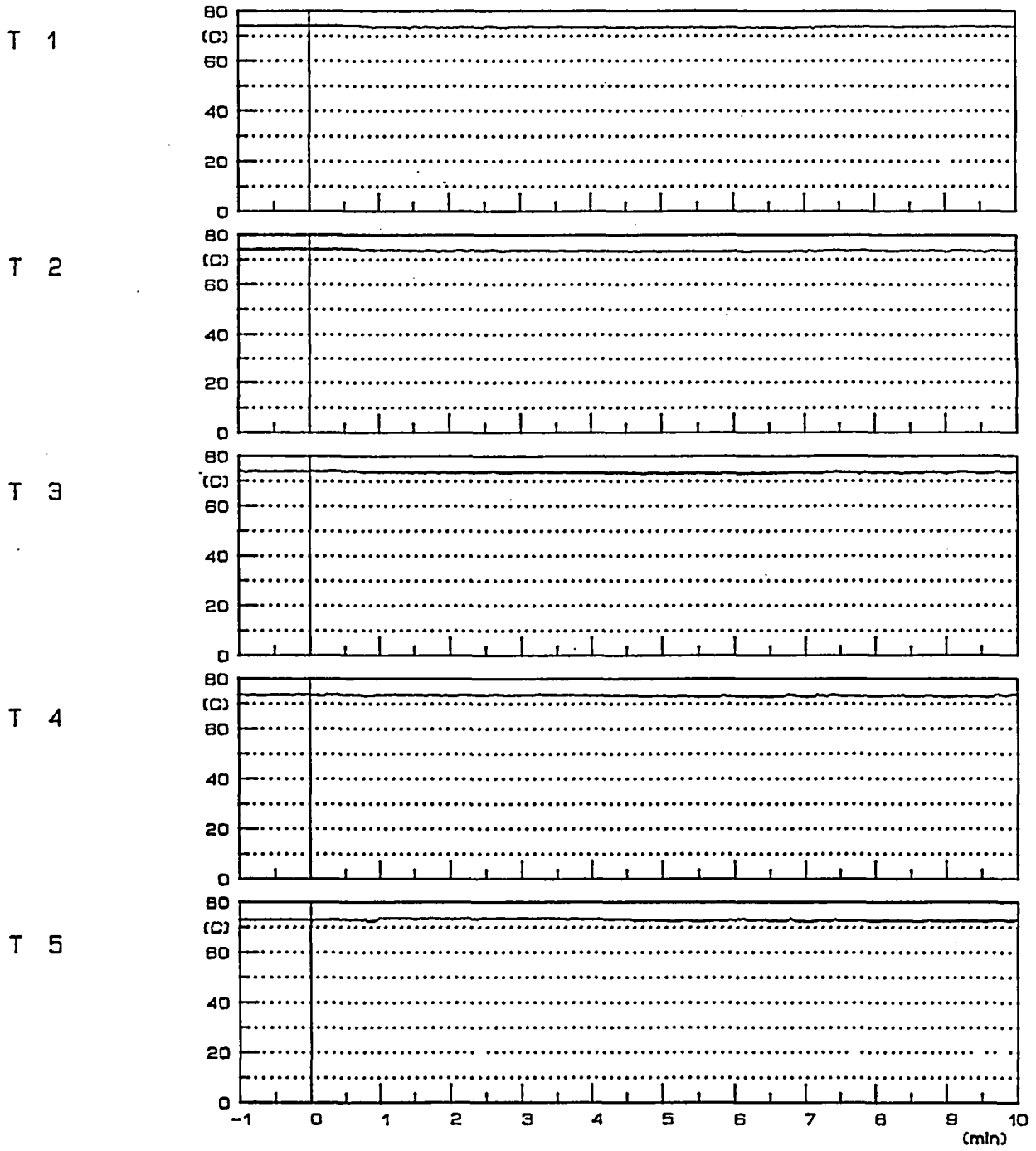
Test :	101	Q_c =	7.3	dm^3/s	$Q_{HPI,A}$ =	.73	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	.73	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 102

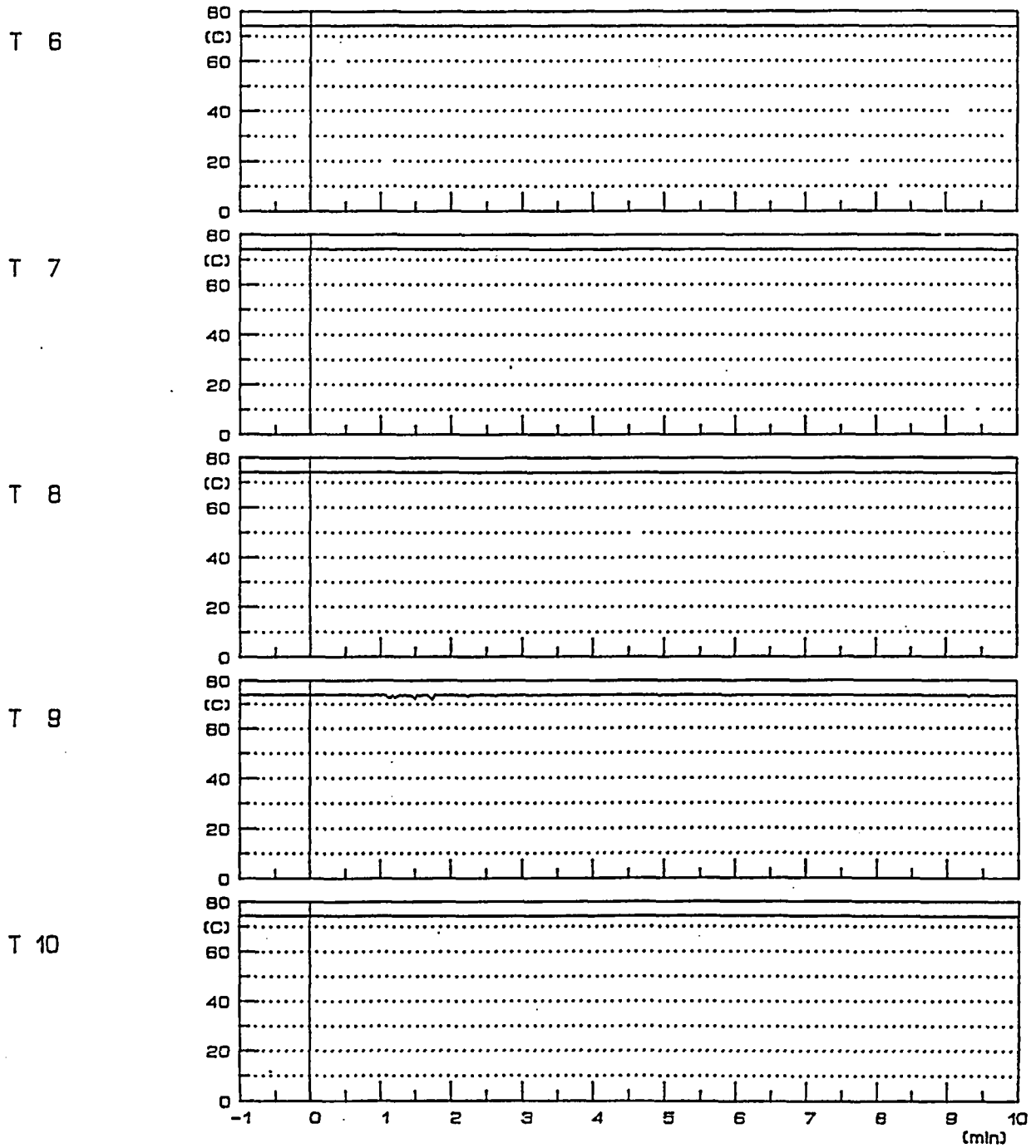
Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	102	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	976.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1172.	kg/m^3

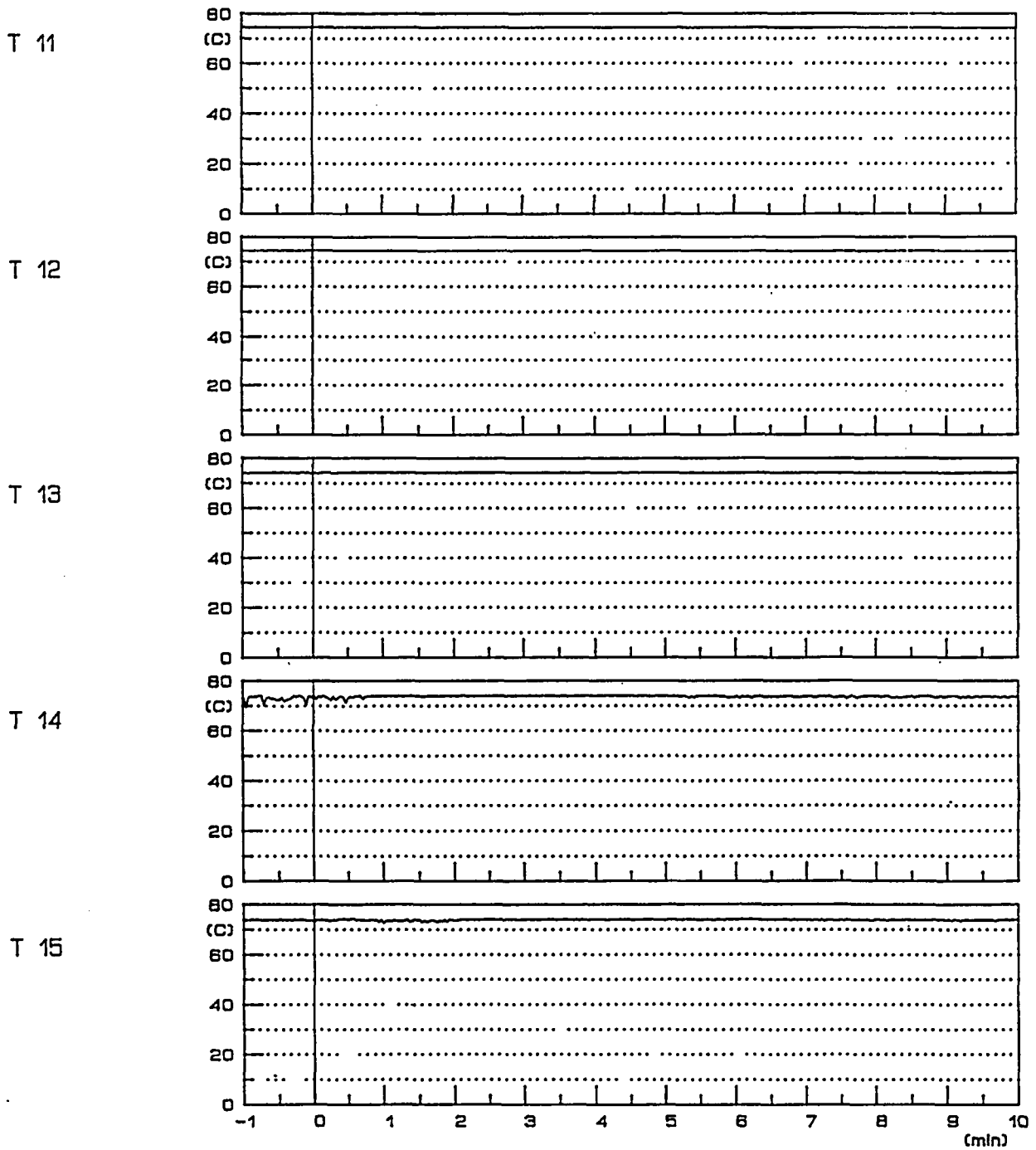


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 102

Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1172.	kg/m^3

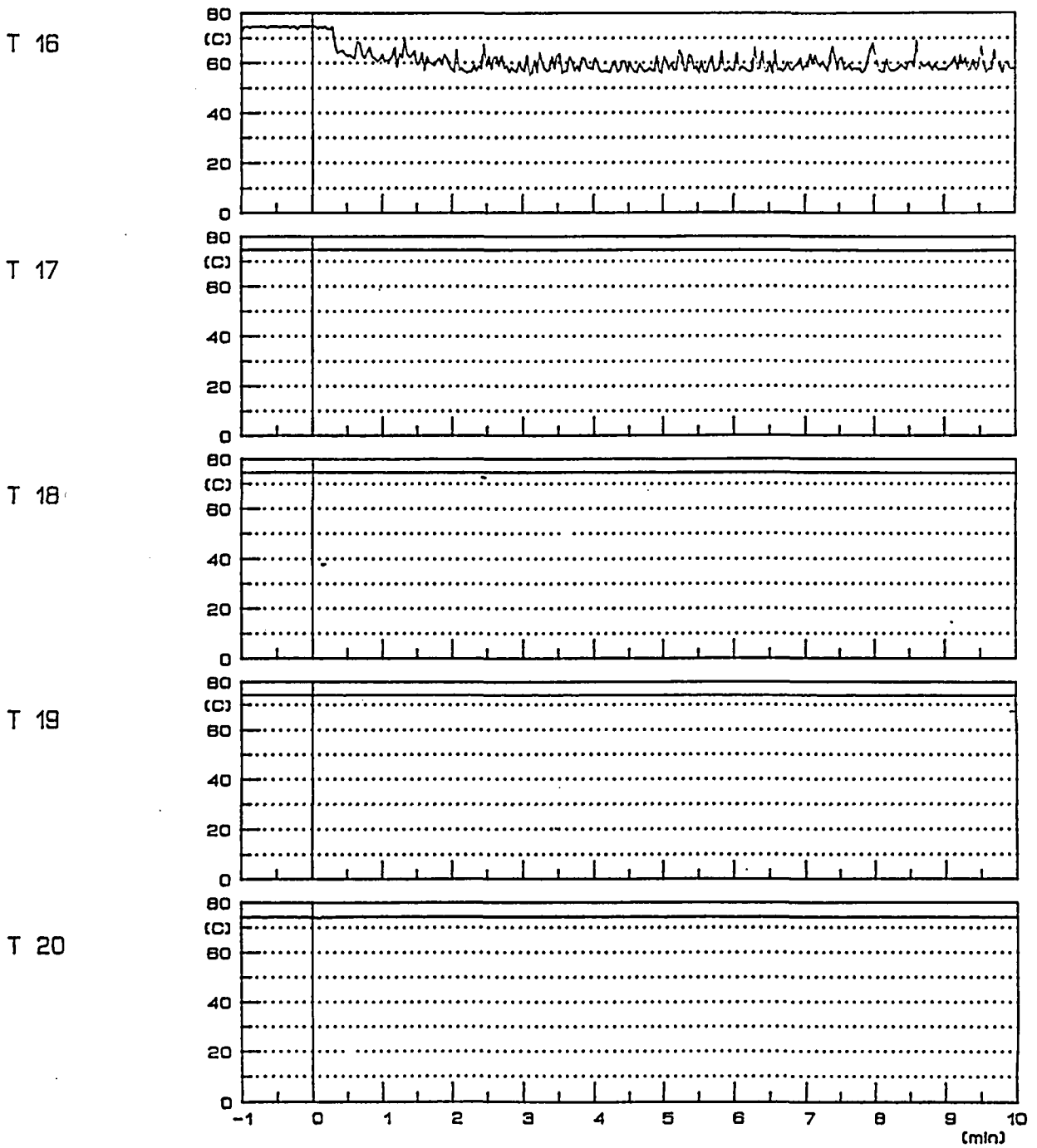


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 102

Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1172.	kg/m^3

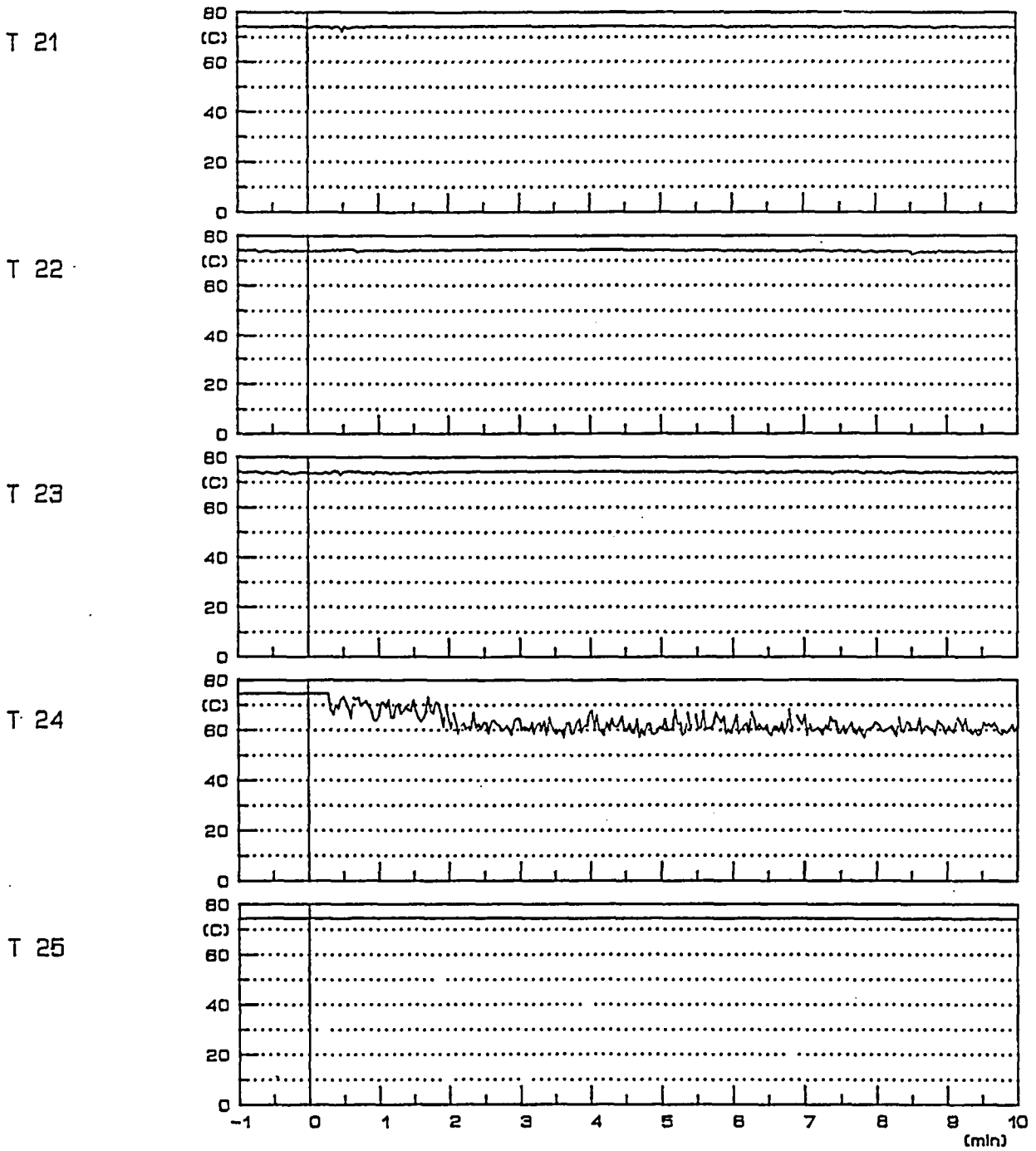


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 102

Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1172.	kg/m^3

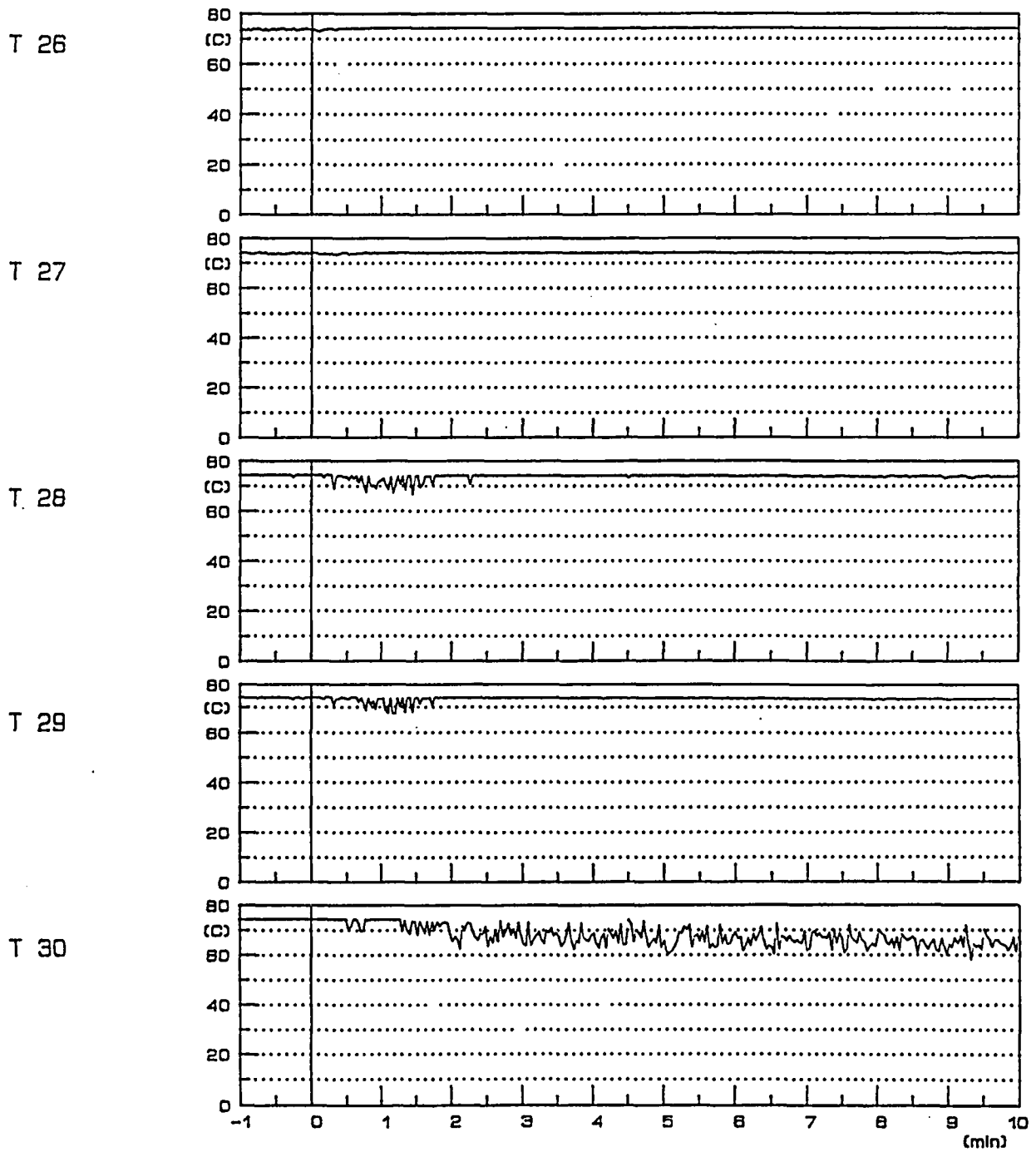


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 102

Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1172.	kg/m^3

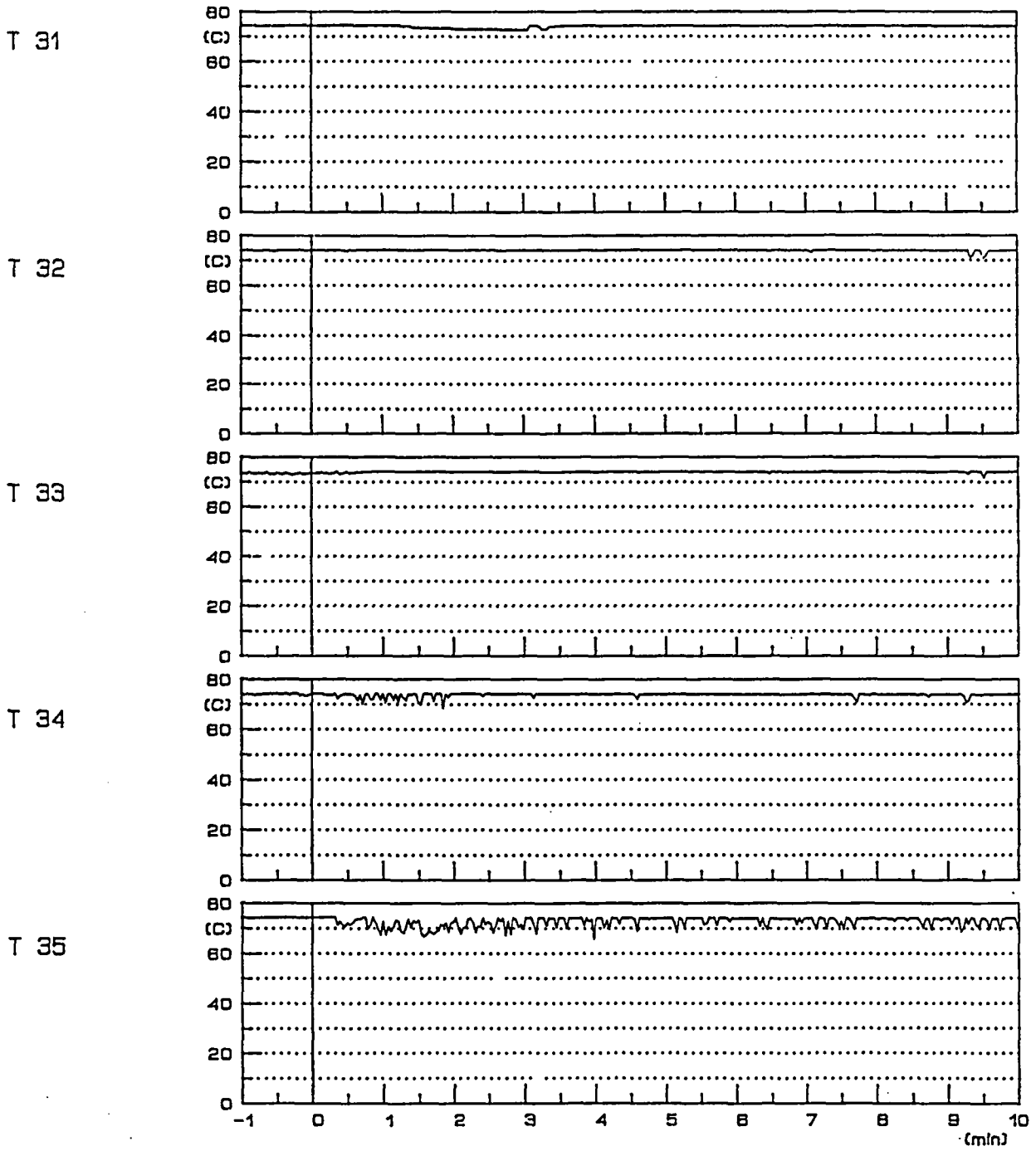


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 102

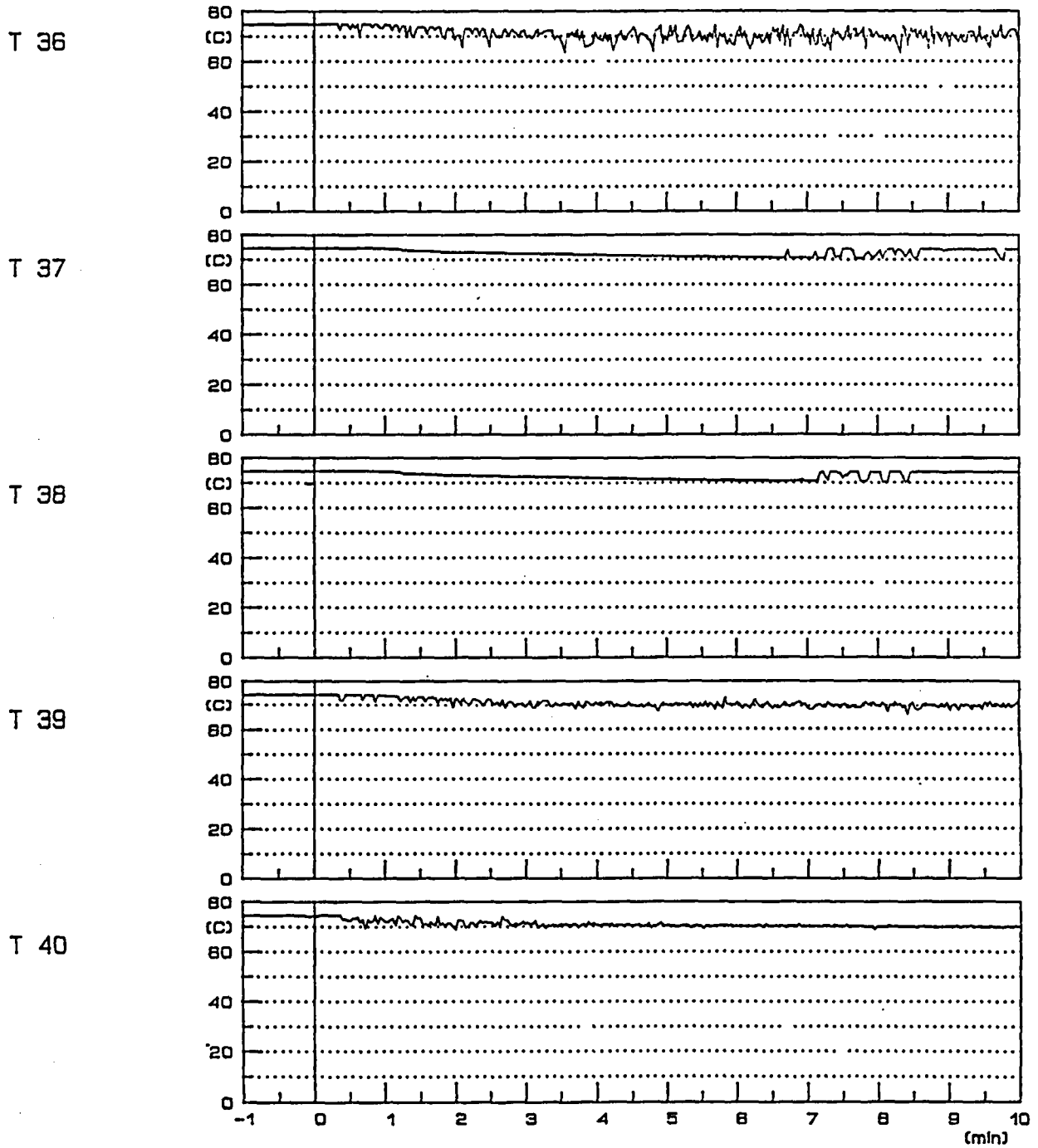
Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	102	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	976.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1172.	kg/m^3

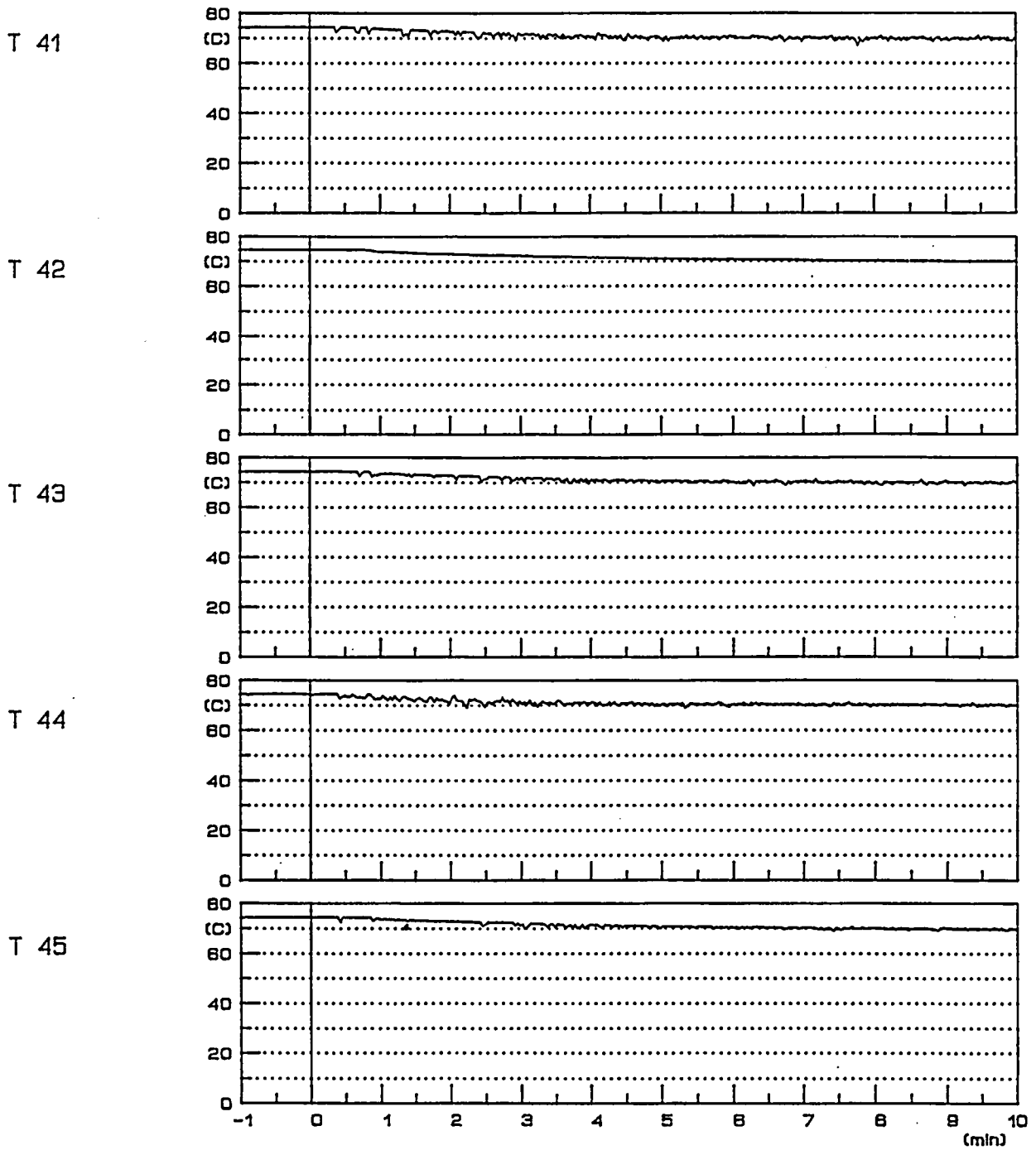


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 102

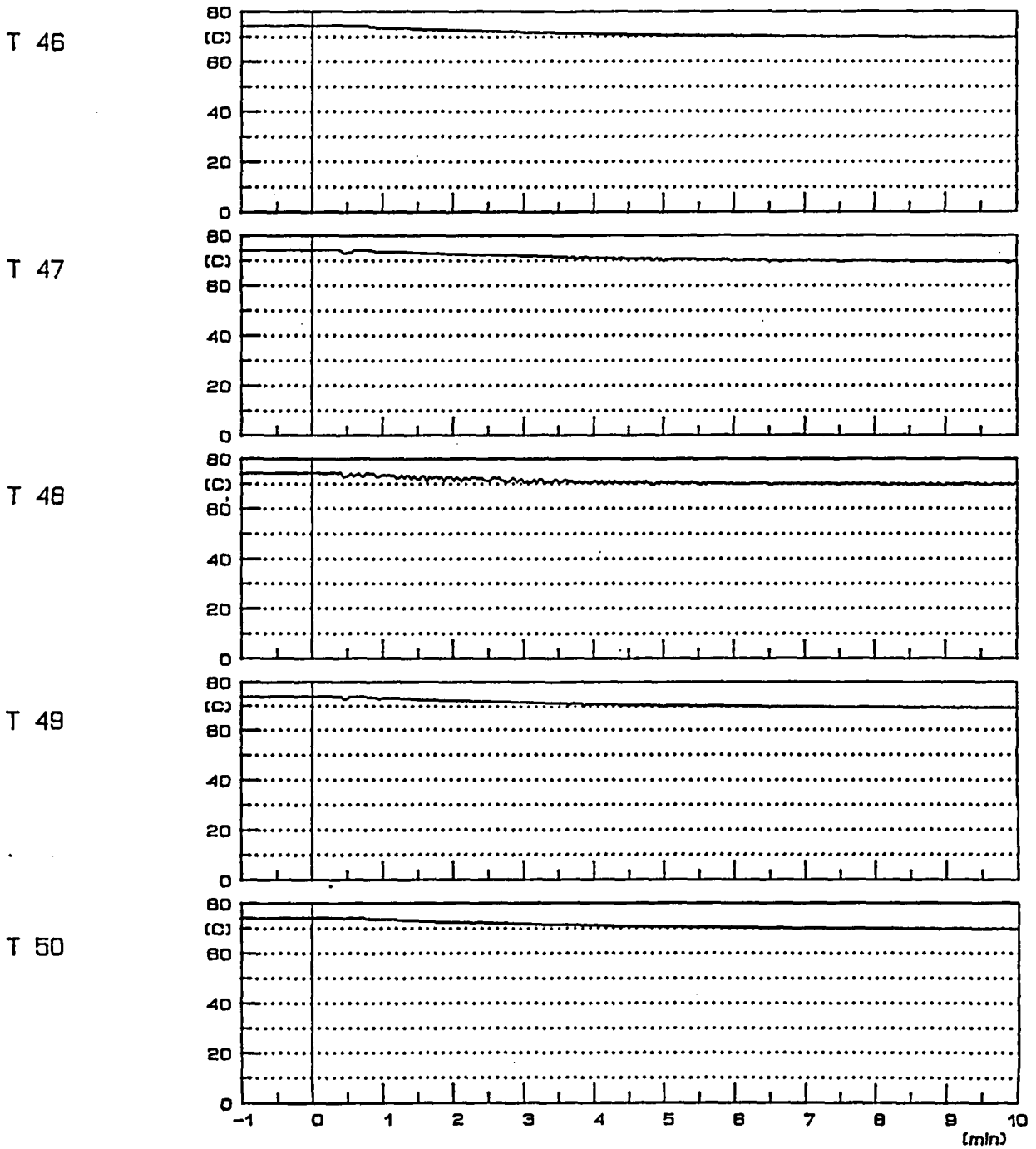
Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

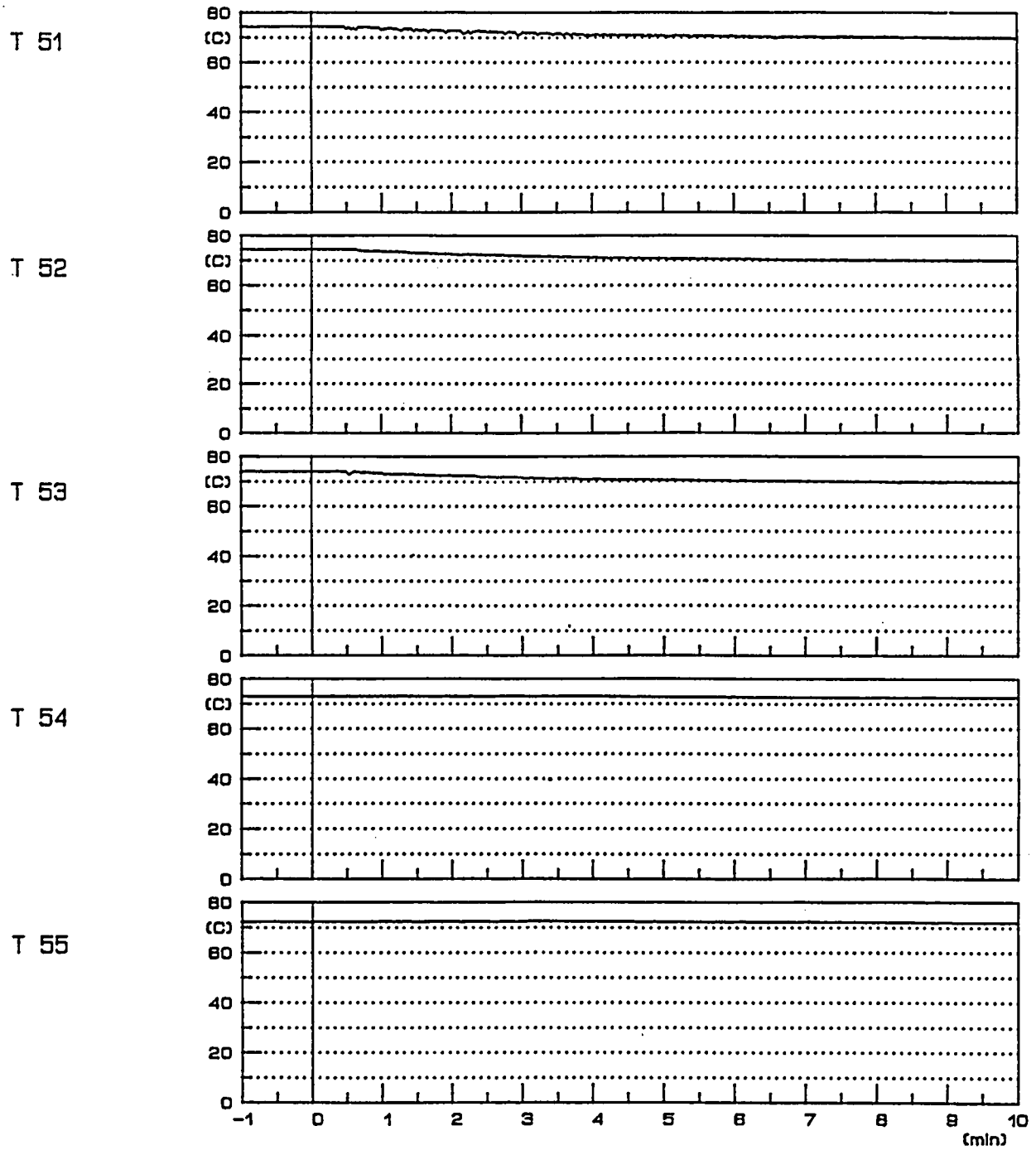
Test :	102	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	976.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

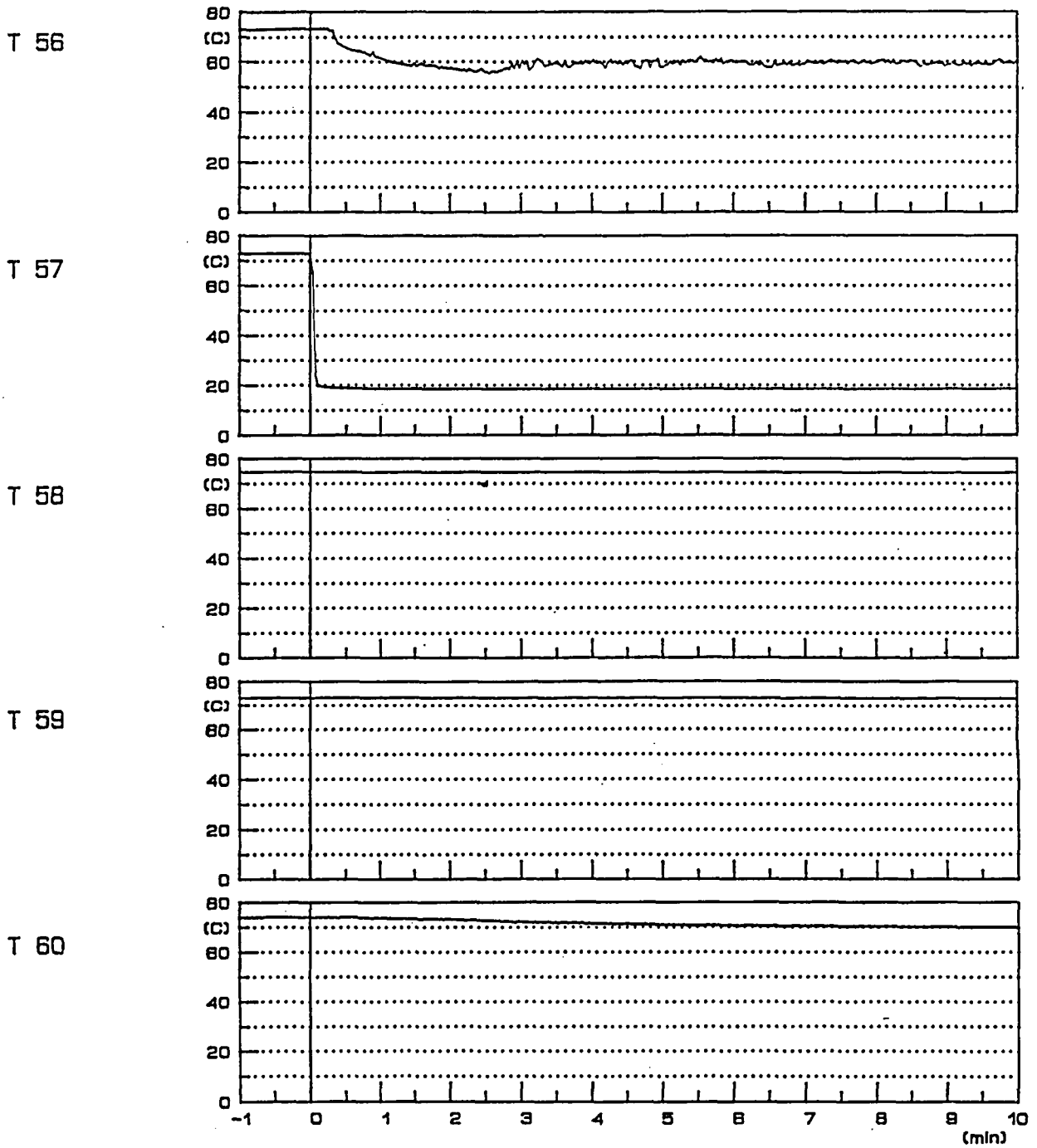
Test :	102	Q_C =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	976.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

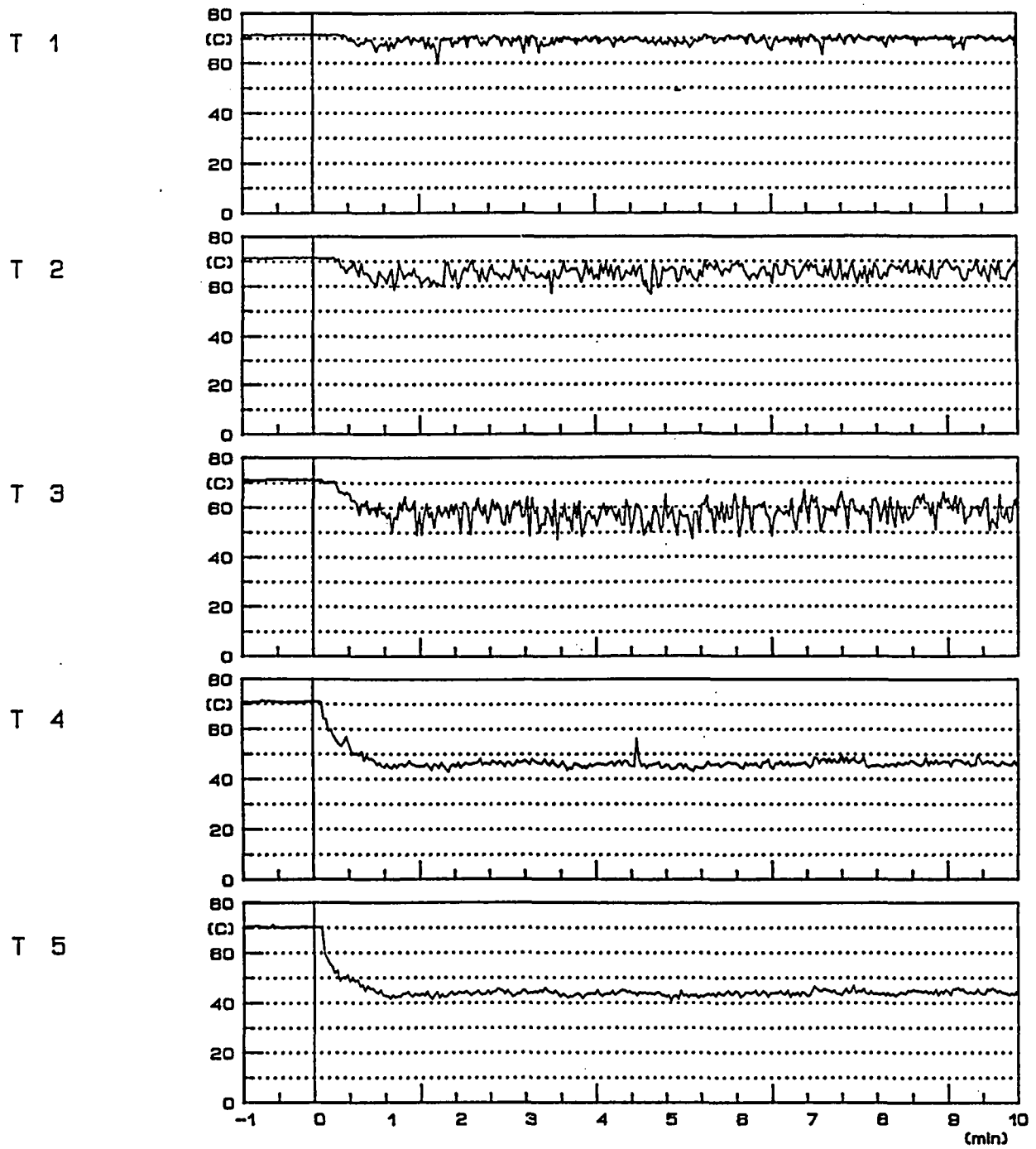
Test :	102	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	976.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1172.	kg/m^3



14. 6.1985

FLUID AND THERMAL MIXING TESTS

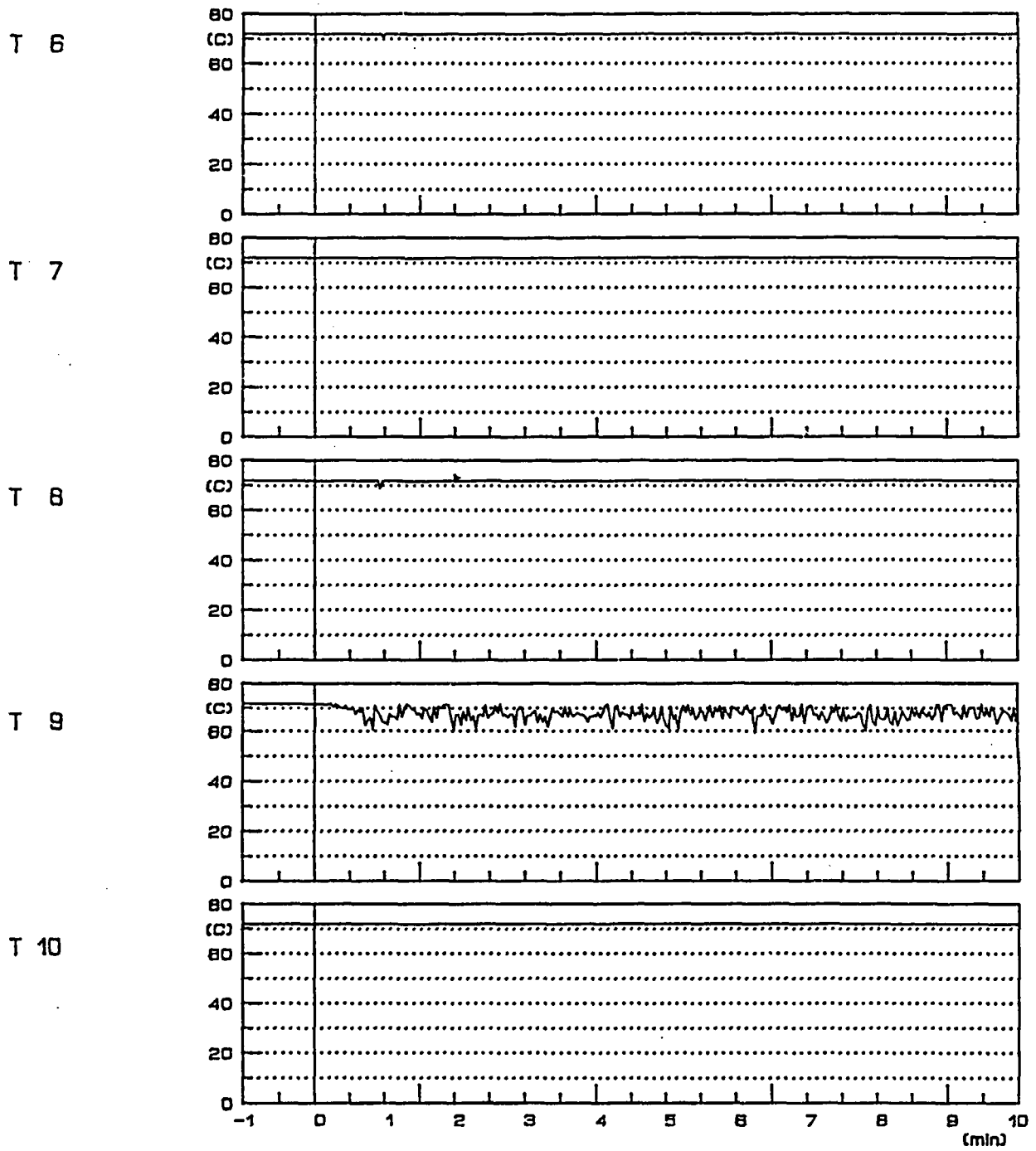
Test :	103	Q_c =	10.4	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1171.	kg/m^3



14. 6.1985

FLUID AND THERMAL MIXING TESTS

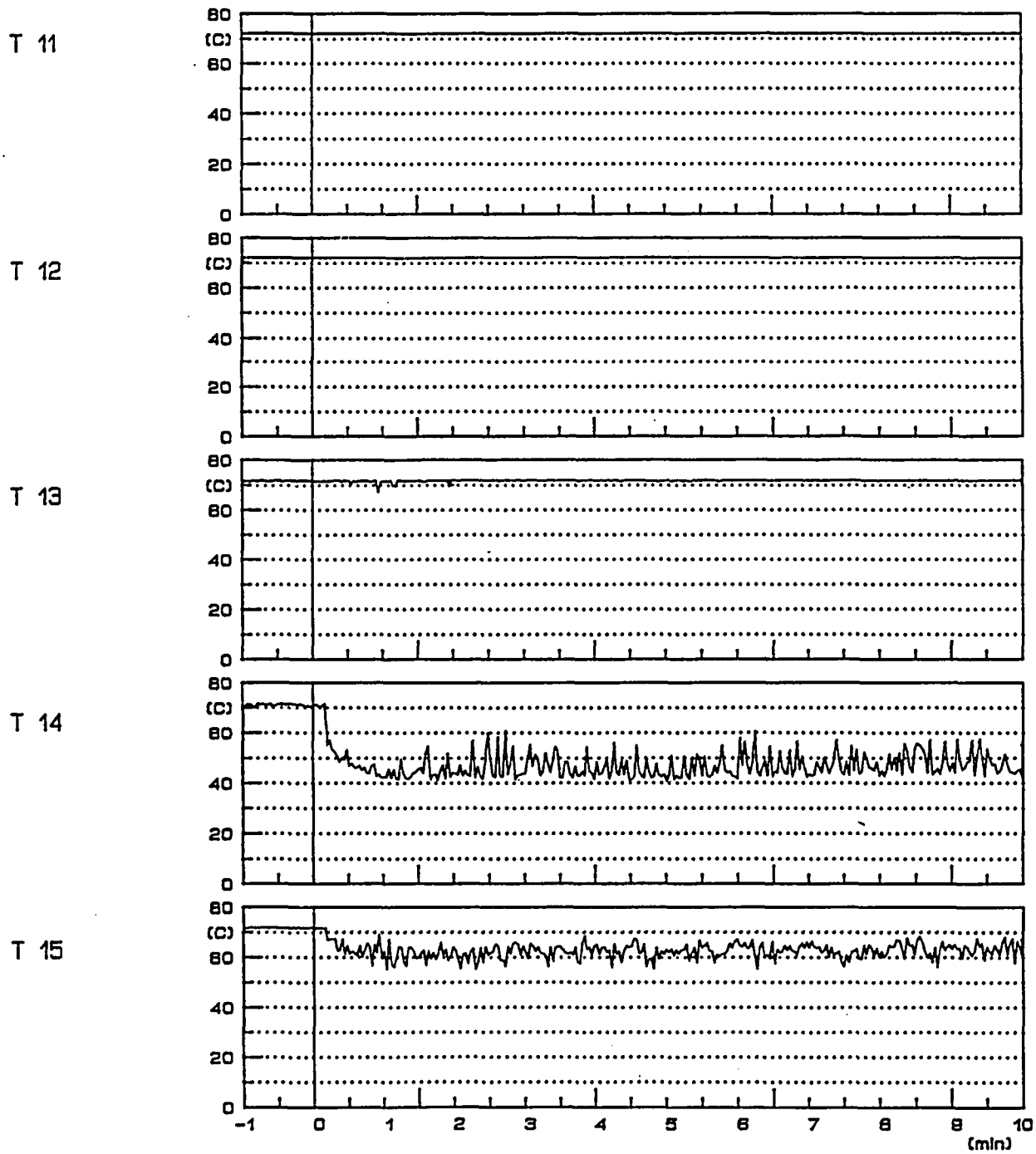
Test :	103	Q_c =	10.4	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1171.	kg/m^3



14. 6.1985

FLUID AND THERMAL MIXING TESTS

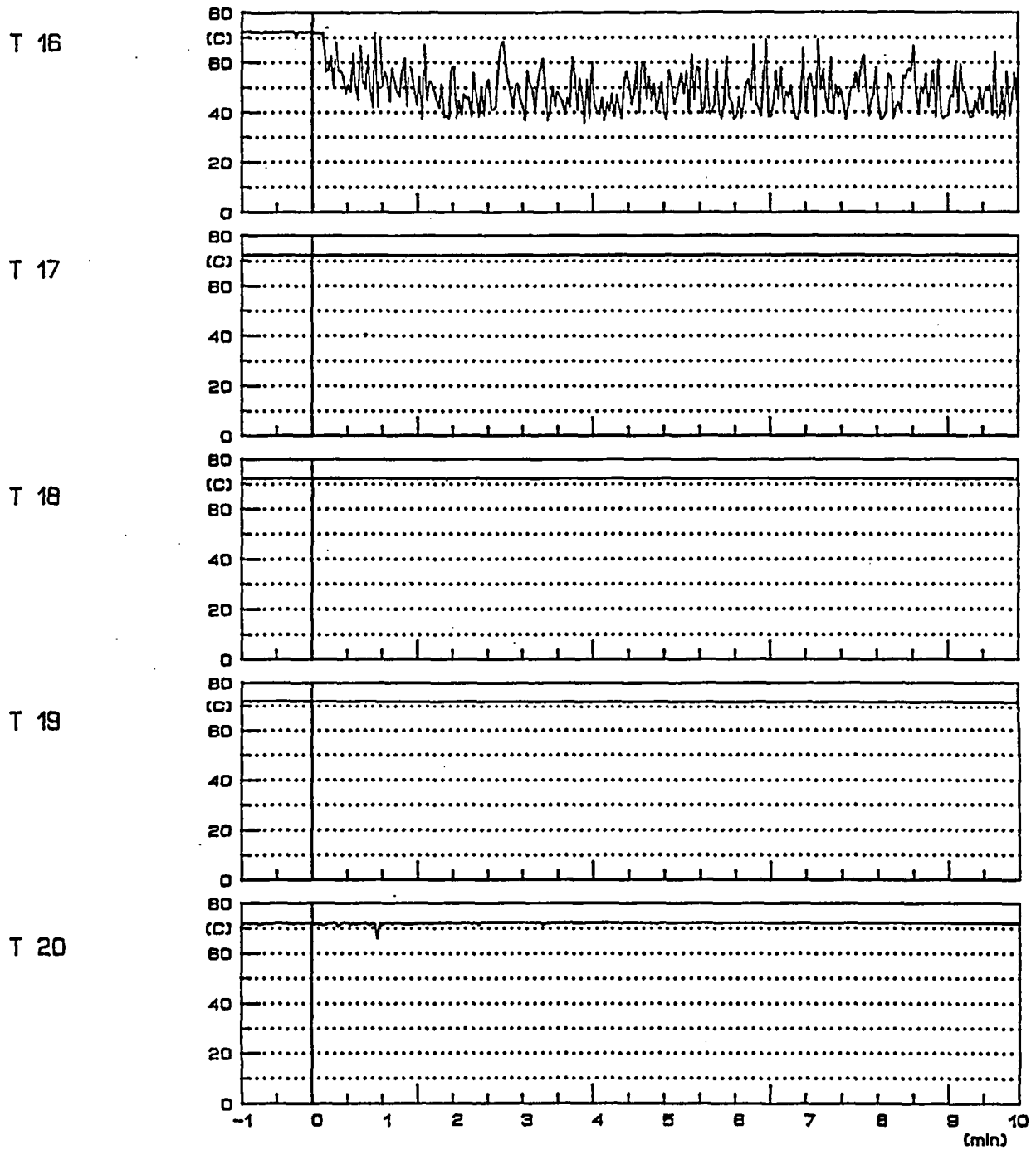
Test :	103	Q_c =	10.4	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1171.	kg/m^3



14. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	103	Q_c =	10.4	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1171.	kg/m^3

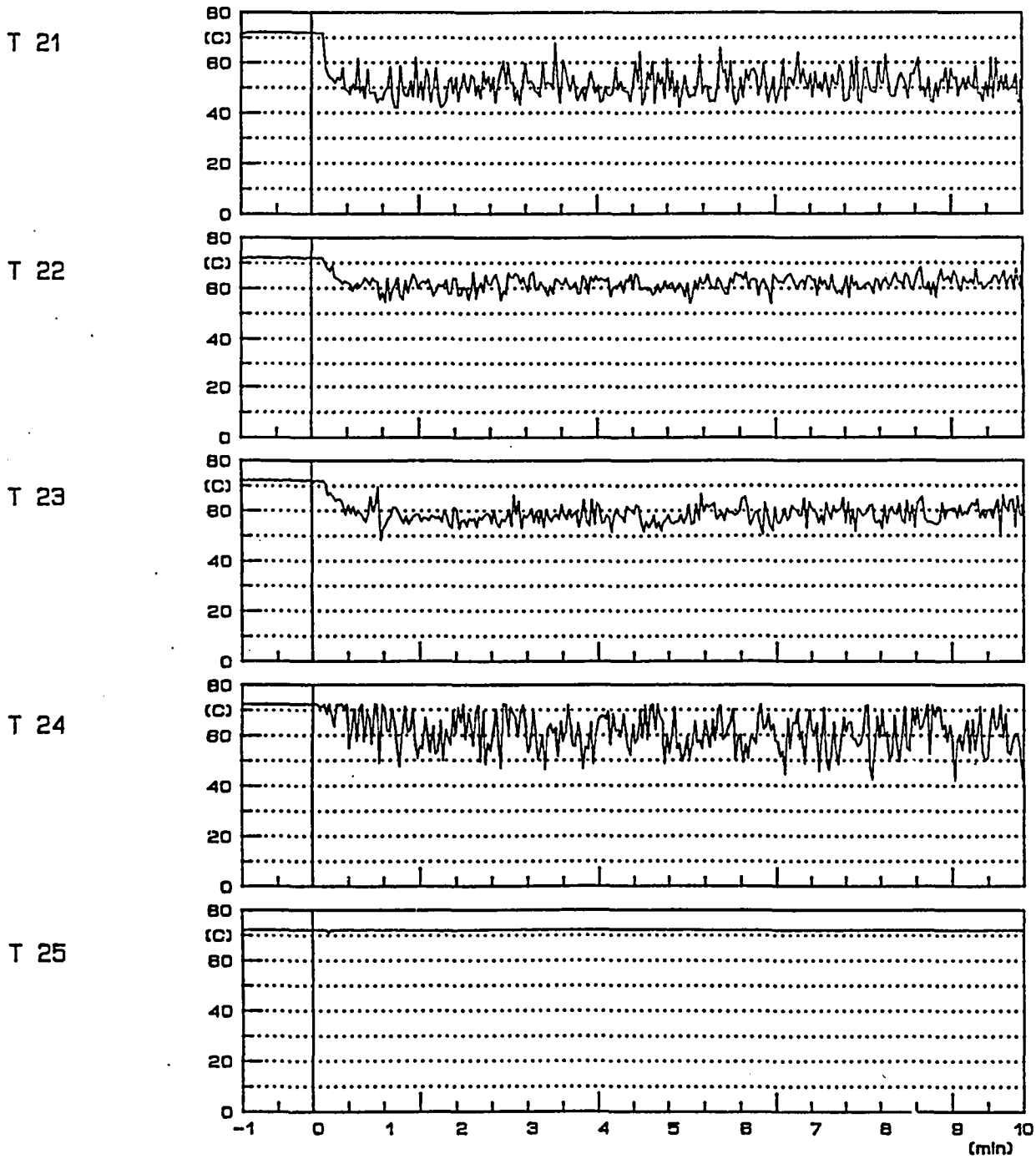


14. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 103

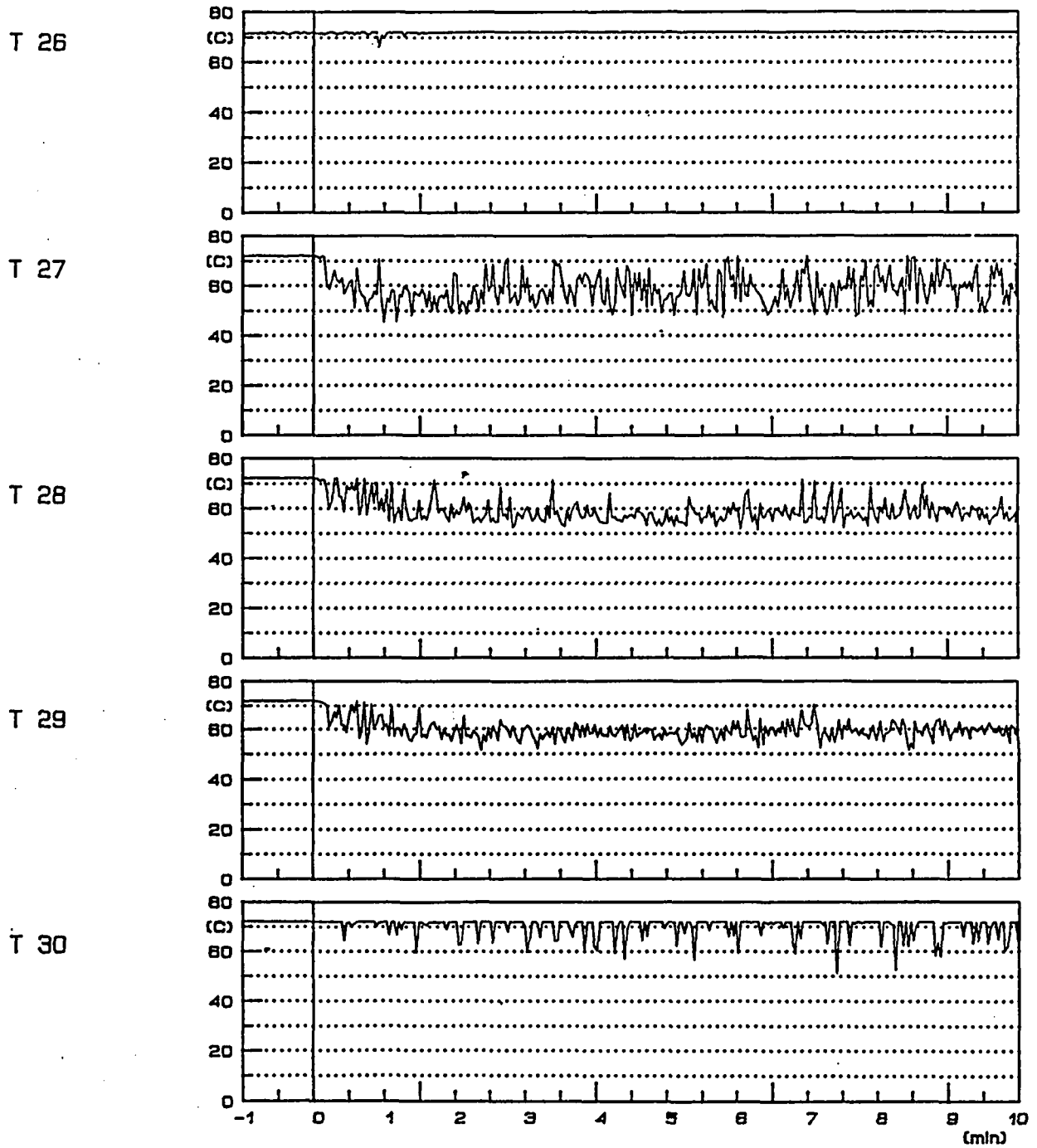
Q_c	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1171.	kg/m^3



14. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	103	Q_c =	10.4	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1171.	kg/m^3

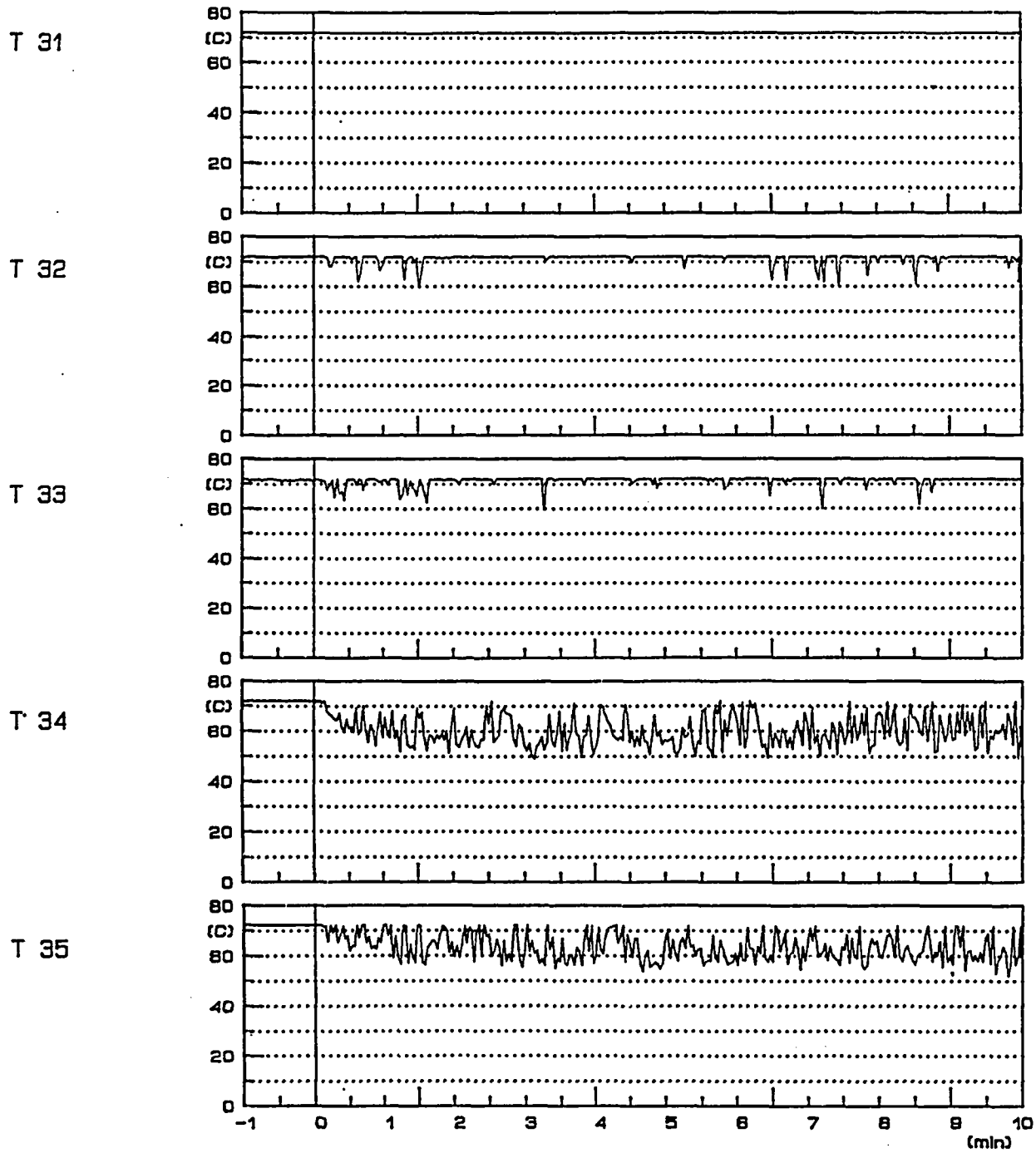


14. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 103

Q_c	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1171.	kg/m^3

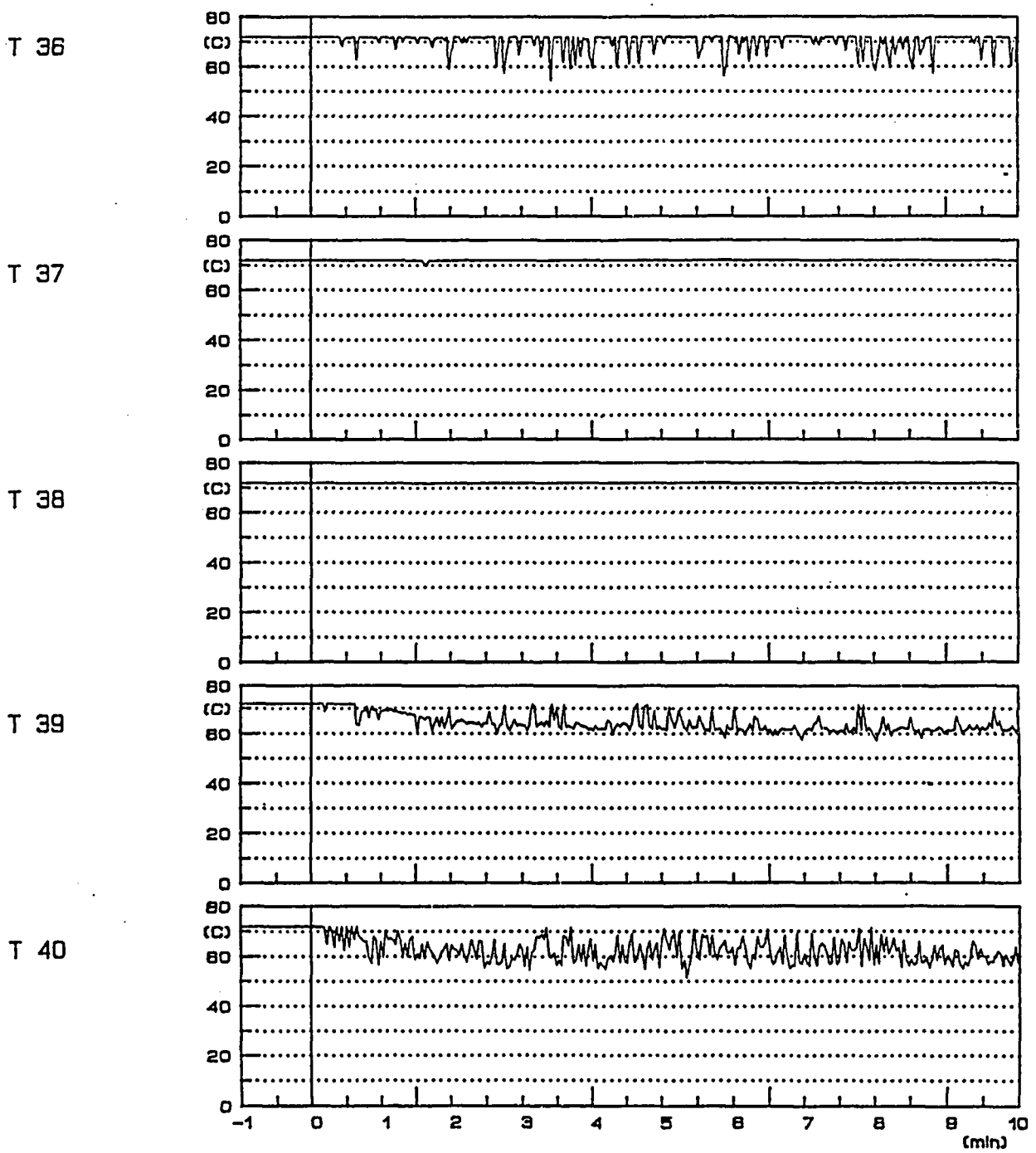


14. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 103

Q_c	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1171.	kg/m^3

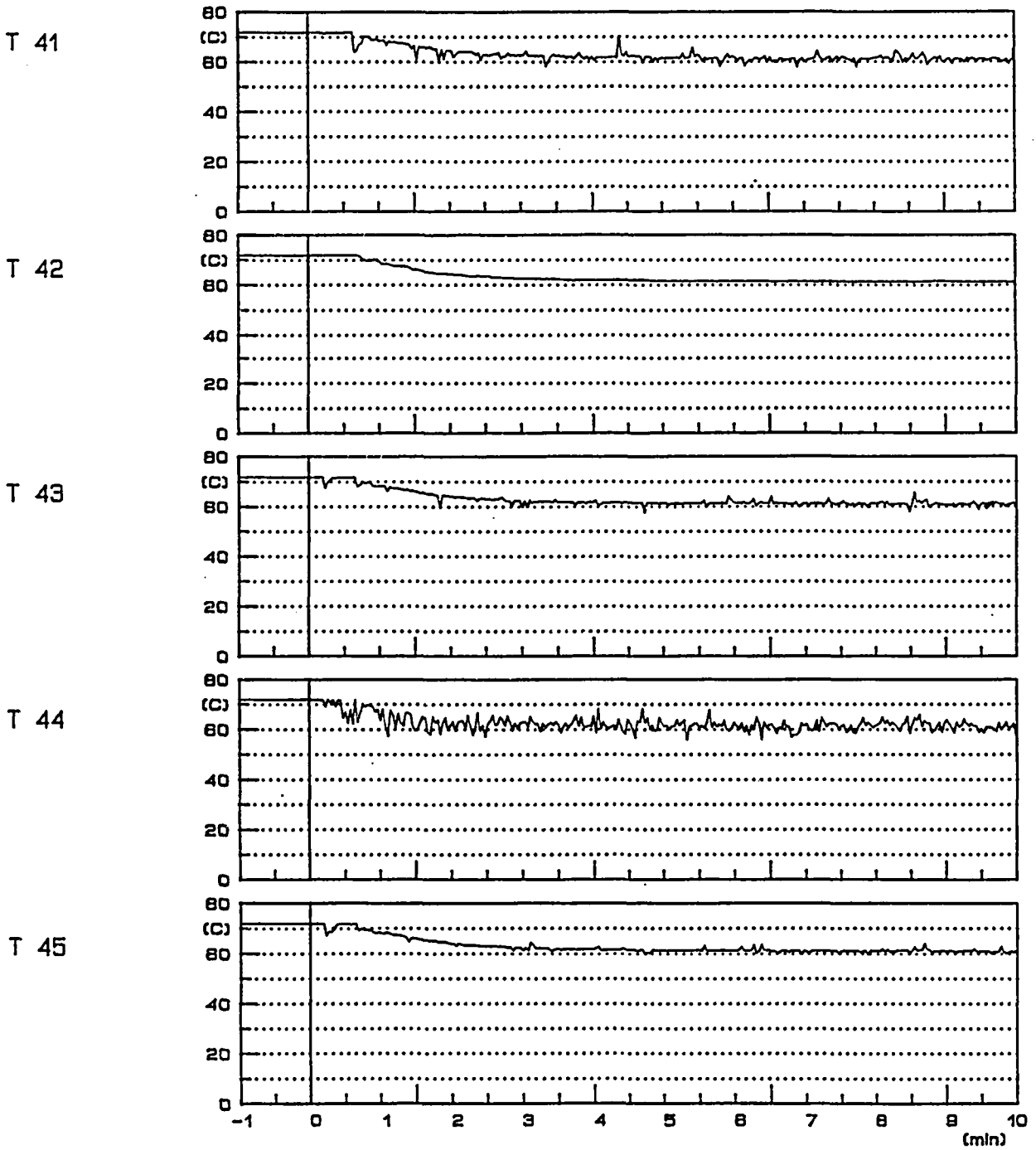


14. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 103

Q_c	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1171.	kg/m^3

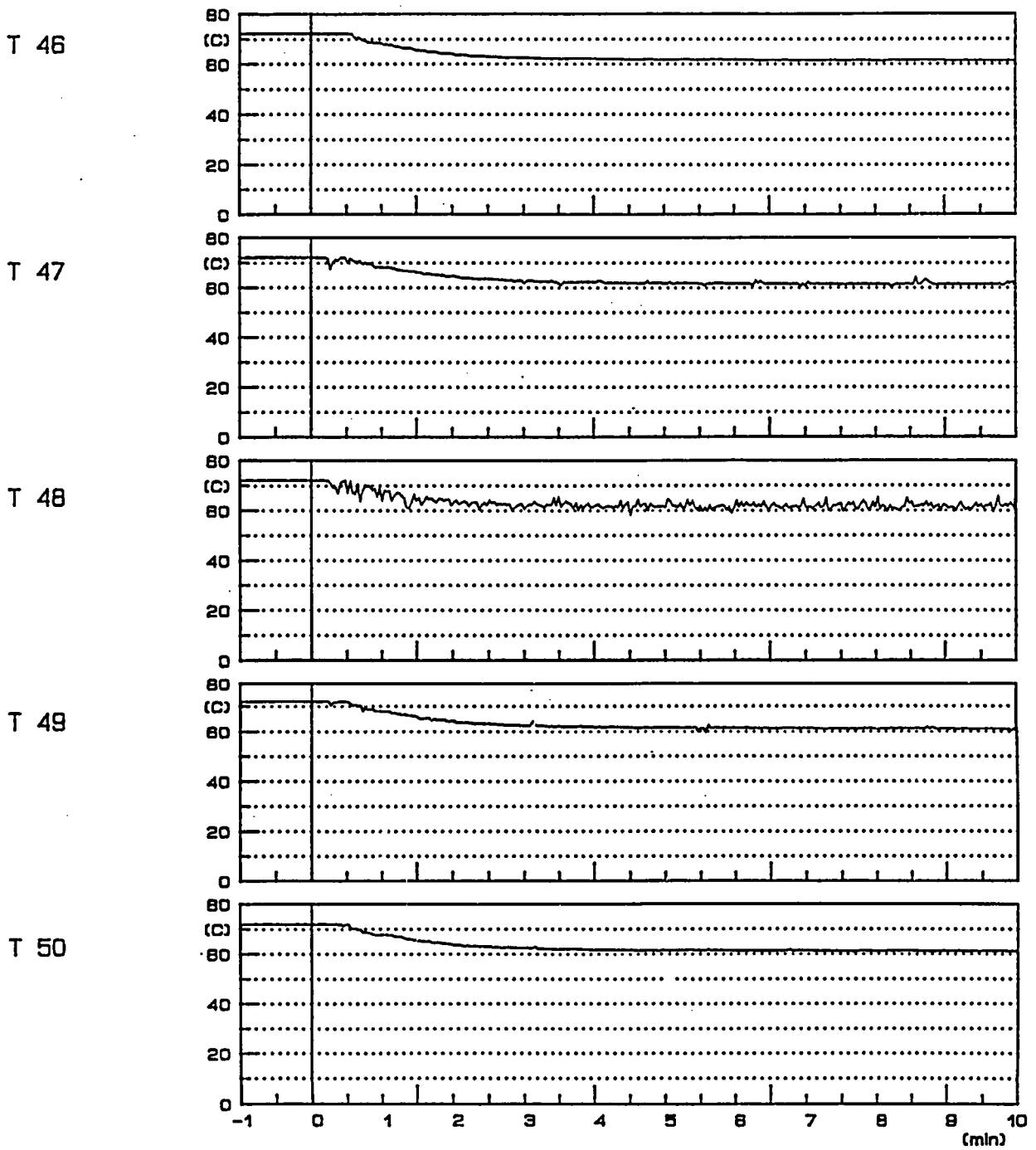


14. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 103

Q_c	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1171.	kg/m^3

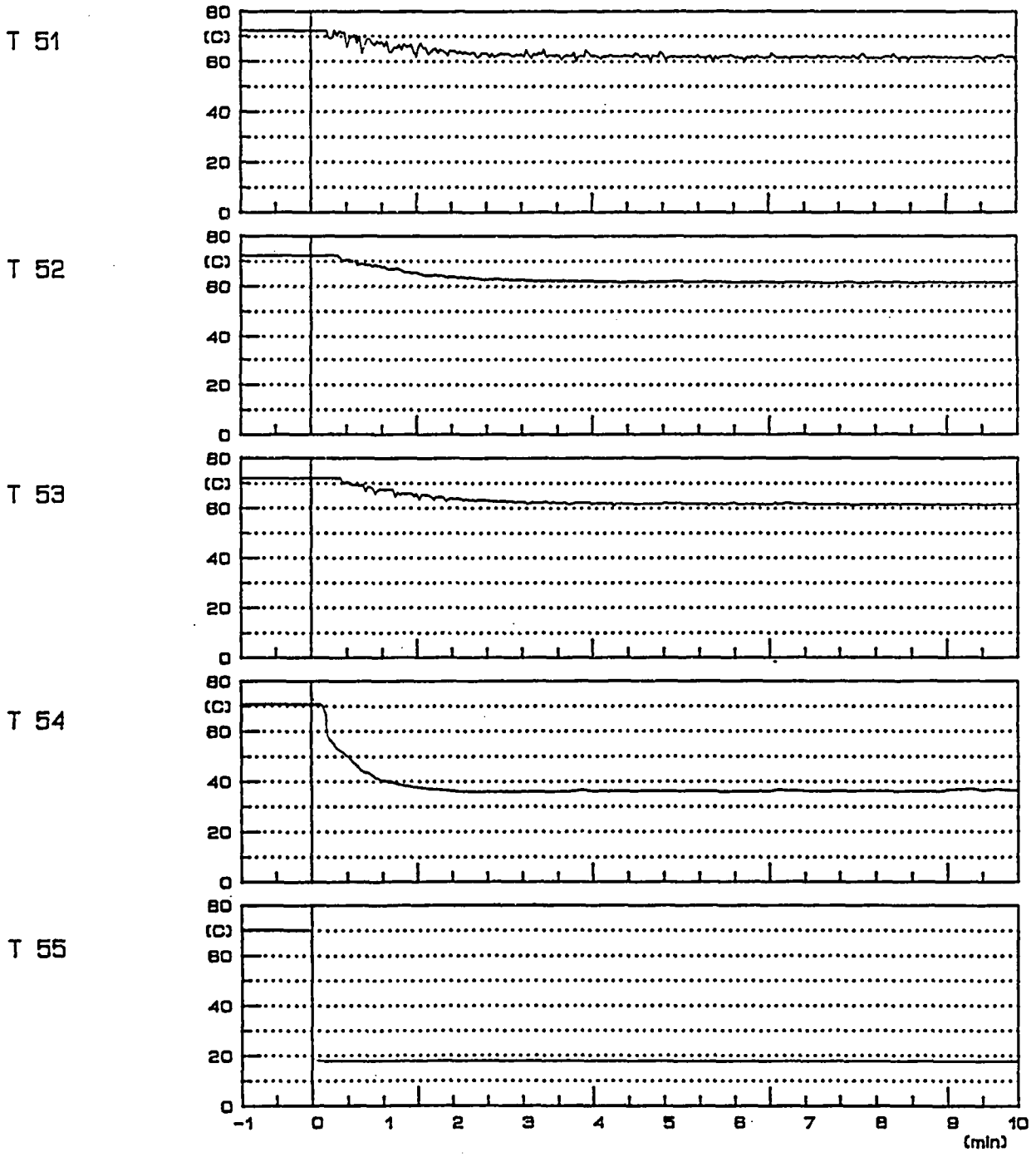


14. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 103

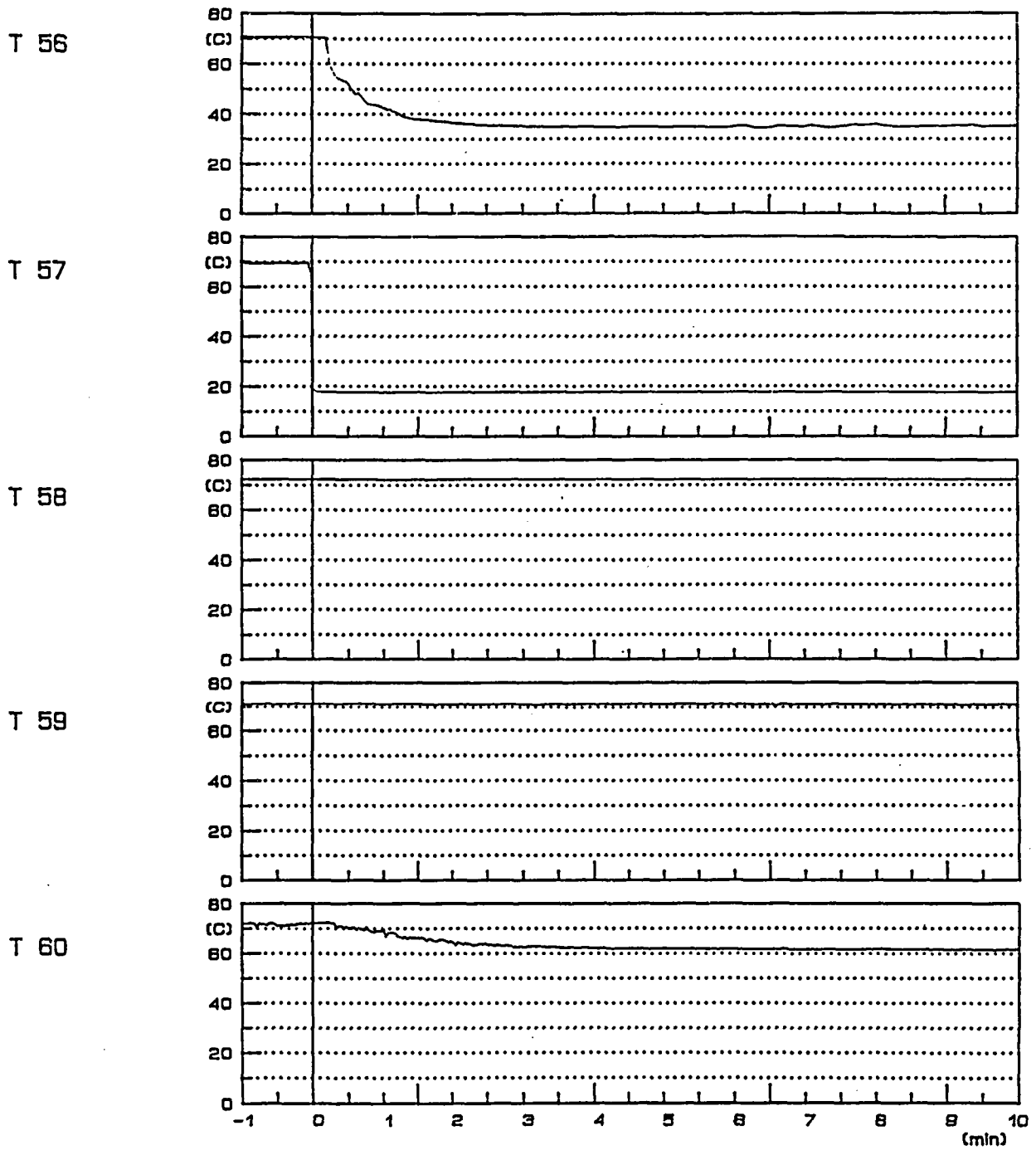
Q_c	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	980.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1171.	kg/m^3



14. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	103	Q_c =	10.4	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	980.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1171.	kg/m^3

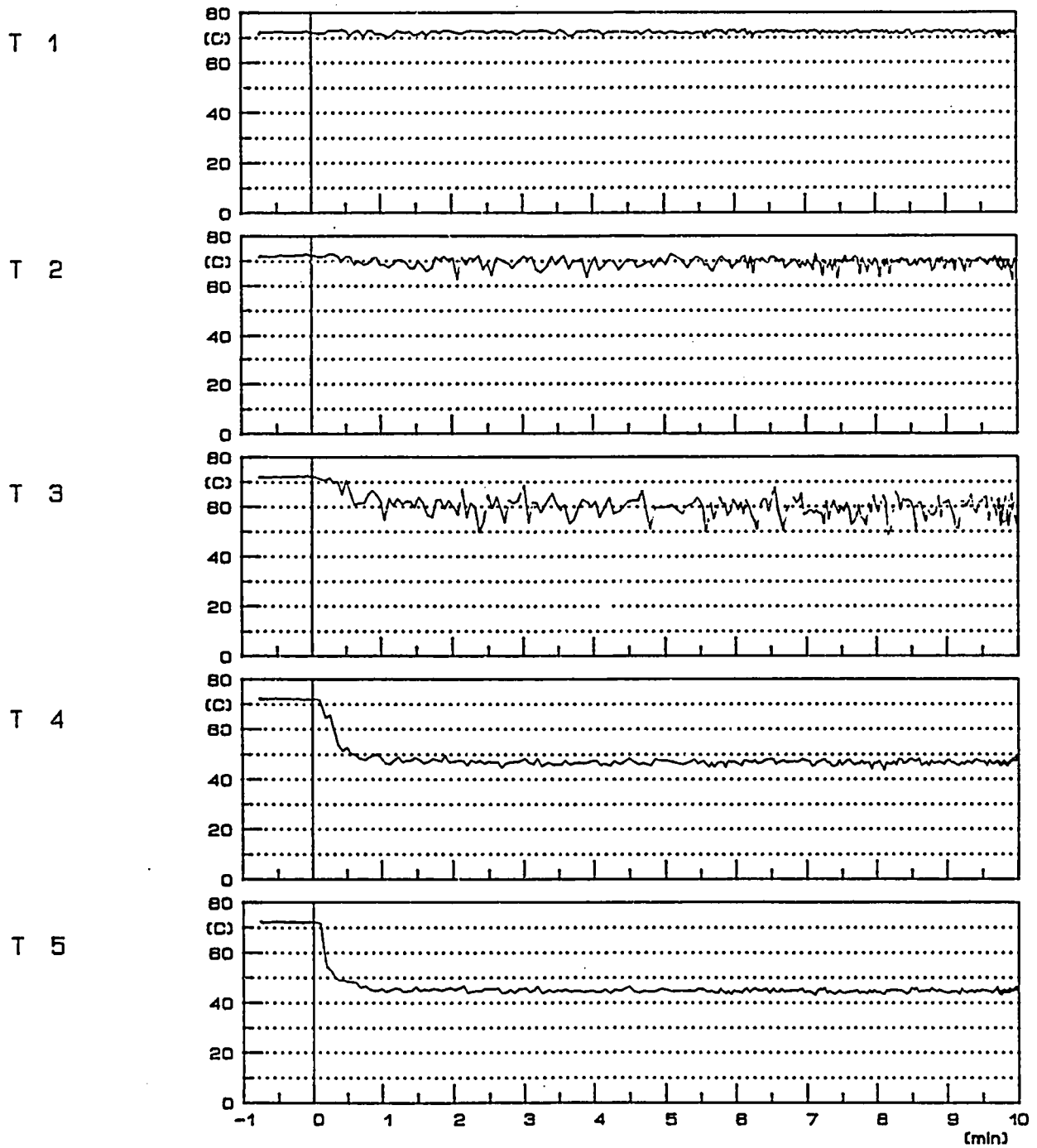


26. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 104

Q_B	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1170.	kg/m^3

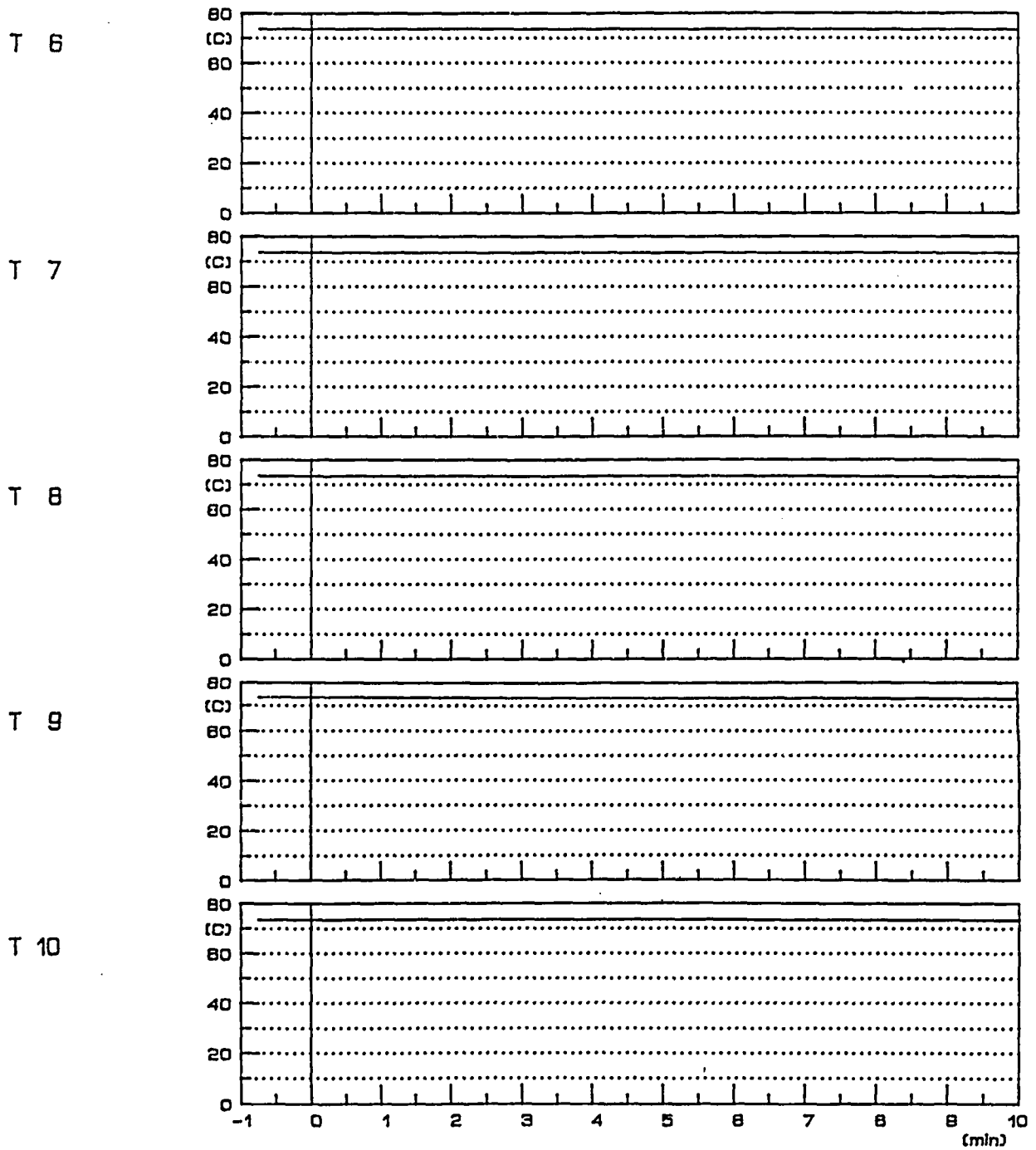


26. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 104

Q_B	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1170.	kg/m^3

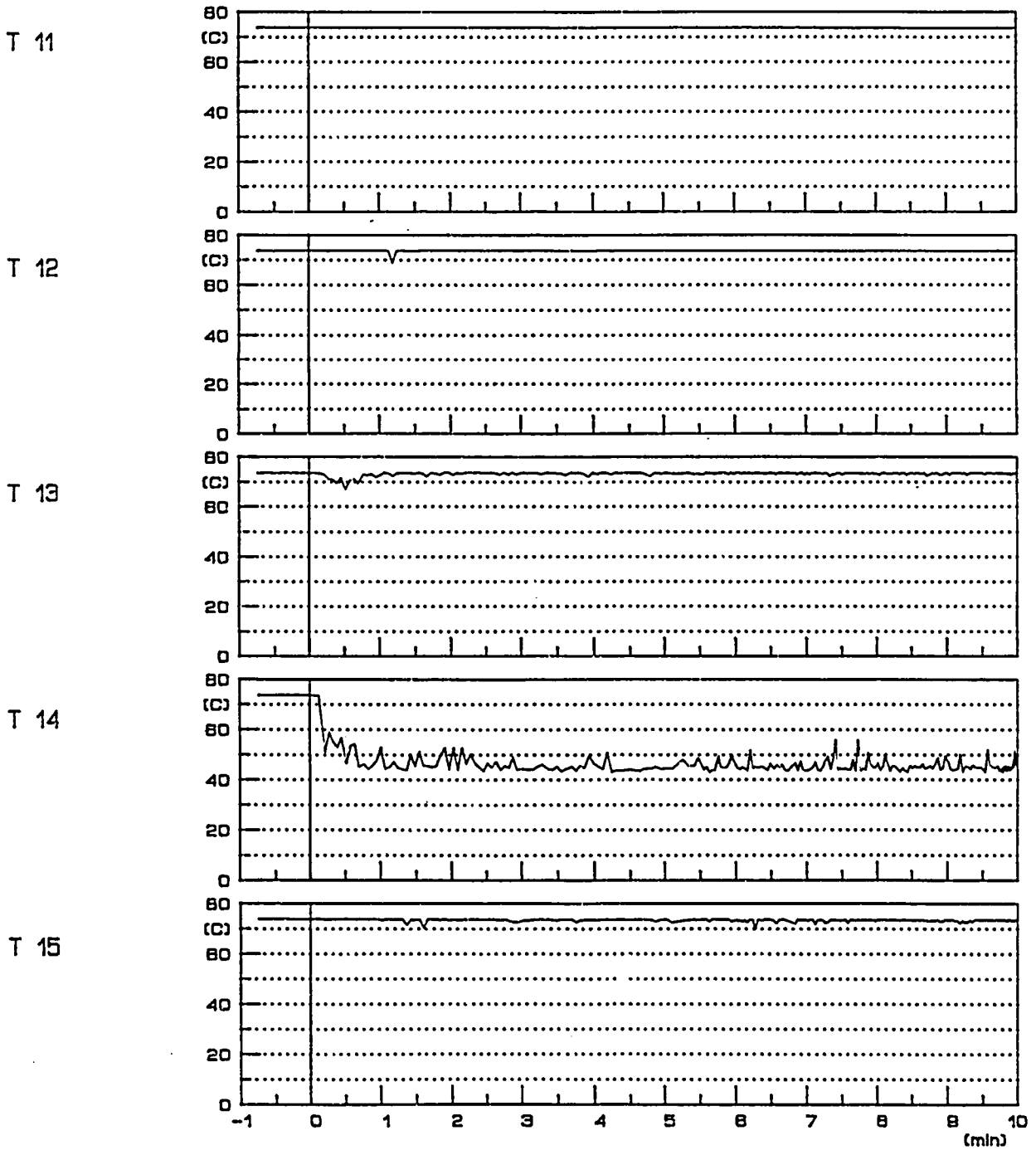


26. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 104

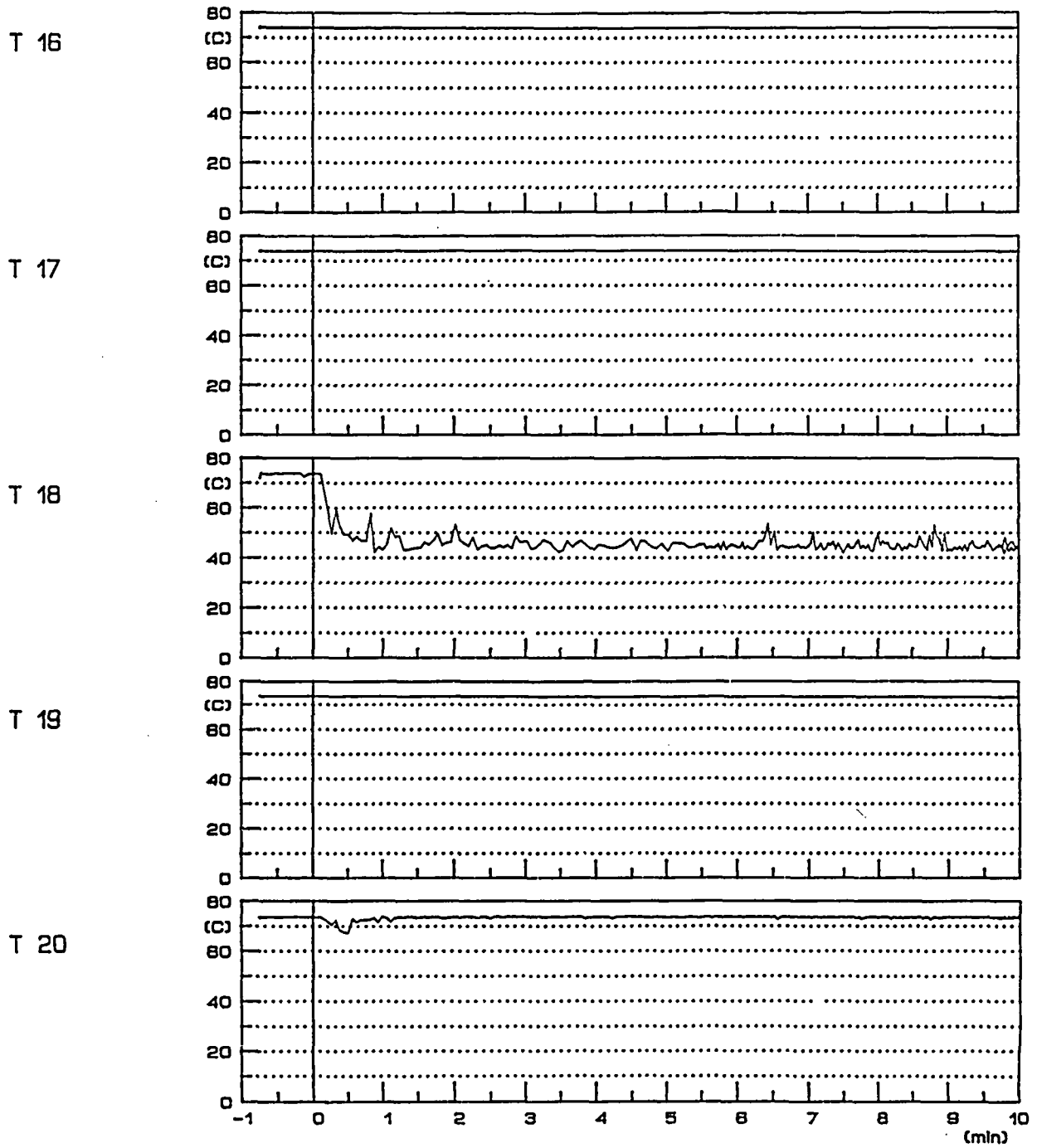
Q_B	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1170.	kg/m^3



26. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	104	Q_B	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
		ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1170.	kg/m^3

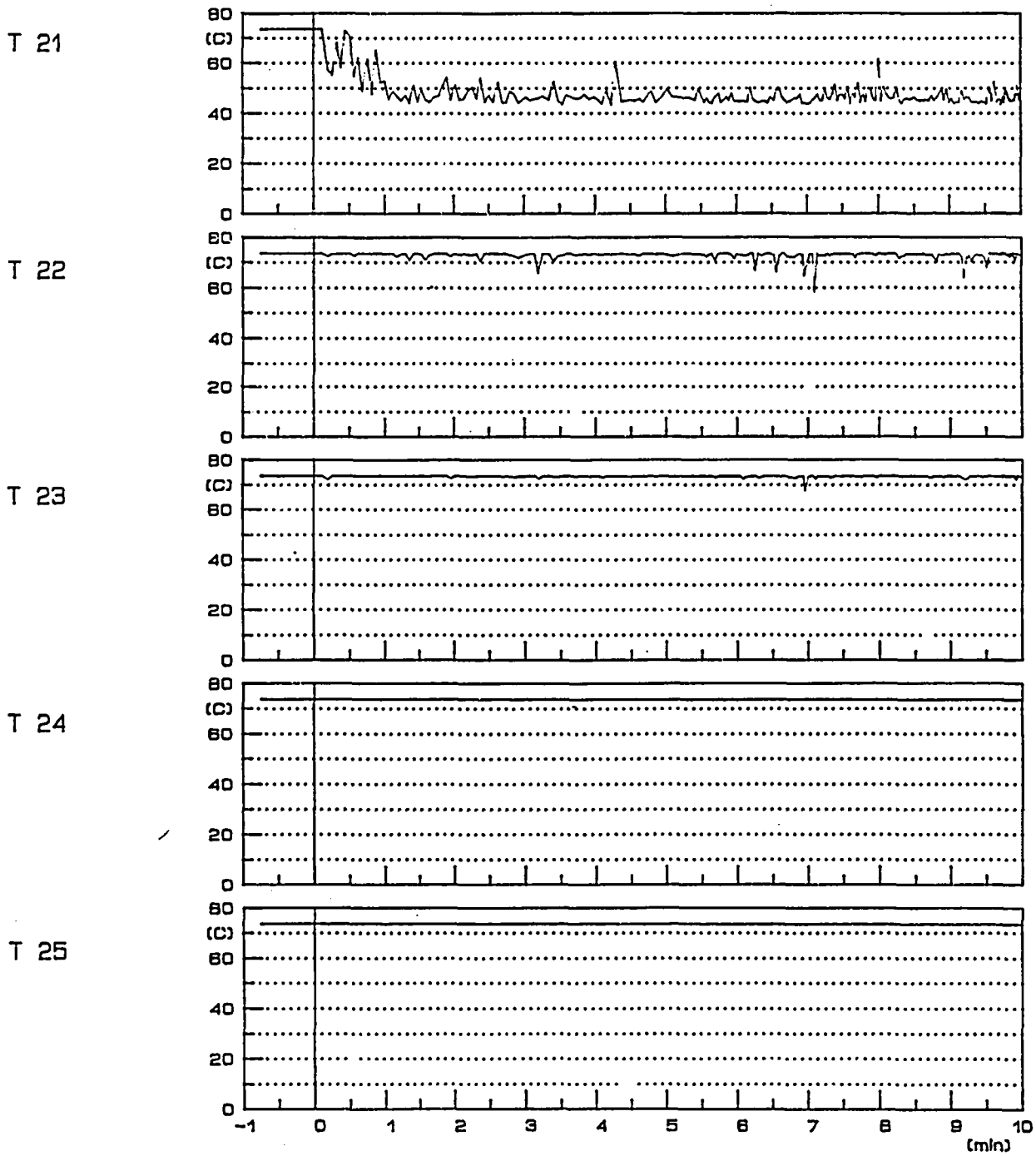


26. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 104

Q_B	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1170.	kg/m^3

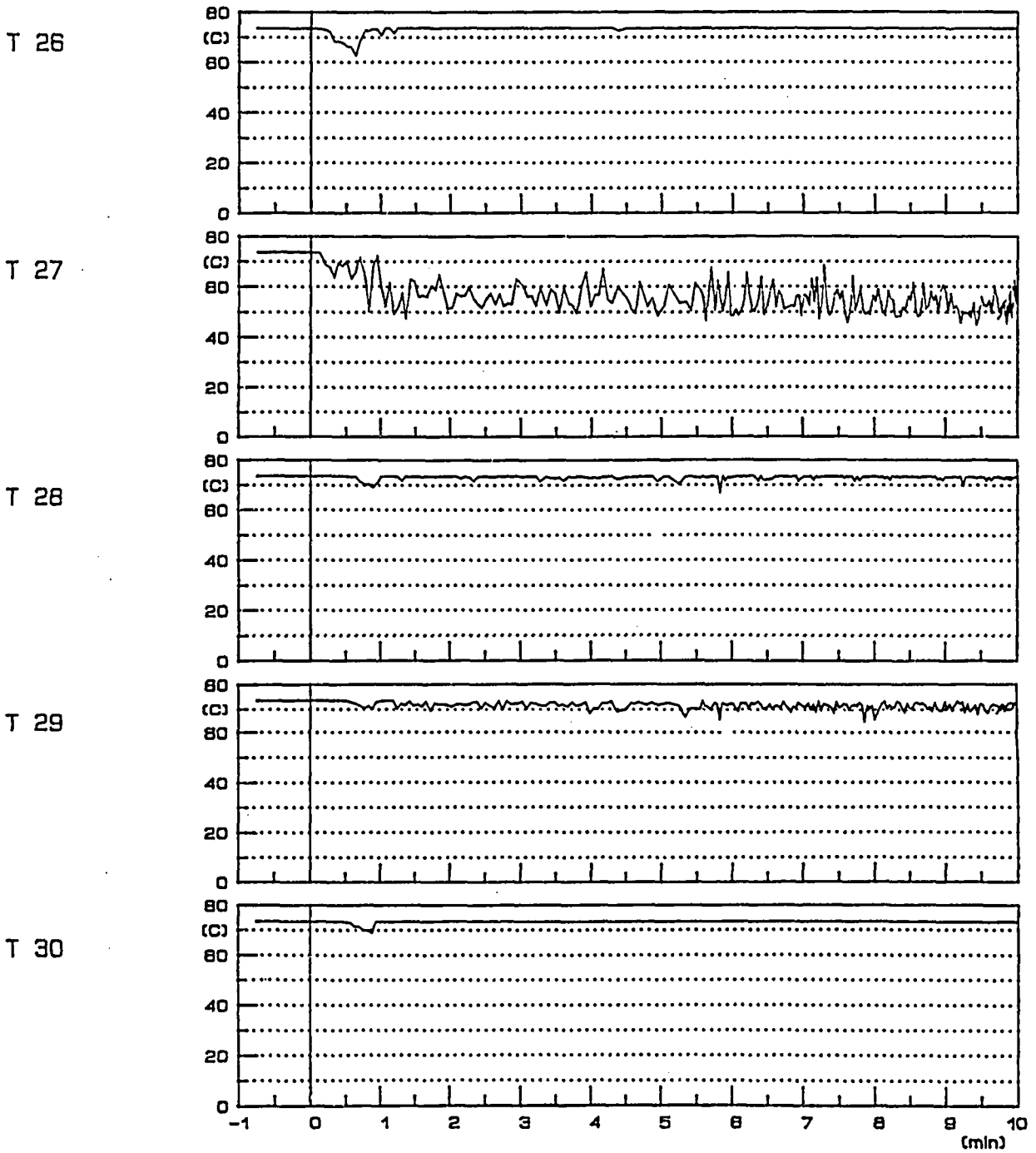


26. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 104

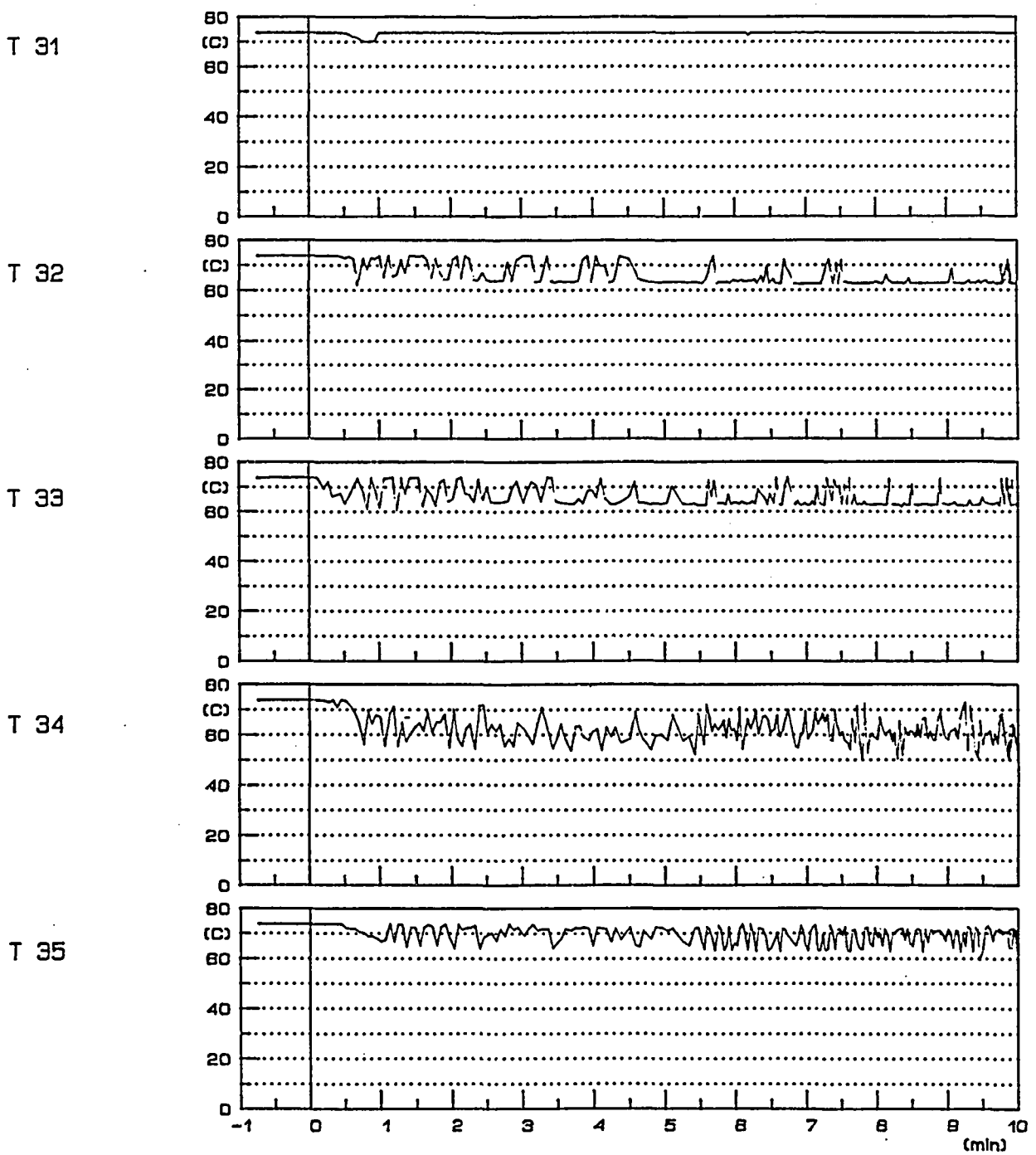
Q_B	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1170.	kg/m^3



26. 6.1985

FLUID AND THERMAL MIXING TESTS

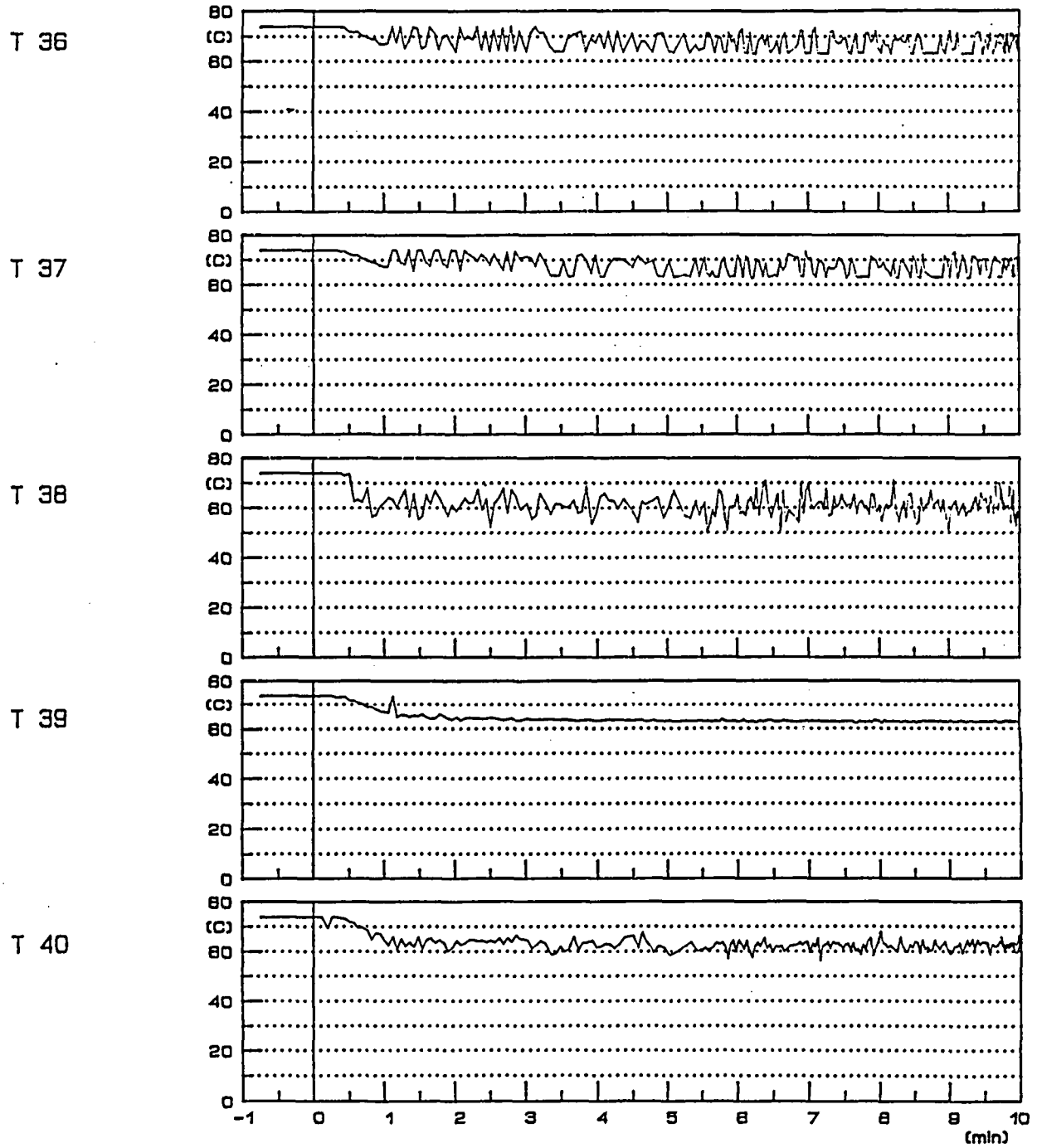
Test :	104	Q_B =	10.4	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	1.48	dm^3/s
					ρ =	1170.	kg/m^3



26. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	104	Q_B =	10.4	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	1.48	dm^3/s
					ρ =	1170.	kg/m^3

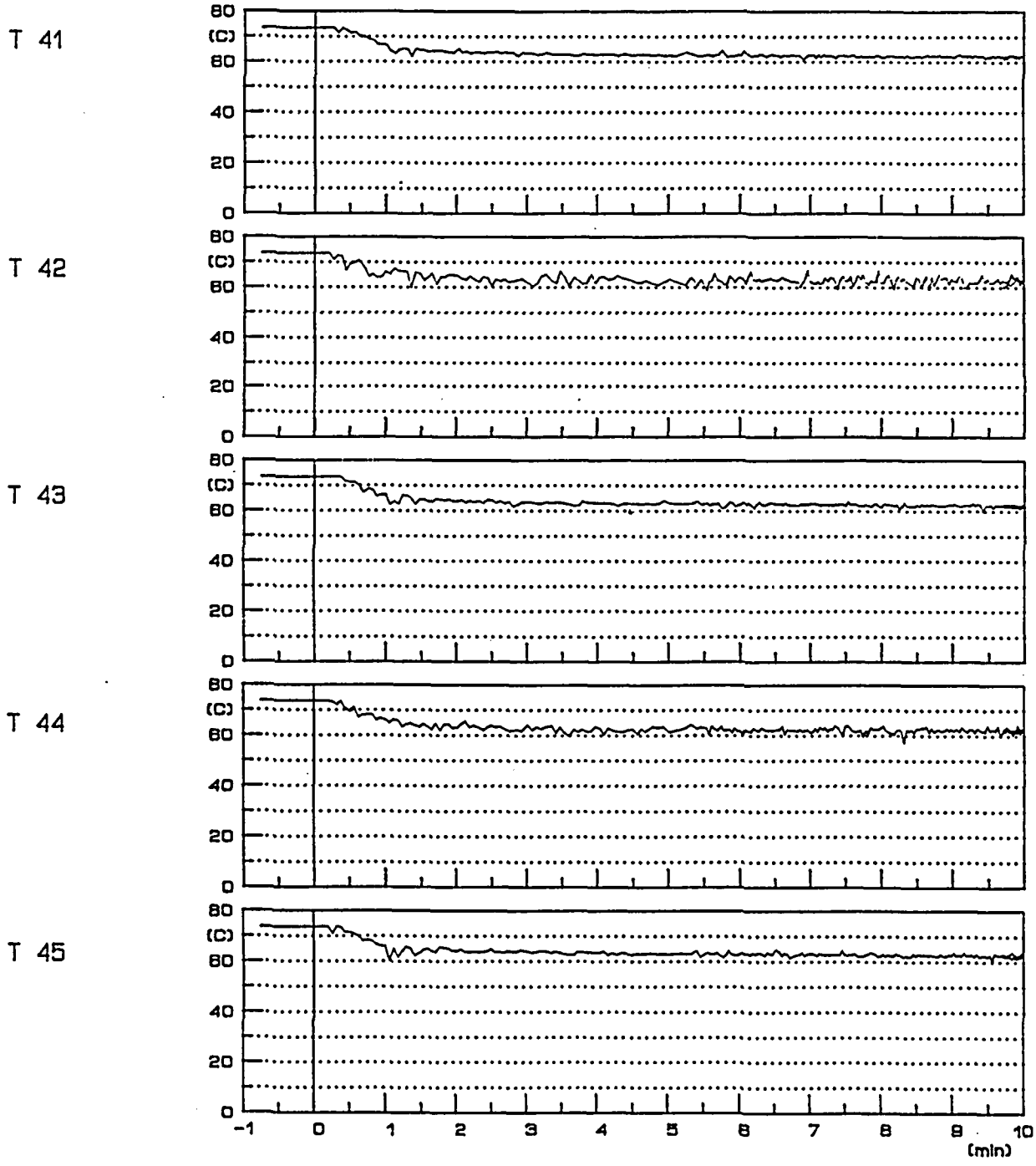


26. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 104

Q_B	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1170.	kg/m^3



26. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 104

Q_B = 10.4 dm^3/s

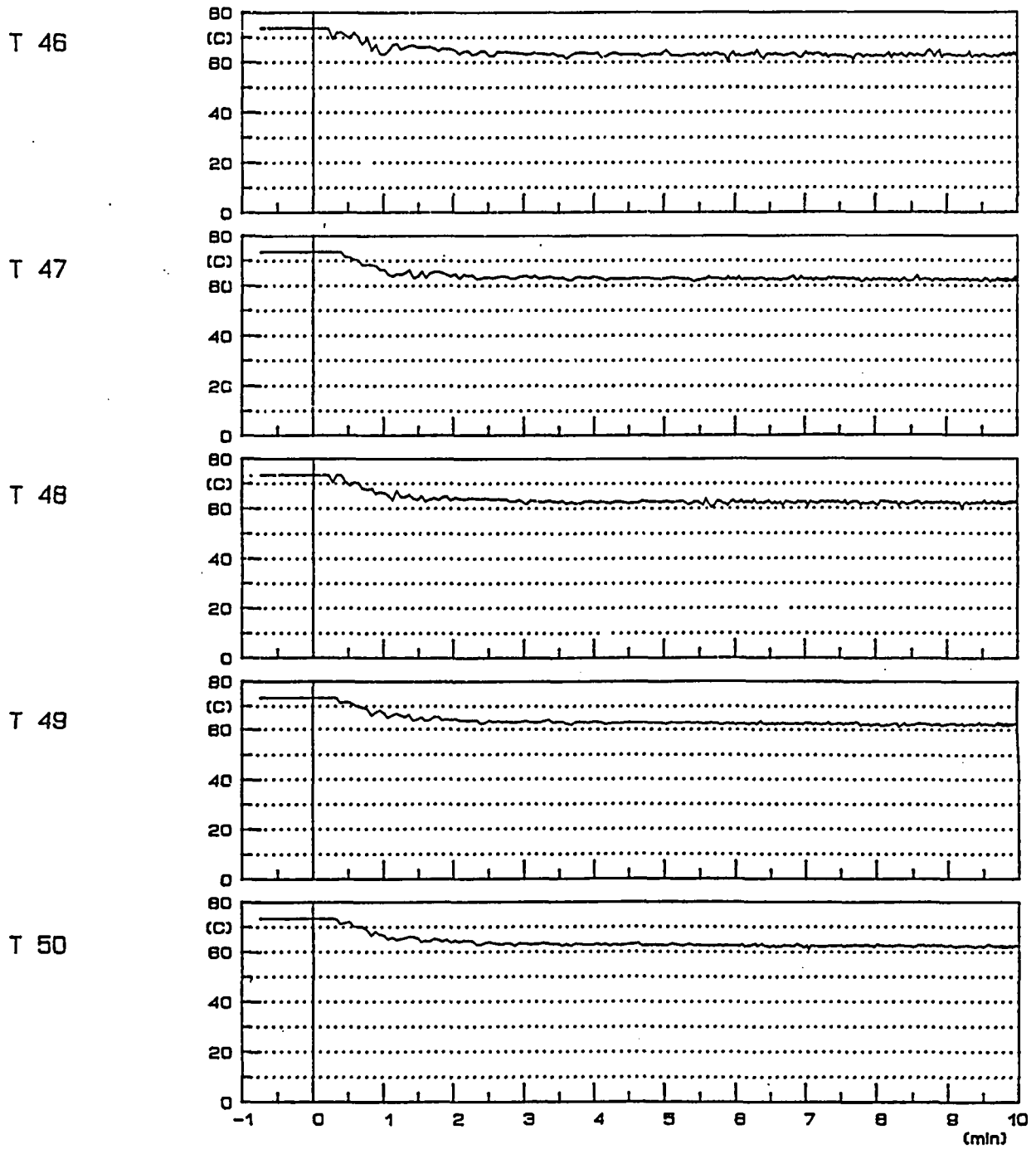
ρ = 977. kg/m^3

$Q_{HPI,A}$ = 1.48 dm^3/s

$Q_{HPI,B}$ = 0.00 dm^3/s

$Q_{HPI,C}$ = 1.48 dm^3/s

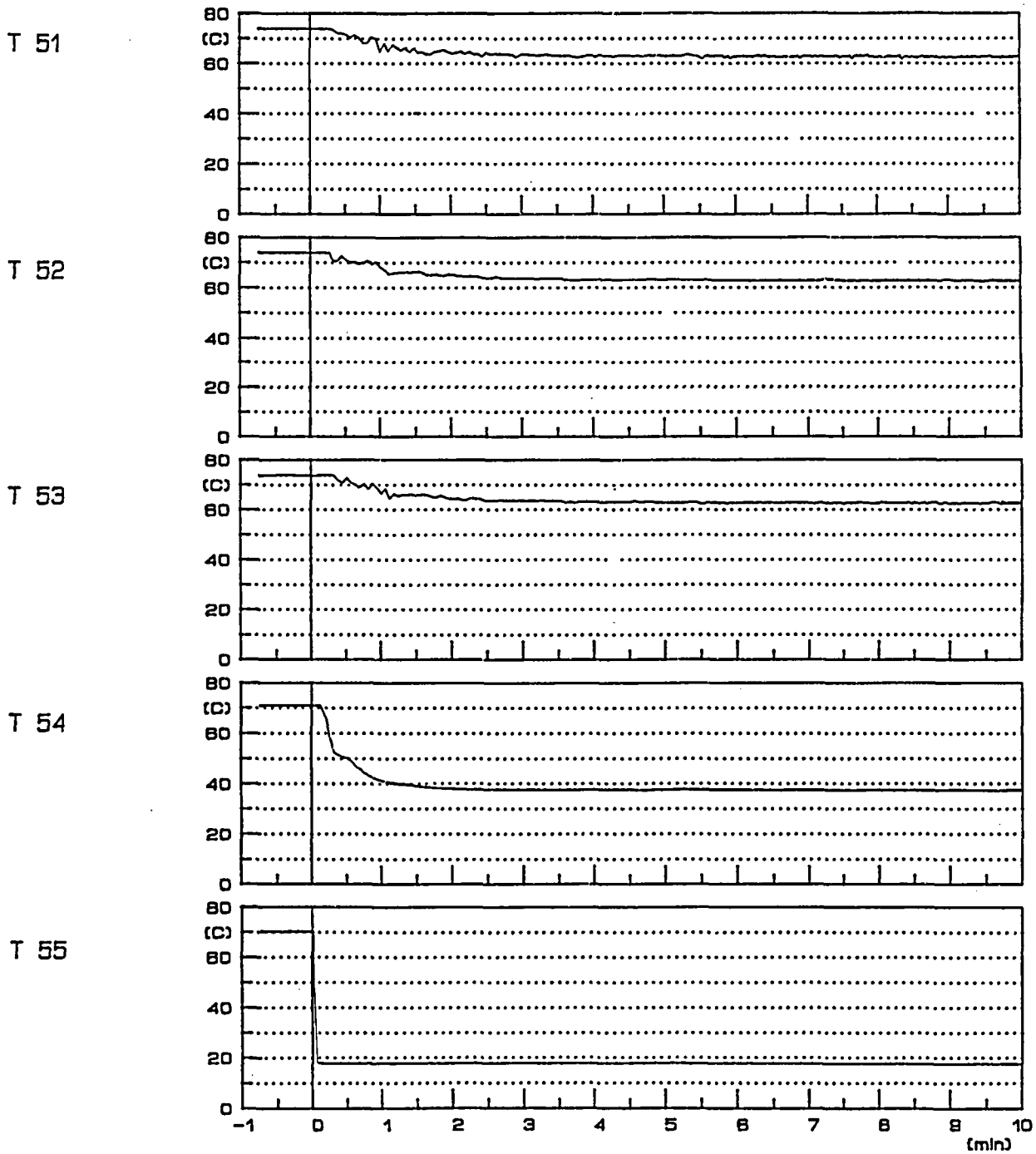
ρ = 1170. kg/m^3



26. 6.1985

FLUID AND THERMAL MIXING TESTS

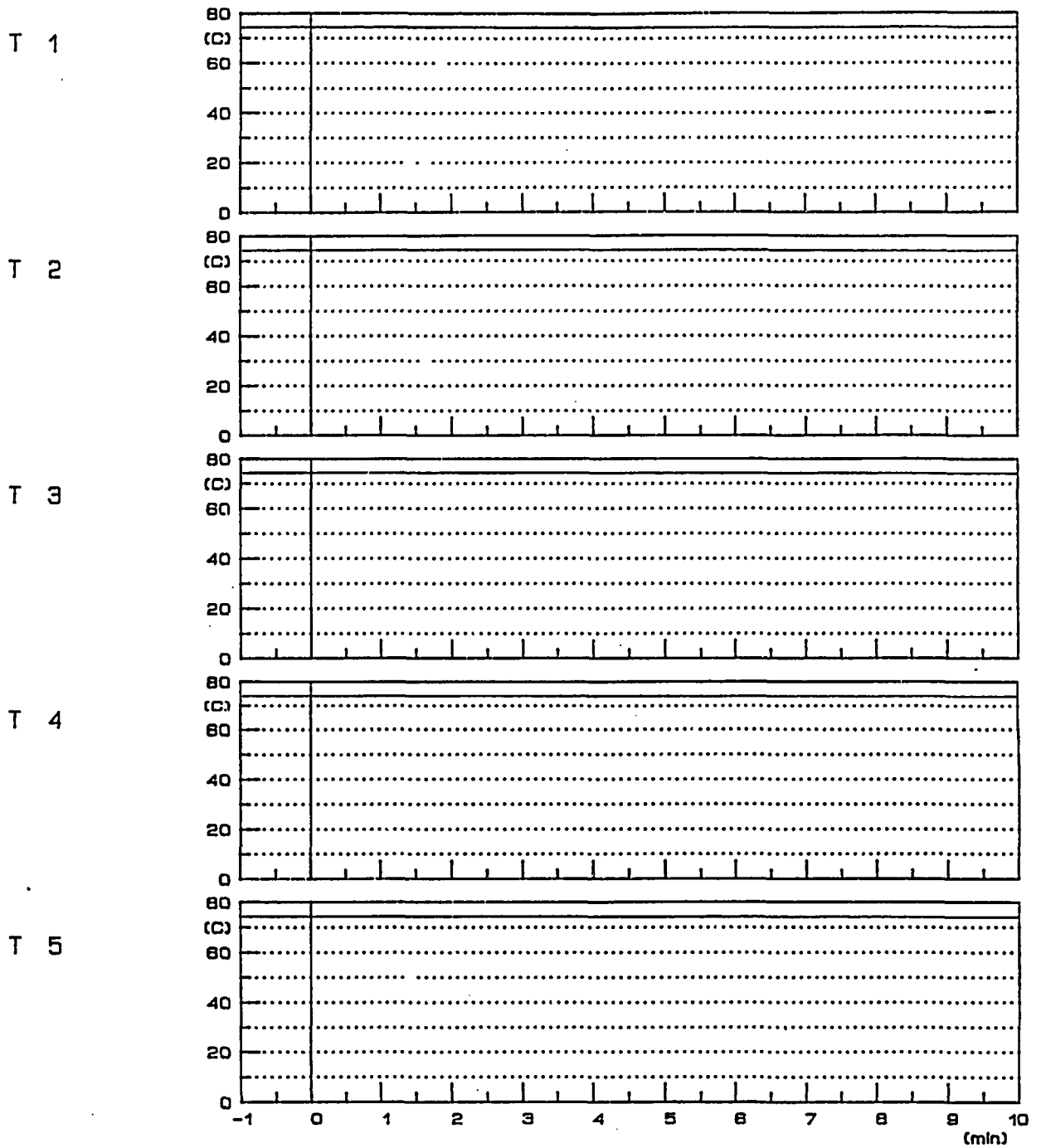
Test :	104	Q_B	=	10.4	dm^3/s	$Q_{HPI,A}$	=	1.48 dm^3/s
		ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00 dm^3/s
						$Q_{HPI,C}$	=	1.48 dm^3/s
						ρ	=	1170. kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	105	Q_A =	10.4	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	1.48	dm^3/s
					ρ =	1172.	kg/m^3

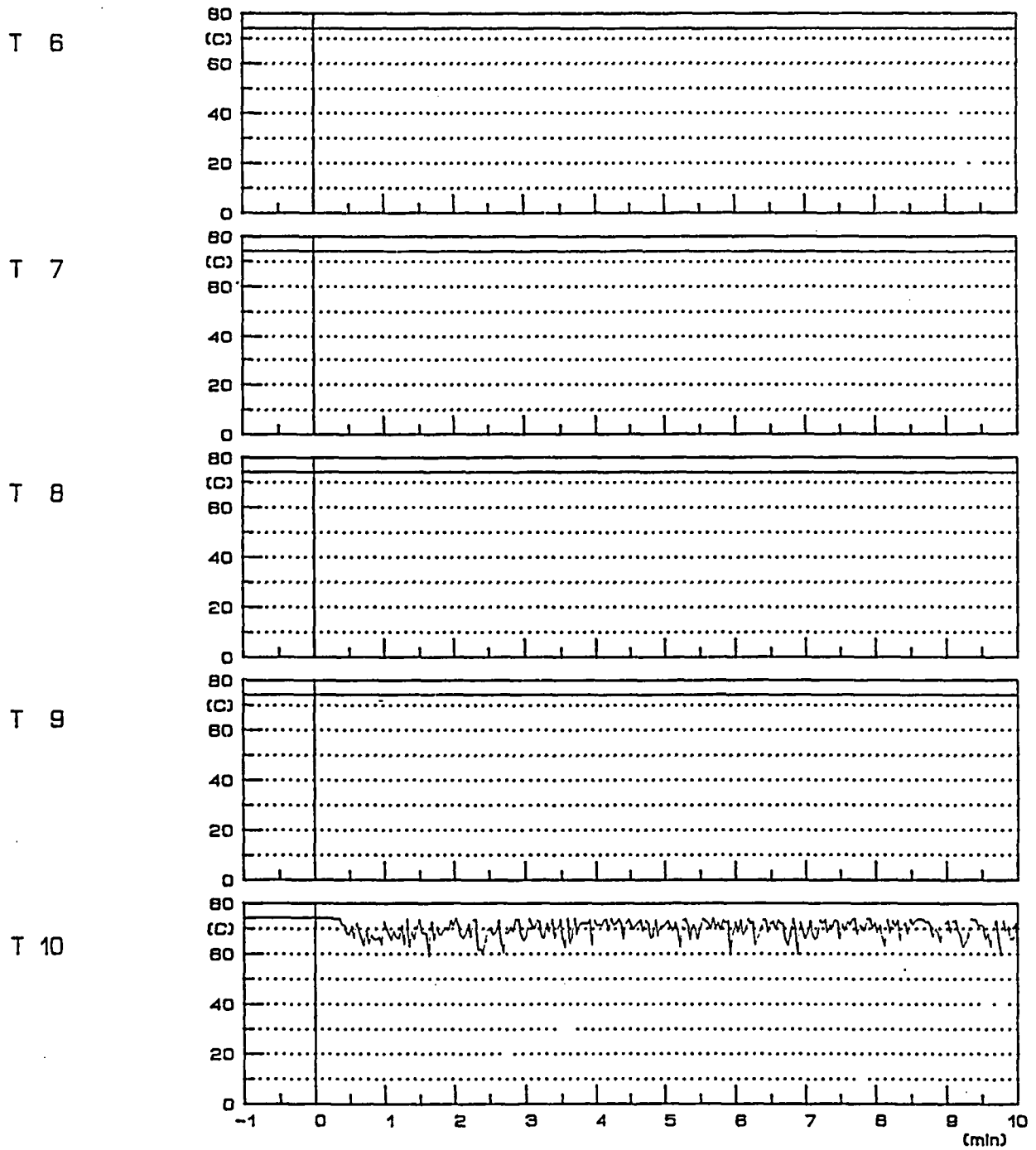


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 105

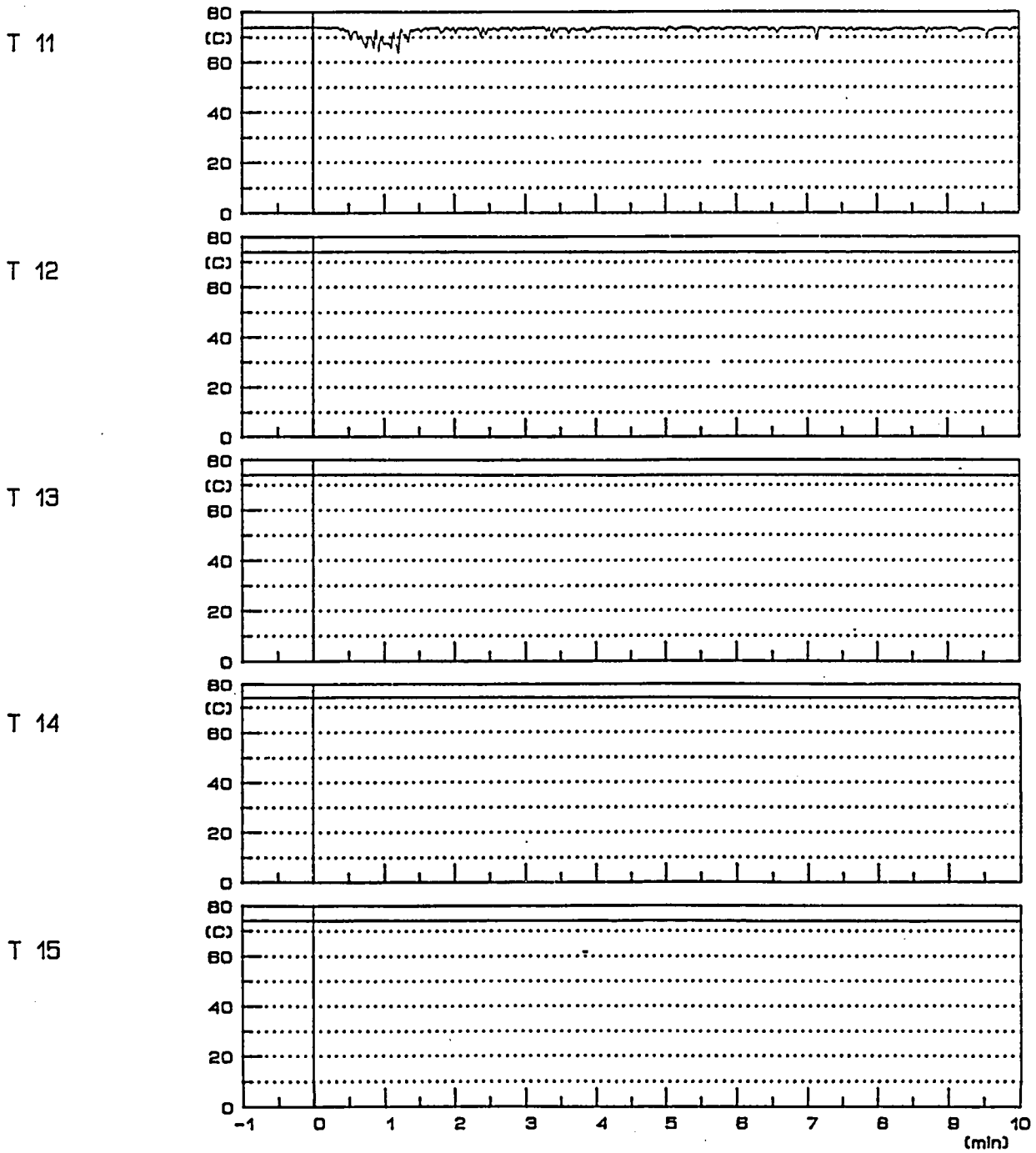
Q_A	=	10.4	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	105	Q_A	=	10.4	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1172.	kg/m^3

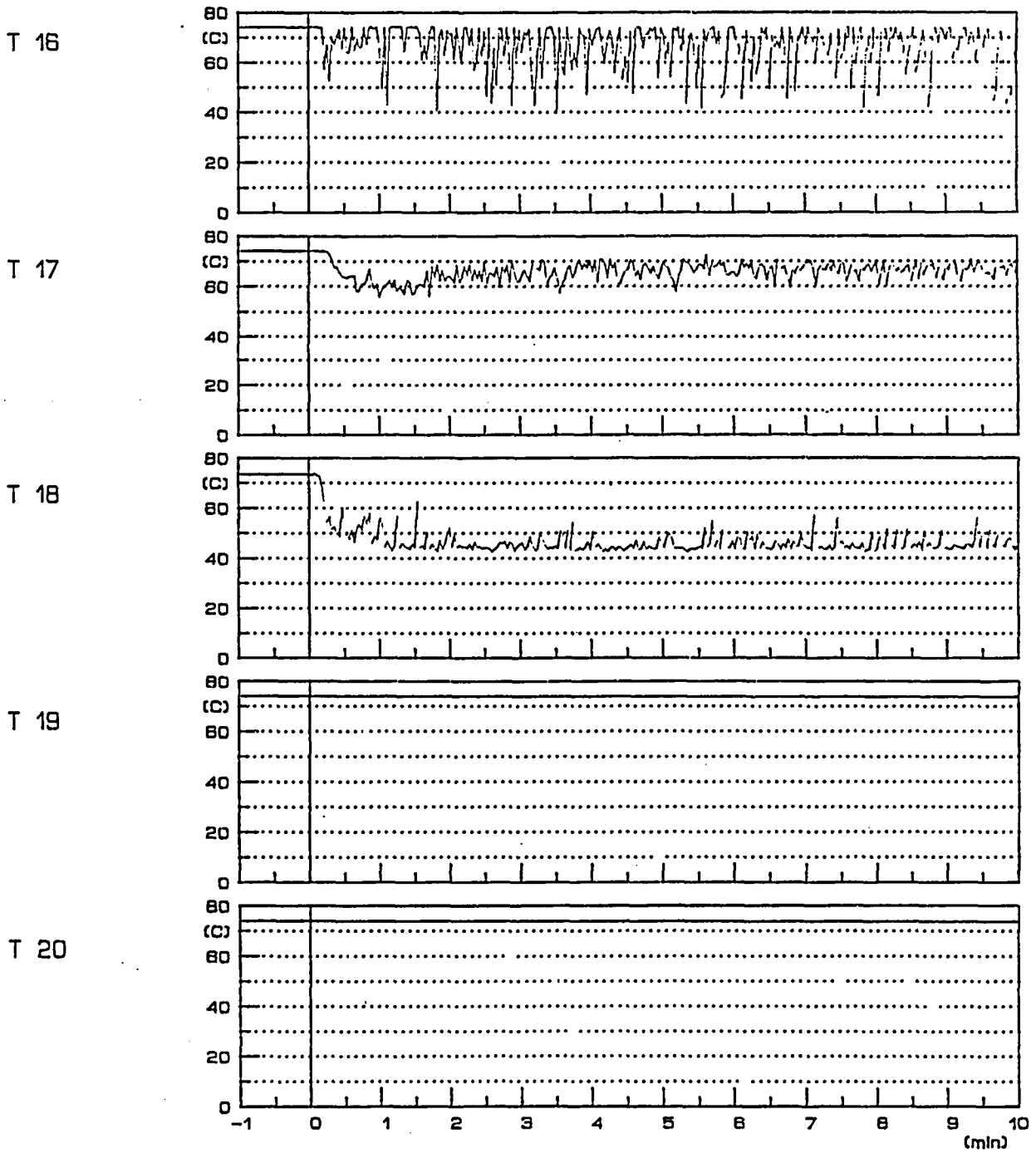


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 105

Q_A	=	10.4	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1172.	kg/m^3

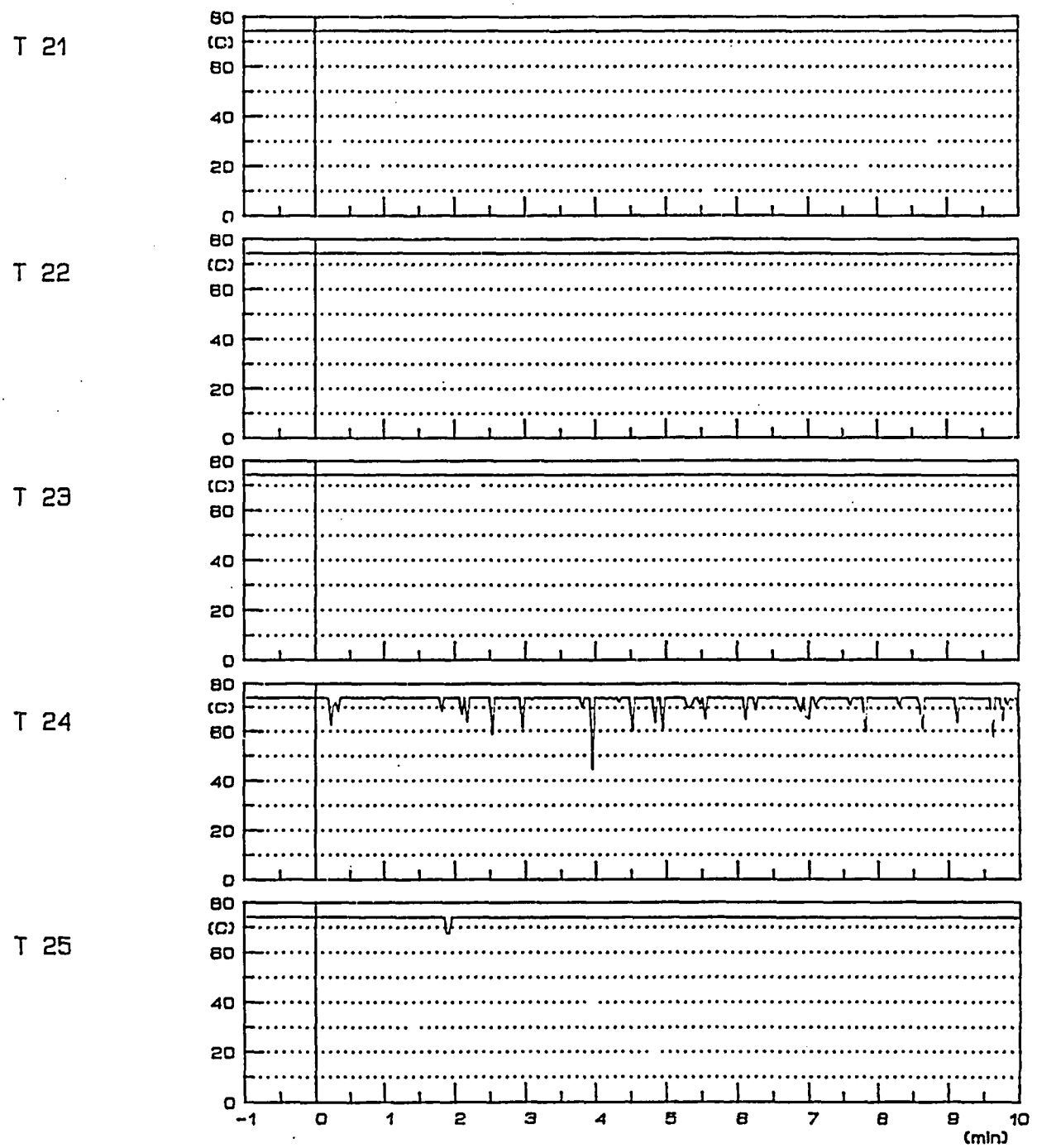


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 105

Q_A	=	10.4	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1172.	kg/m^3

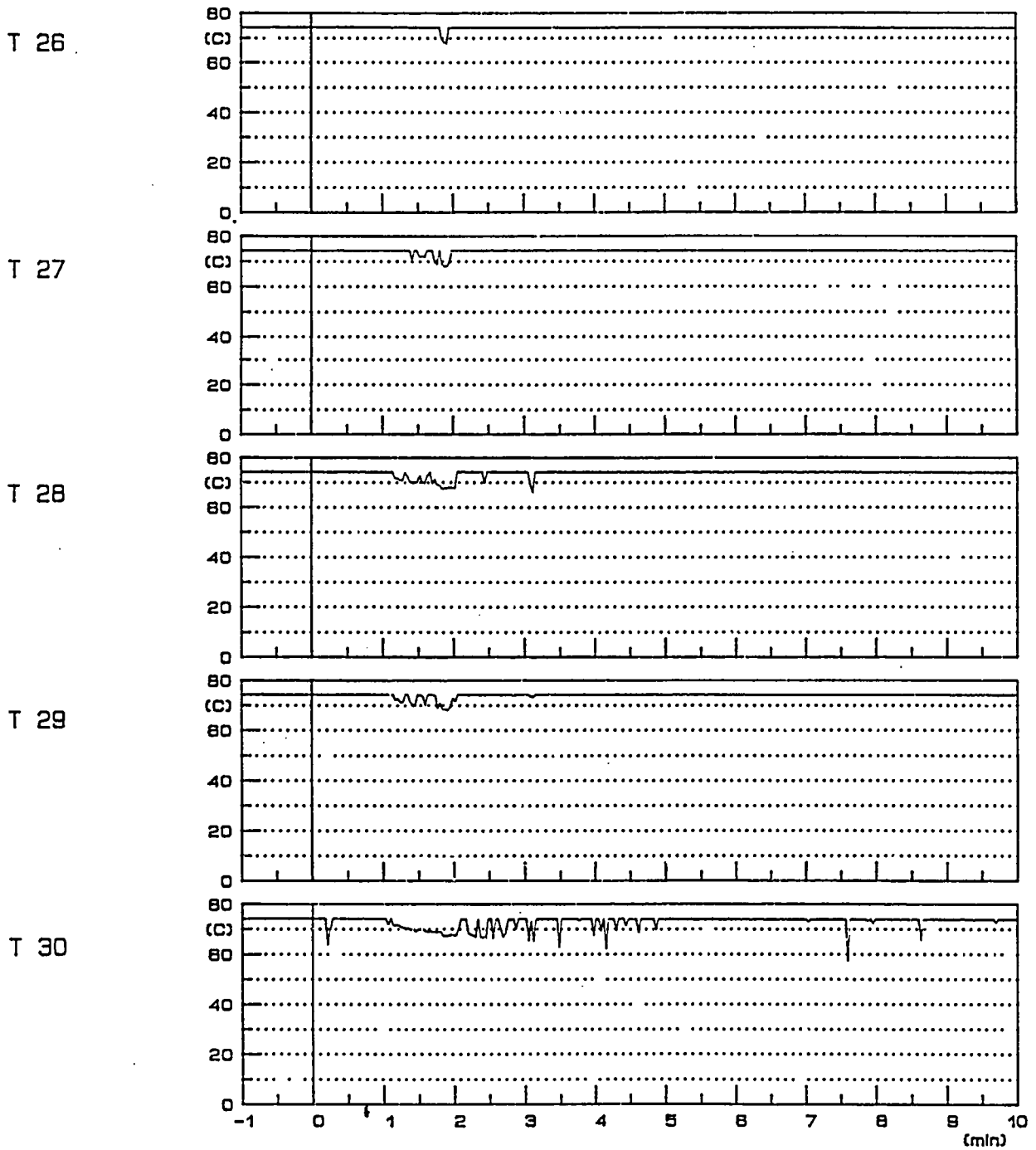


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 105

Q_A	=	10.4	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1172.	kg/m^3

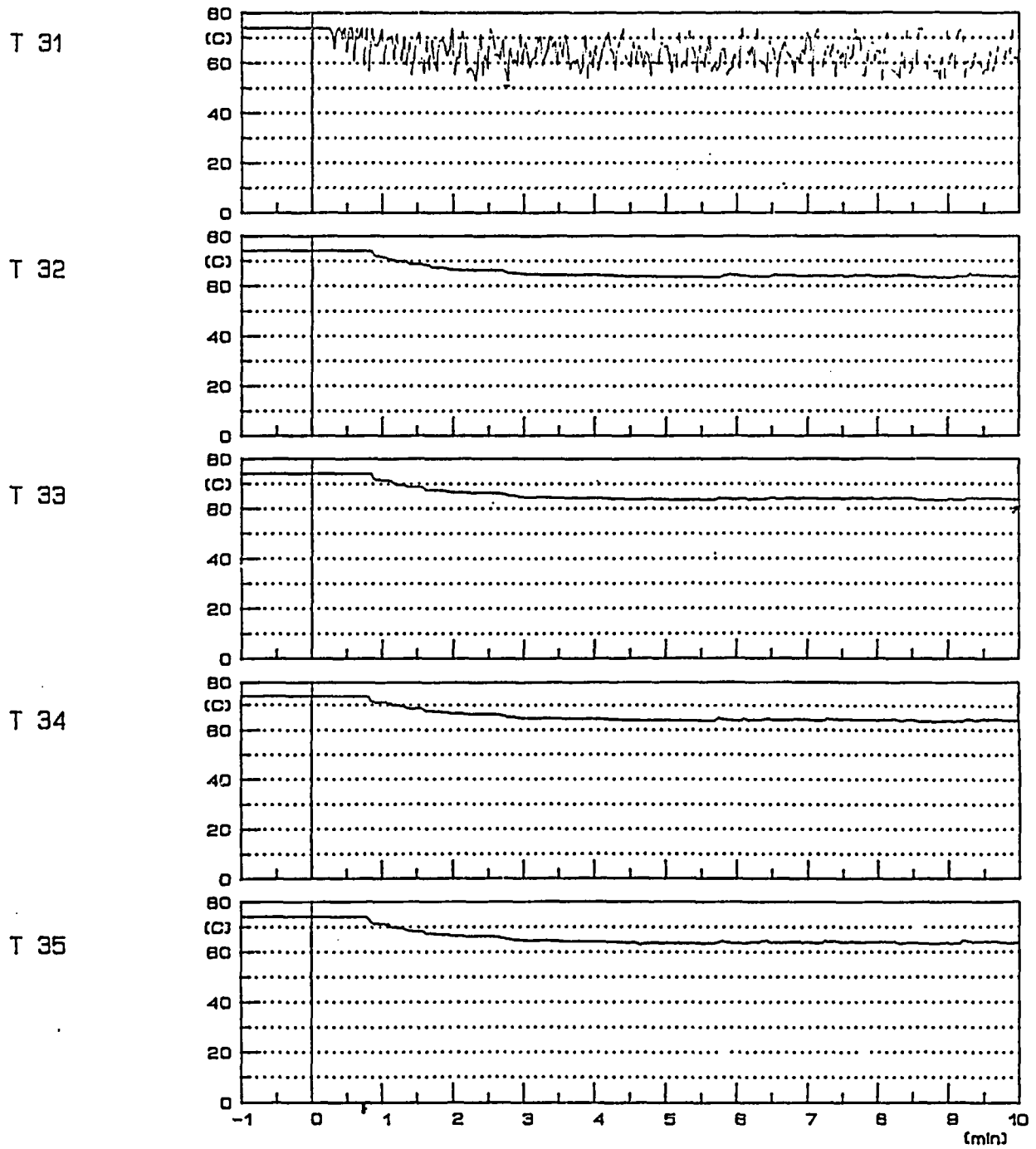


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 105

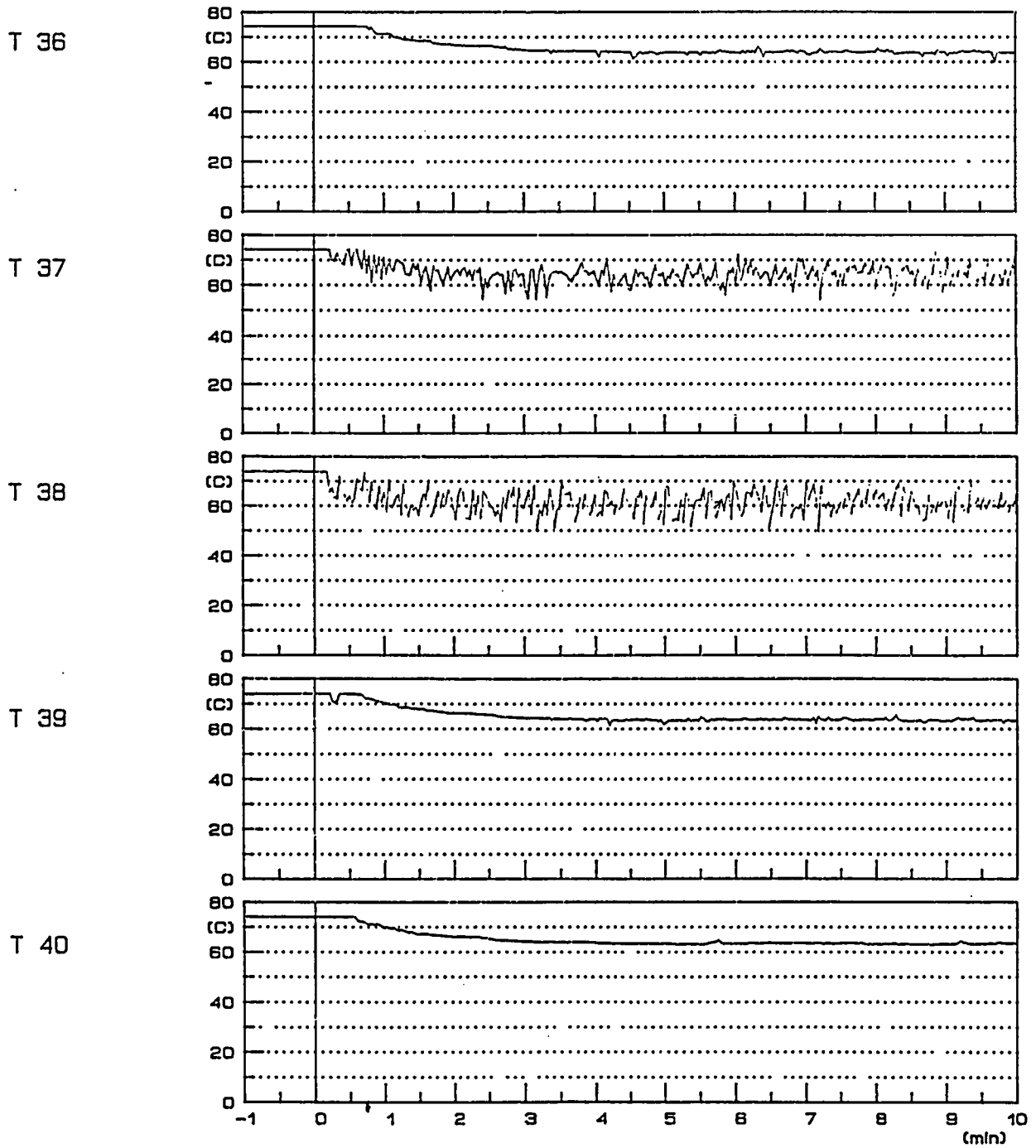
Q_A	=	10.4	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	105	Q_A =	10.4	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	1.48	dm^3/s
					ρ =	1172.	kg/m^3

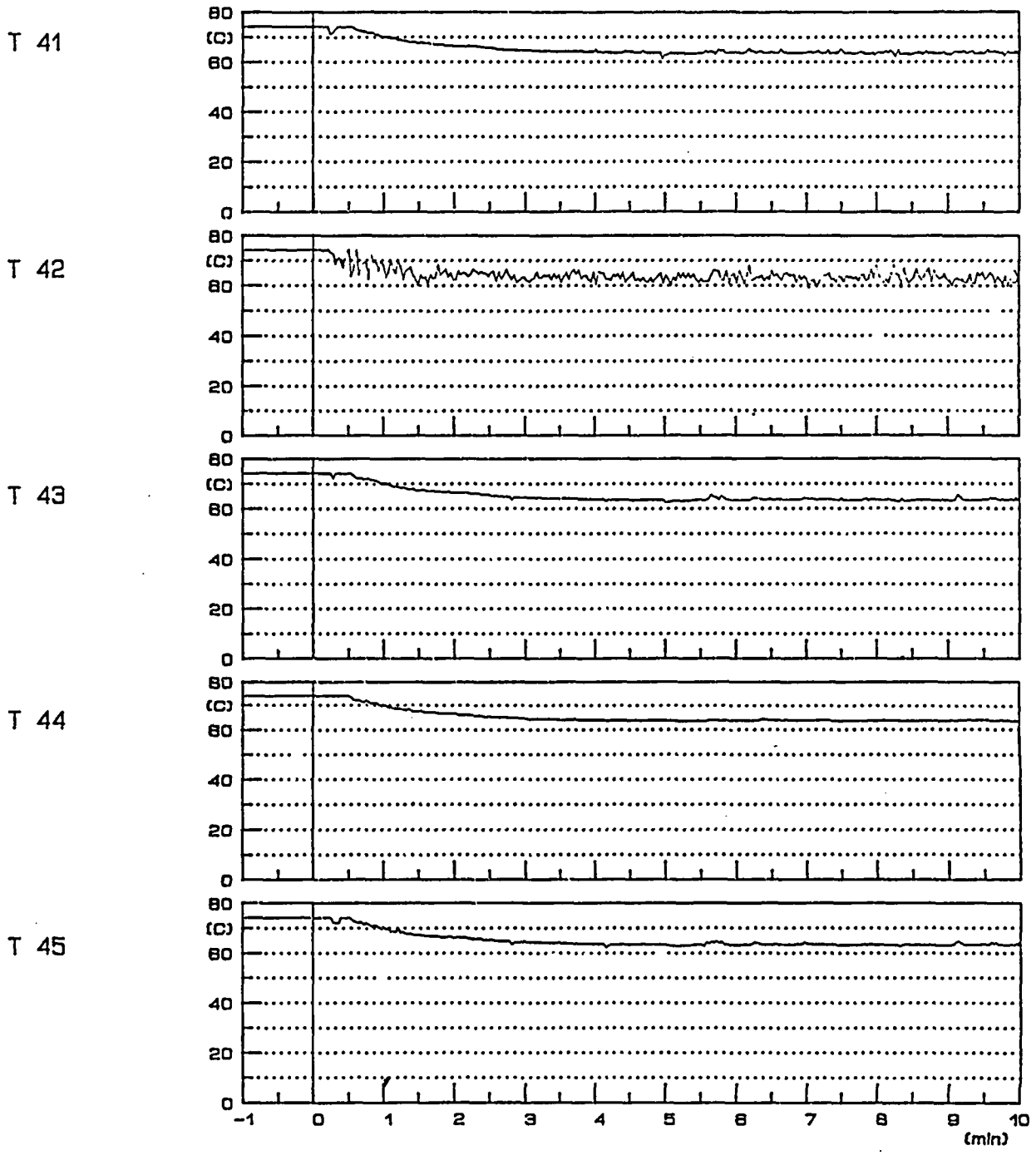


20. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 105

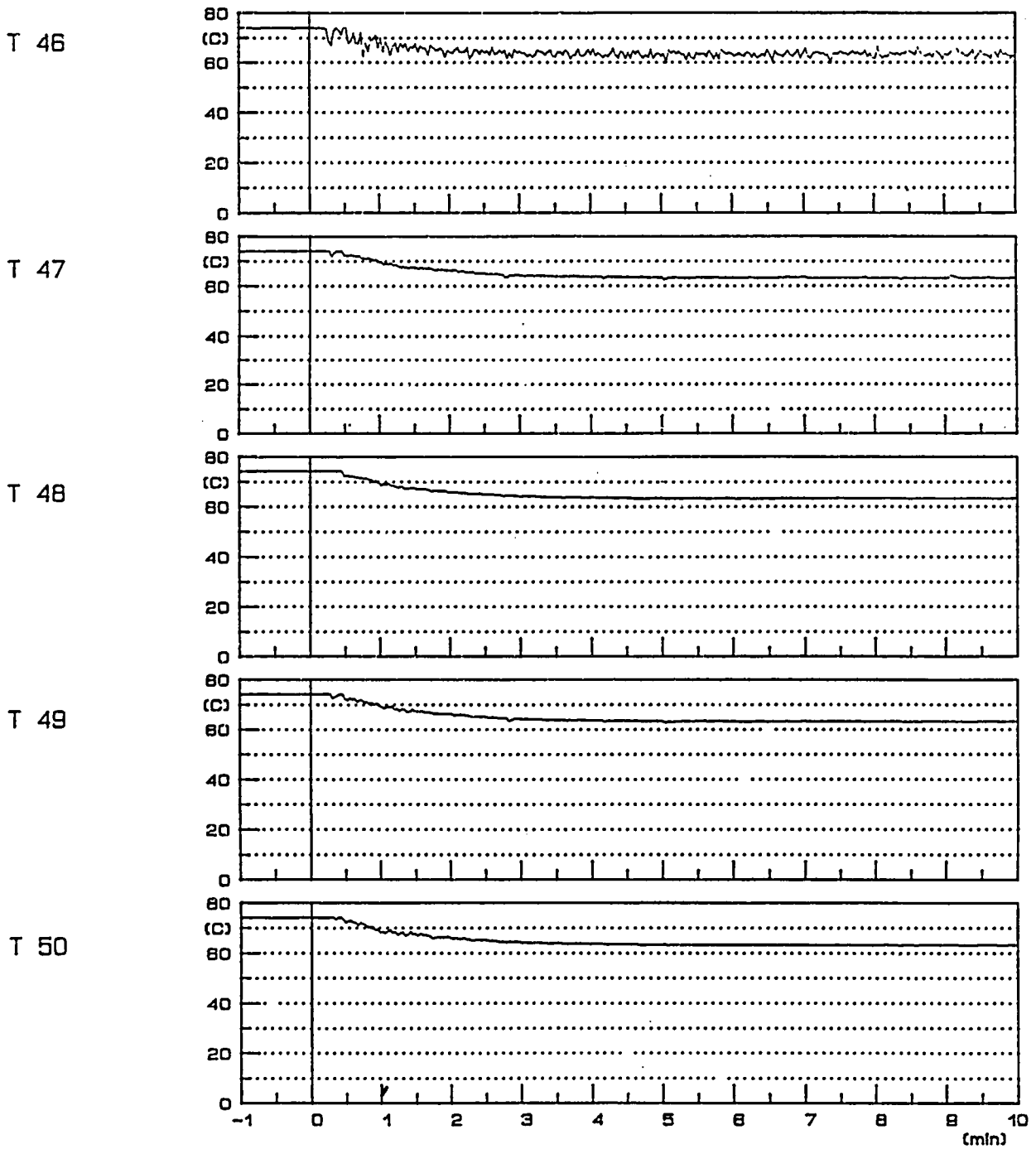
Q_A	=	10.4	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

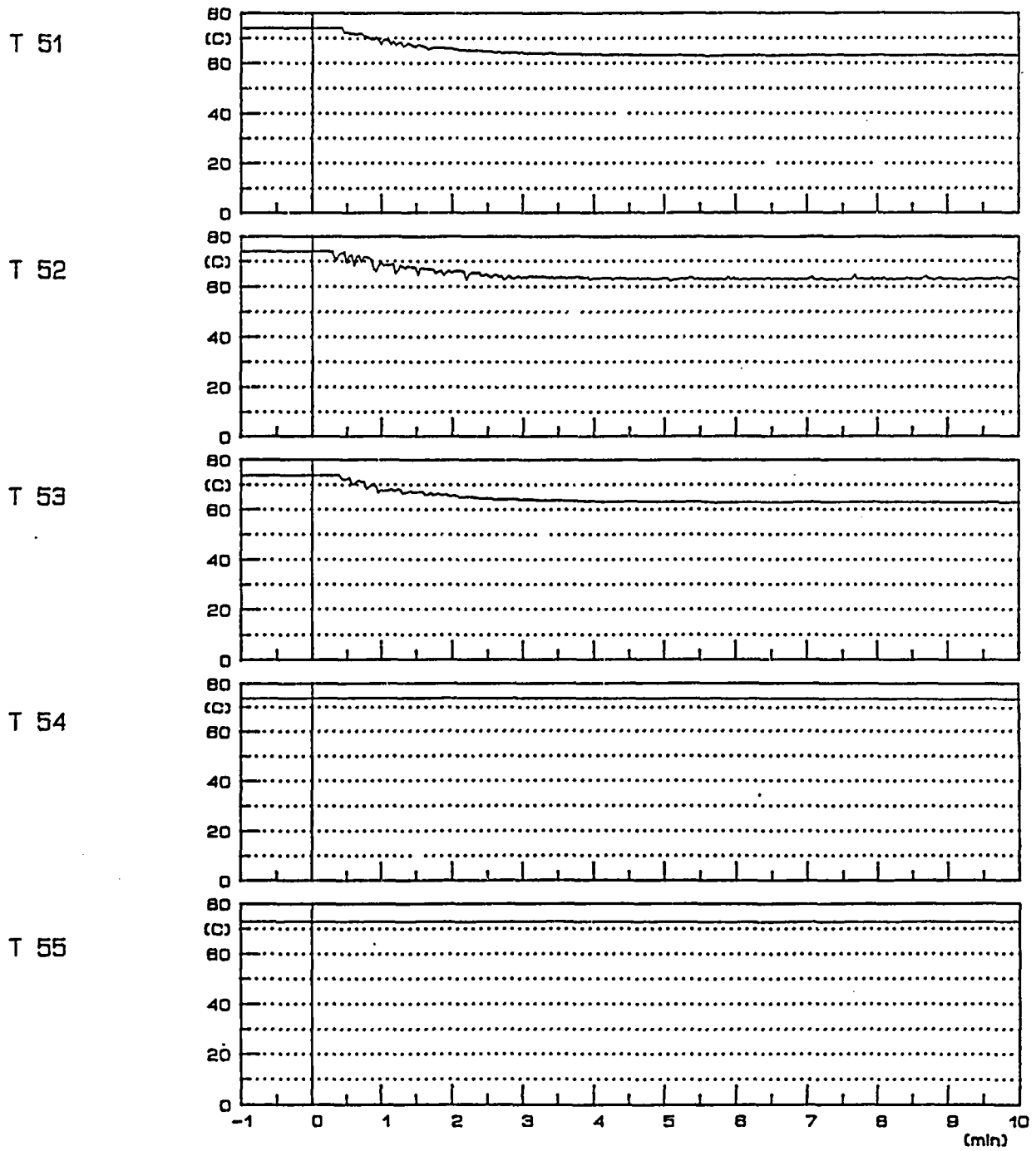
Test :	105	Q_A =	10.4	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	1.48	dm^3/s
					ρ =	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

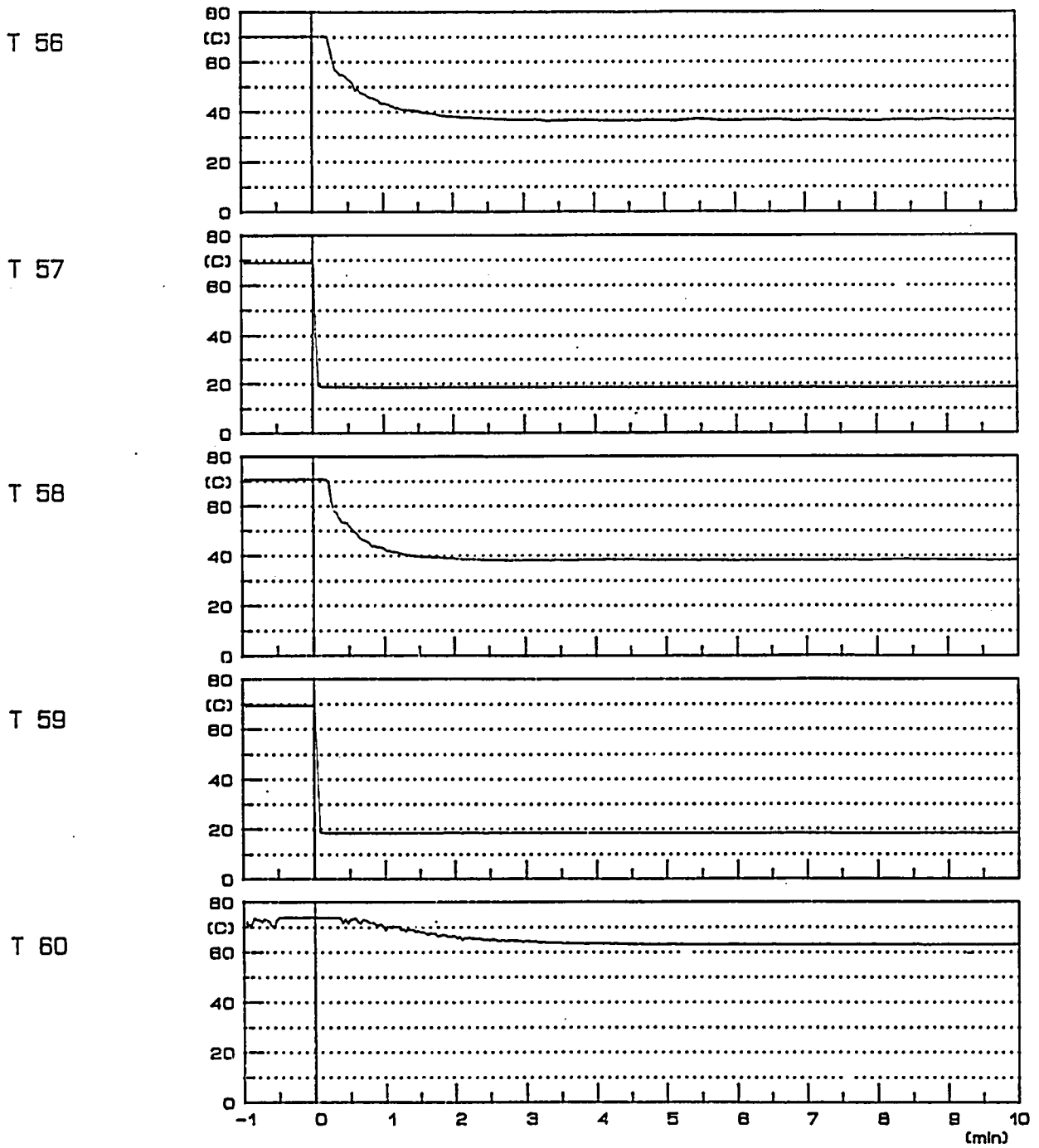
Test :	105	Q_A =	10.4	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	1.48	dm^3/s
					ρ =	1172.	kg/m^3



20. 6.1985

FLUID AND THERMAL MIXING TESTS

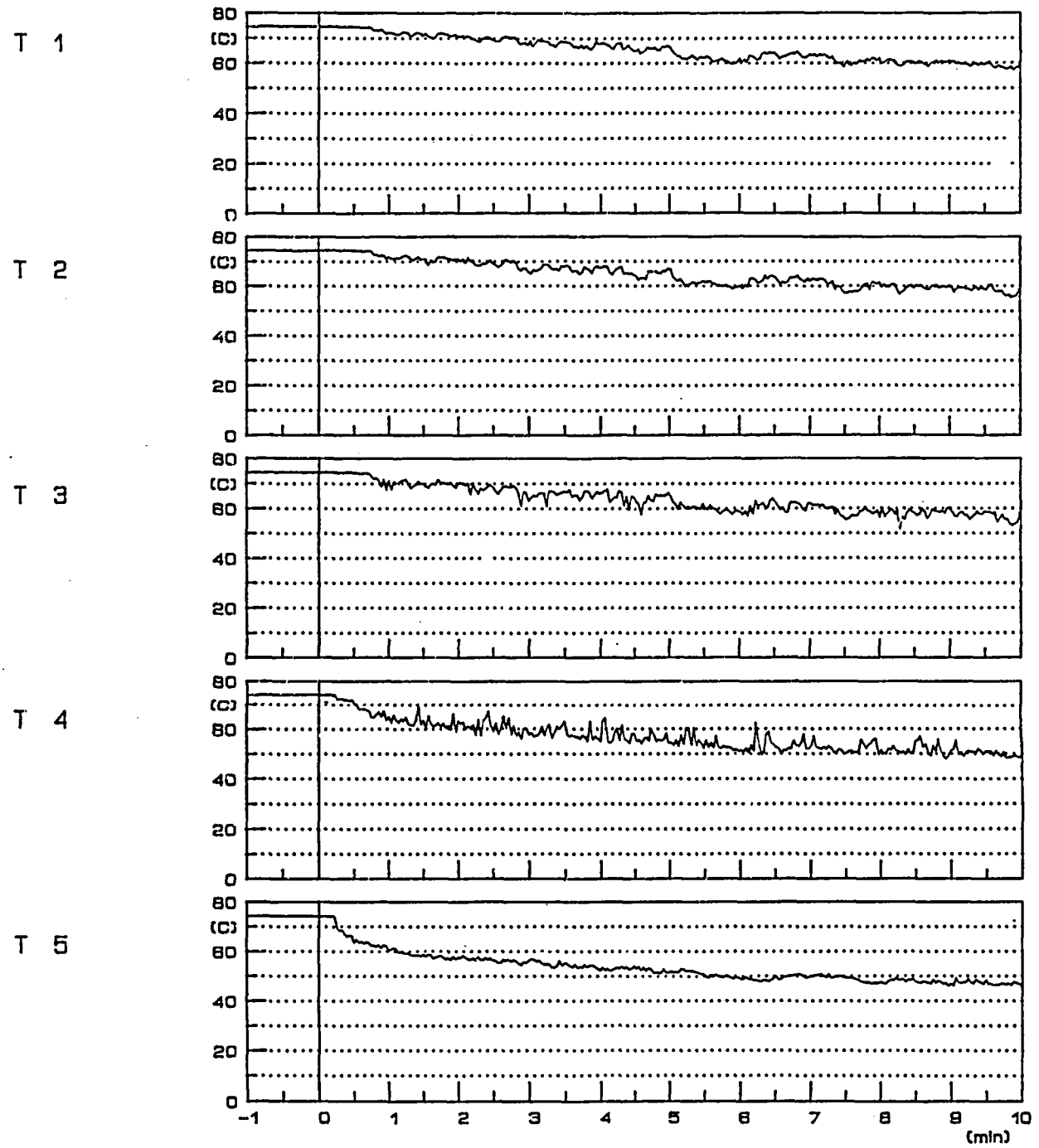
Test :	105	Q_A =	10.4	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	1.48	dm^3/s
					ρ =	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

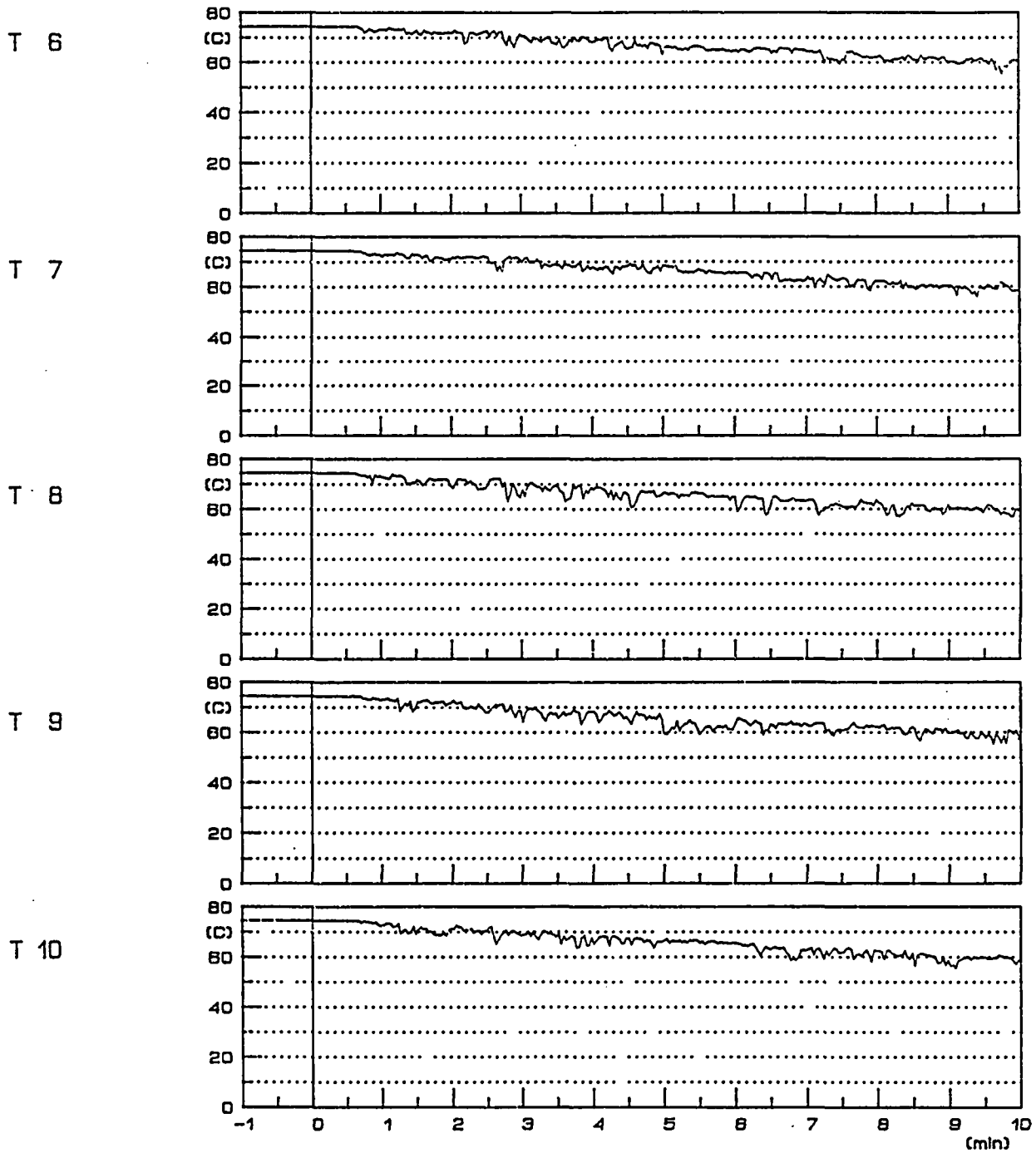
Test :	106	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

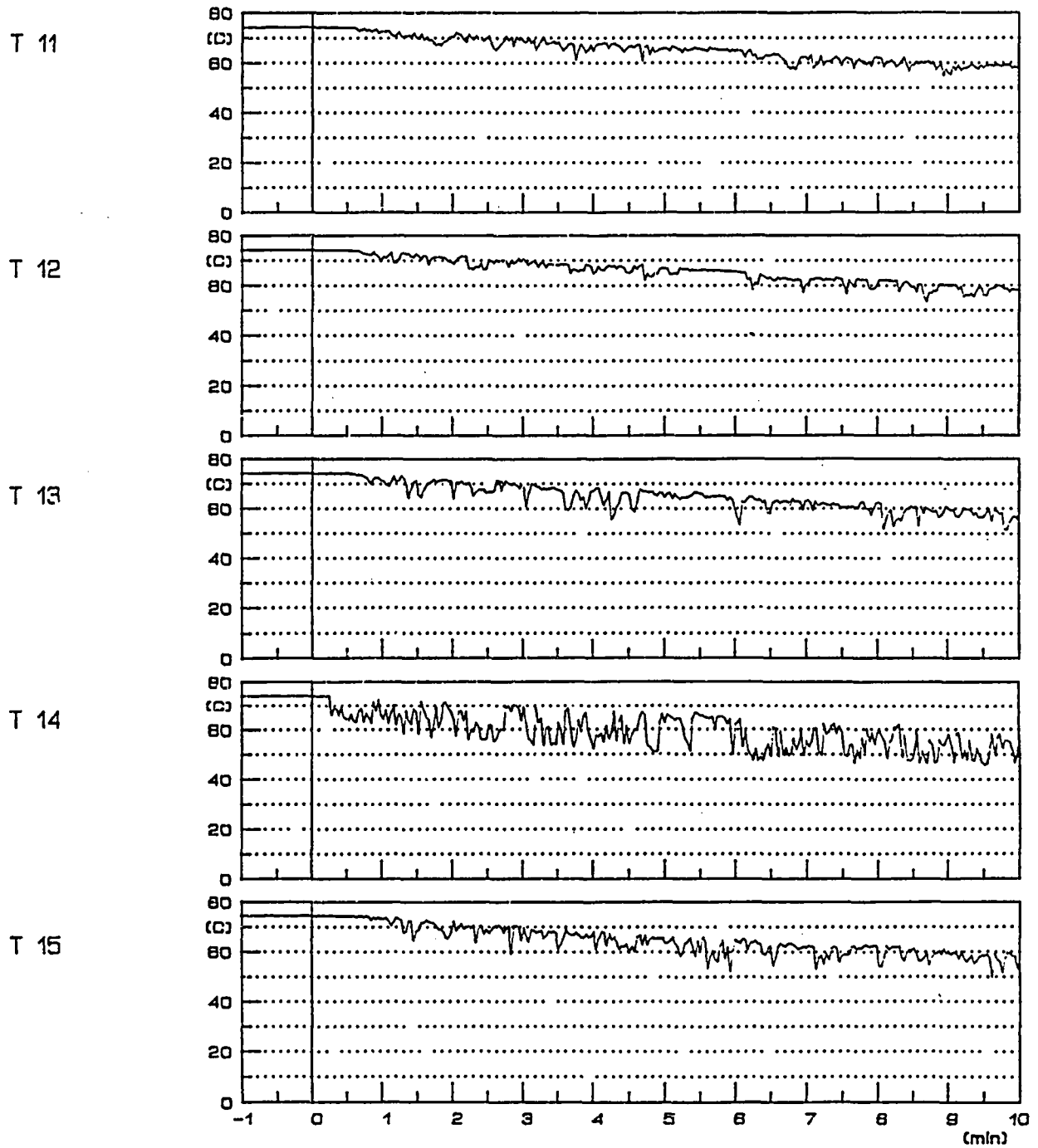
Test :	106	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

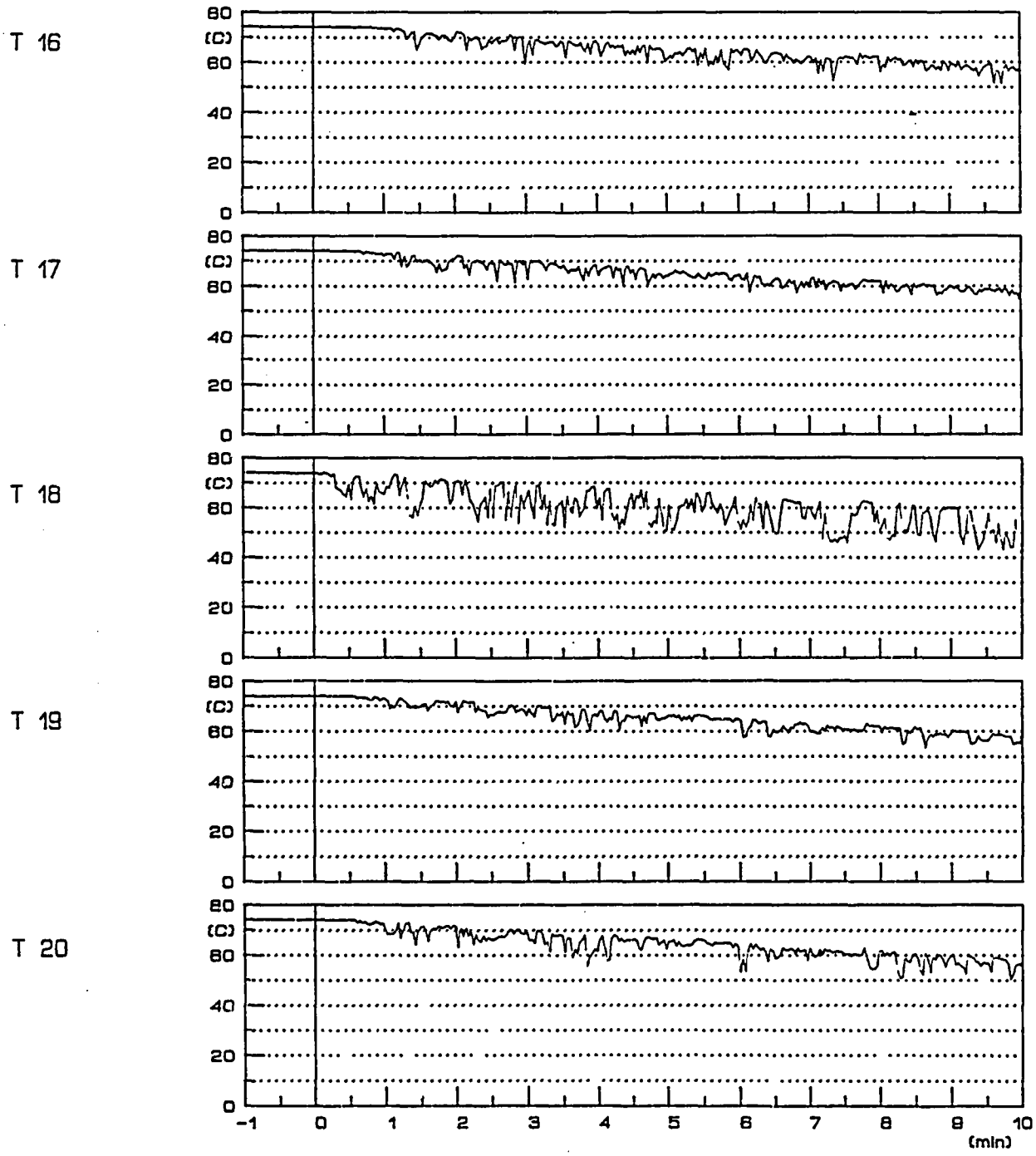
Test :	106								
		Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

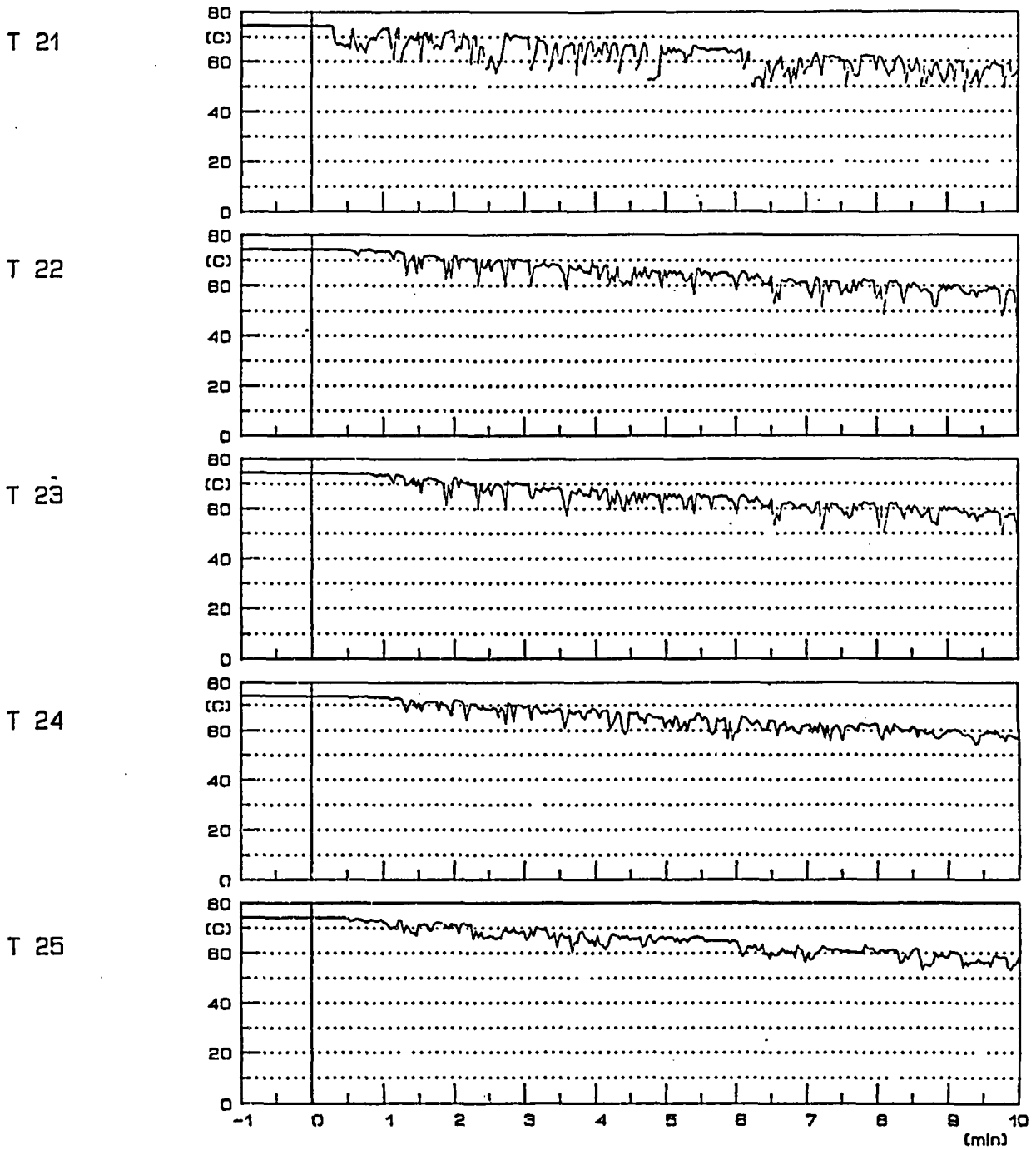
Test :	106	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

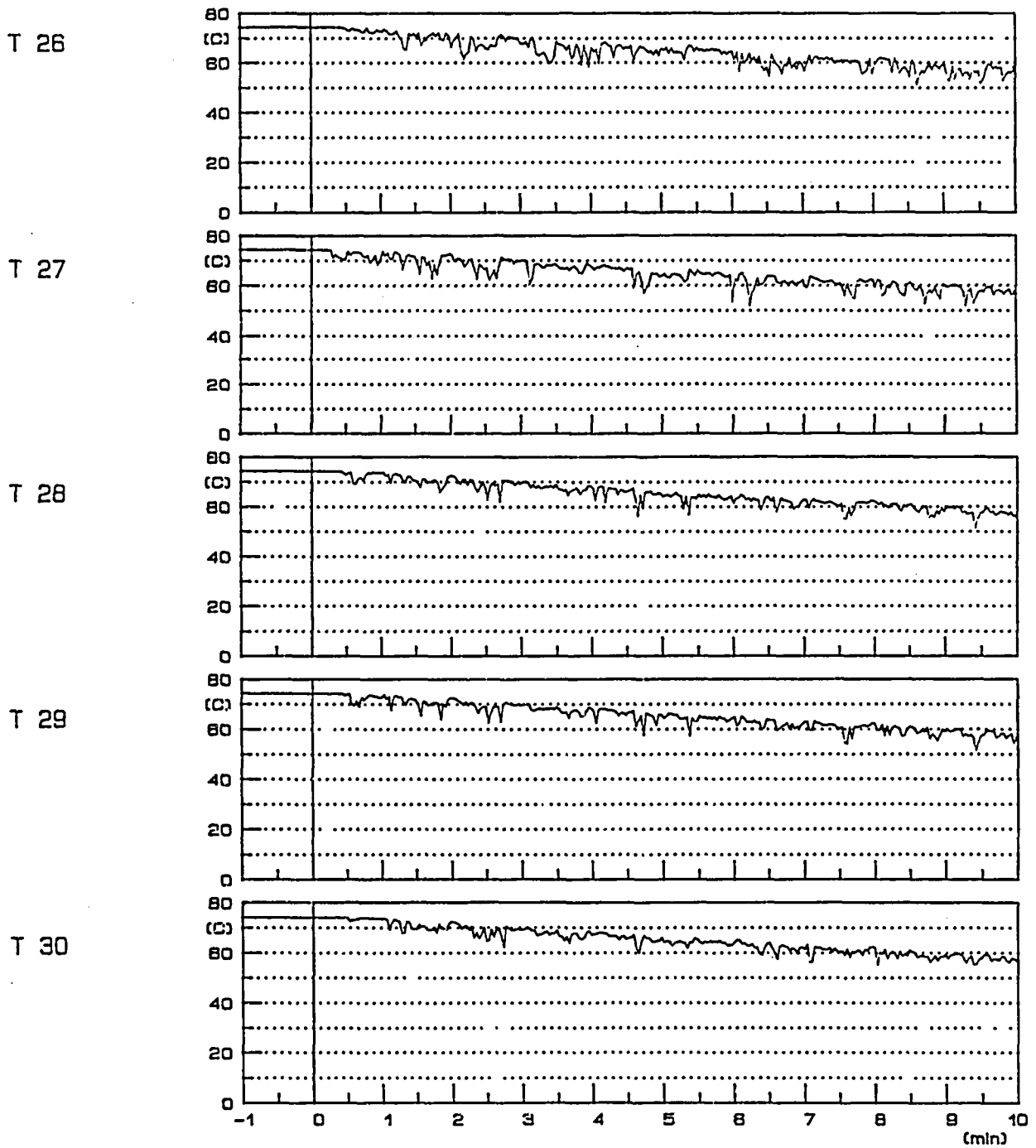
Test :	106	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

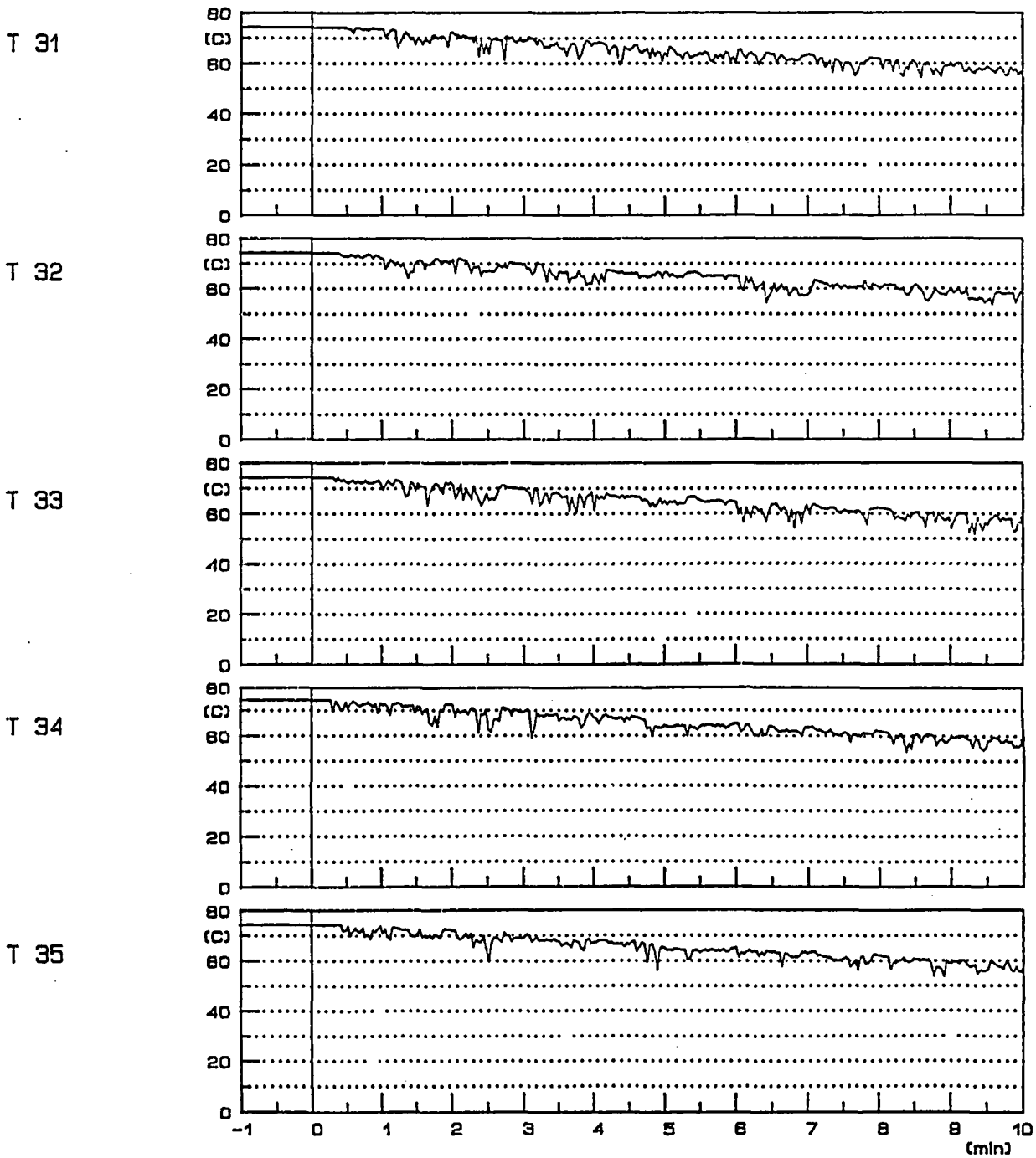
Test :	106								
		Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

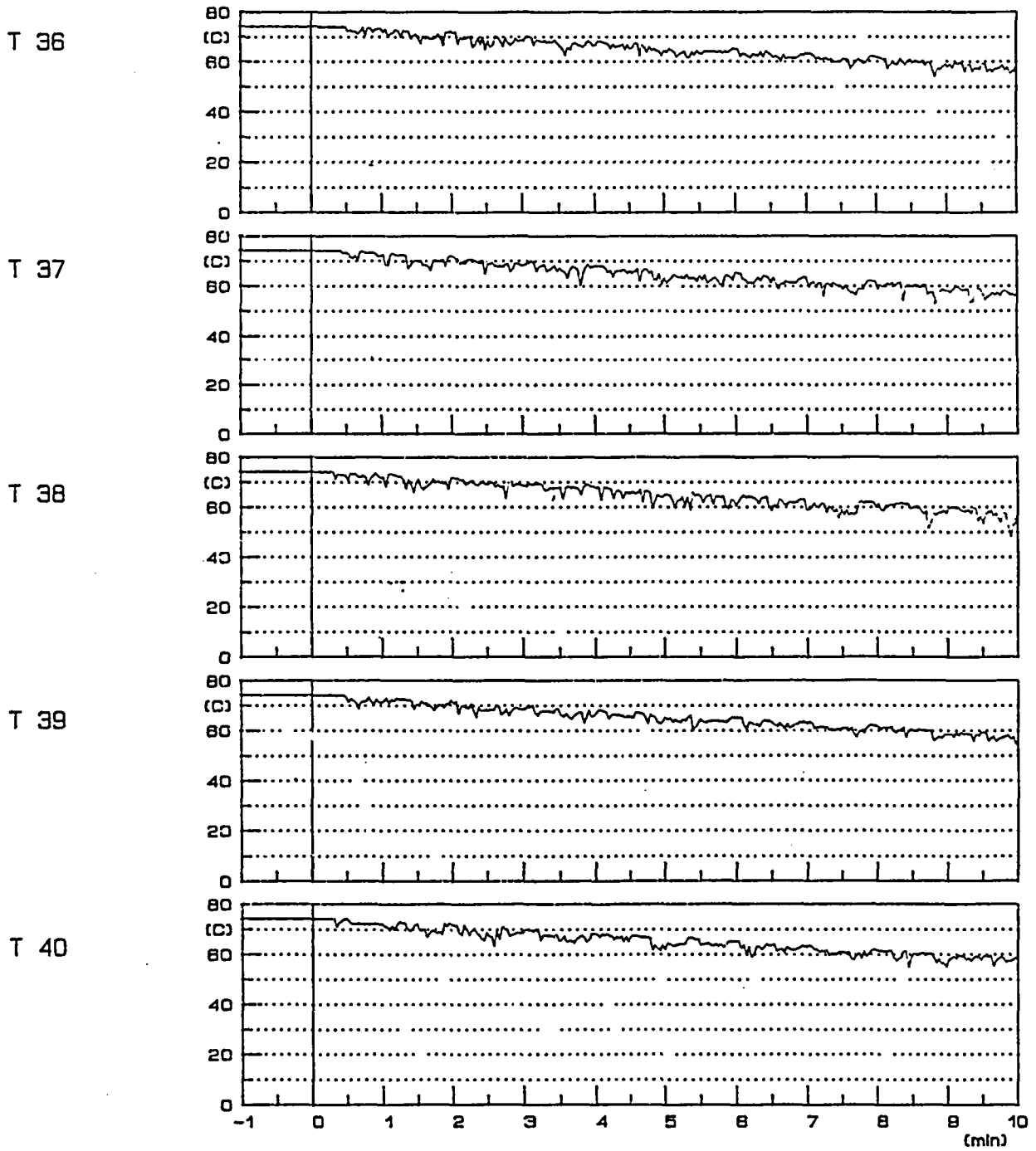
Test :	106	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

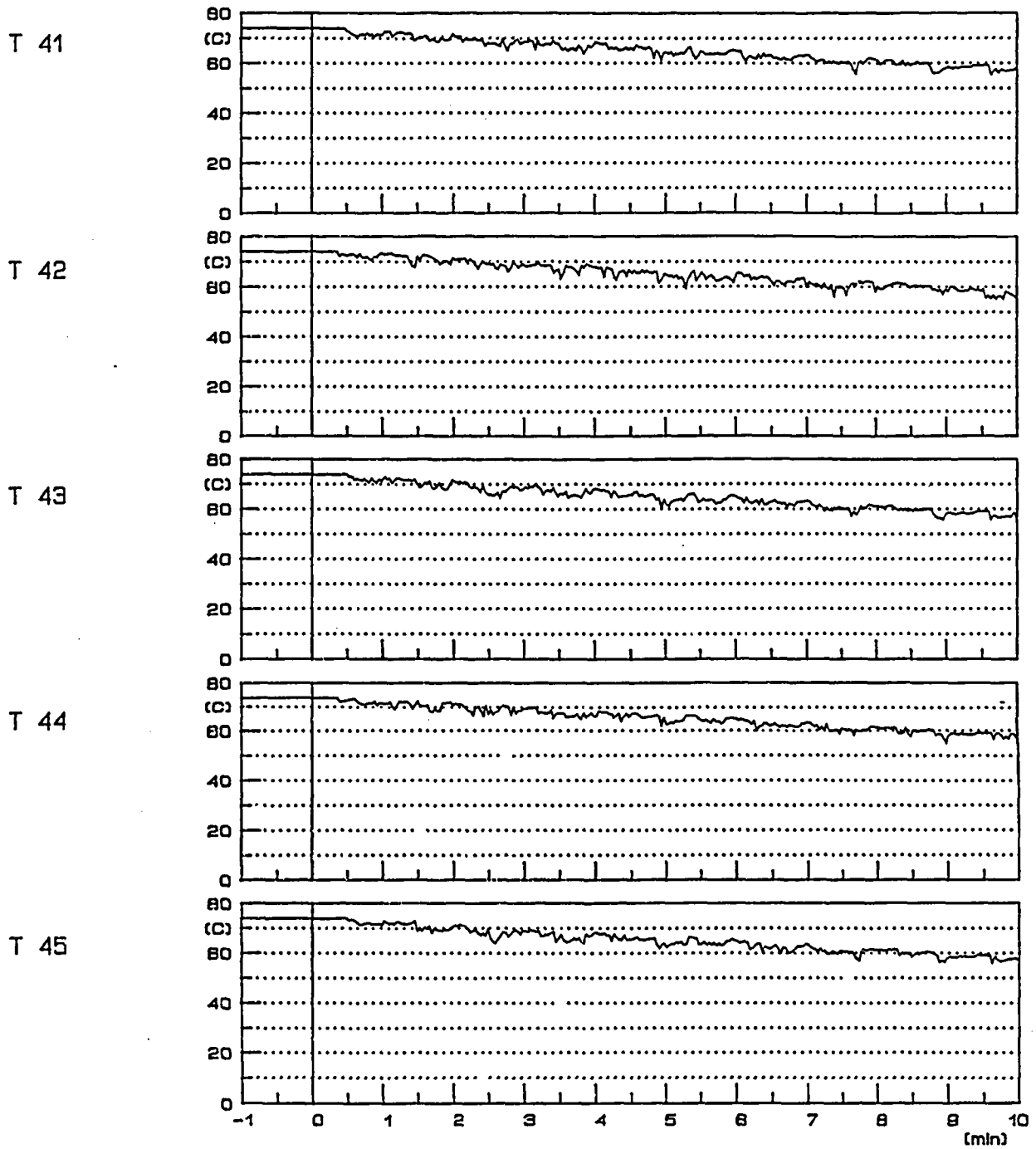
Test :	106							
		Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

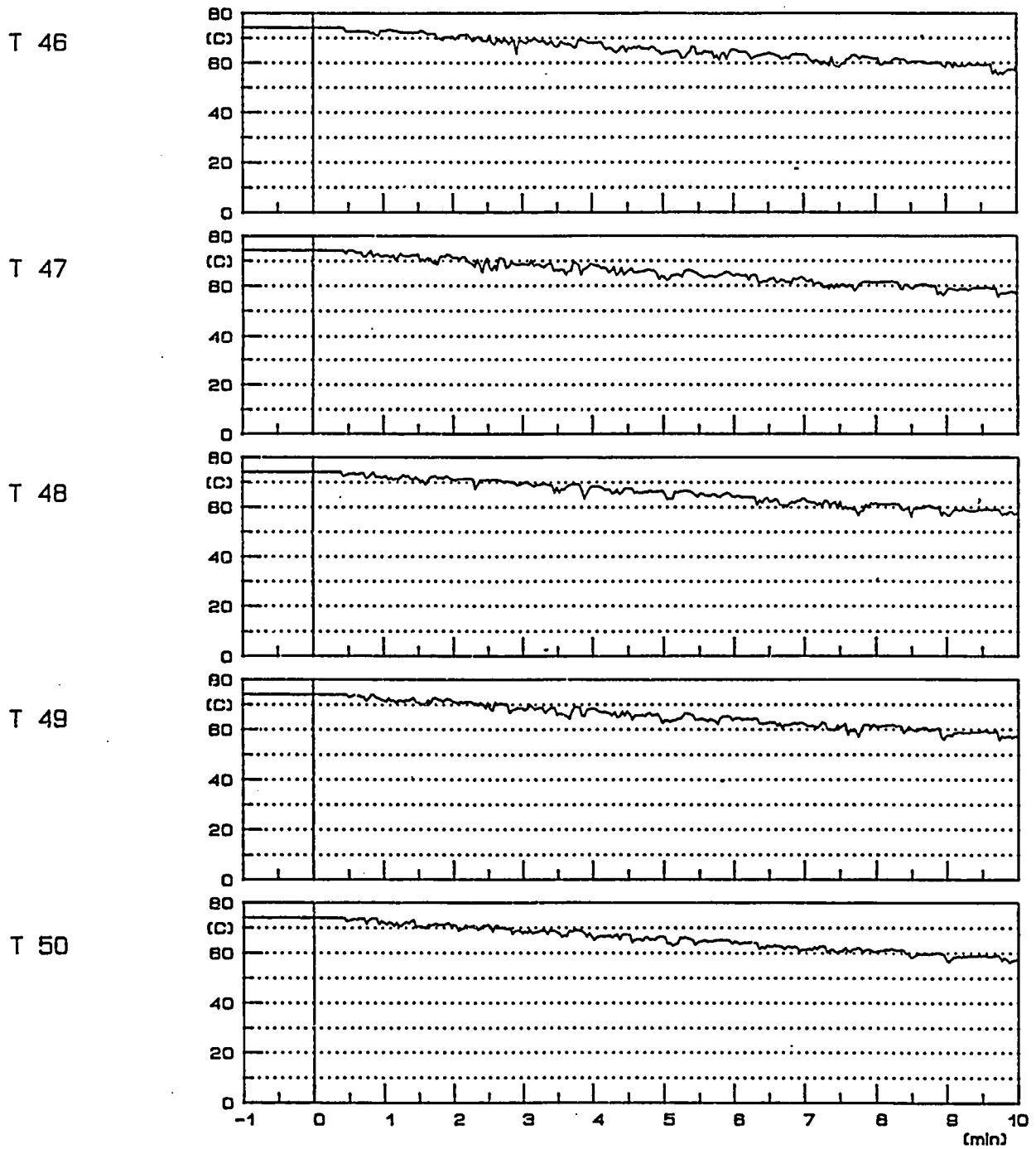
Test :	106	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

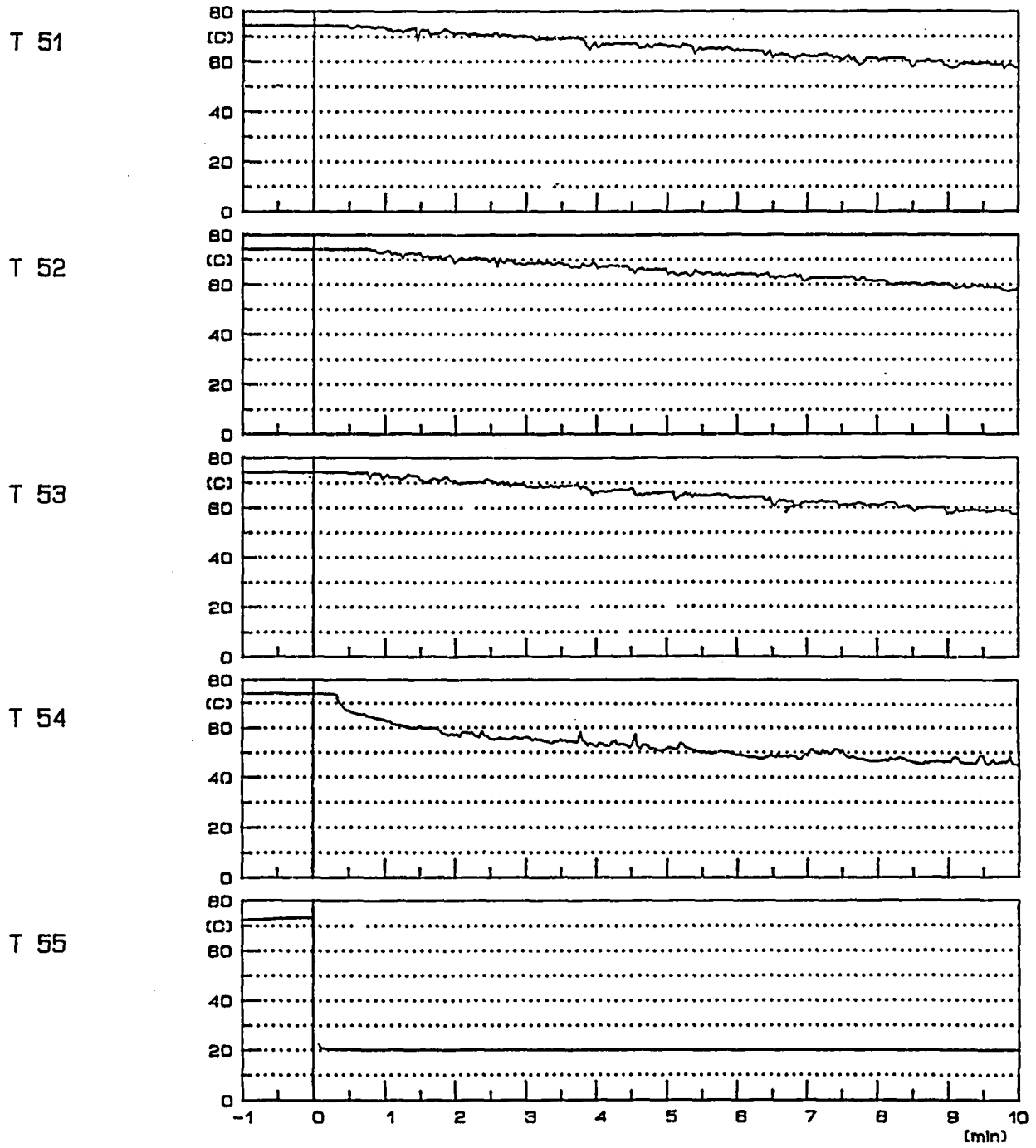
Test :	106							
		Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

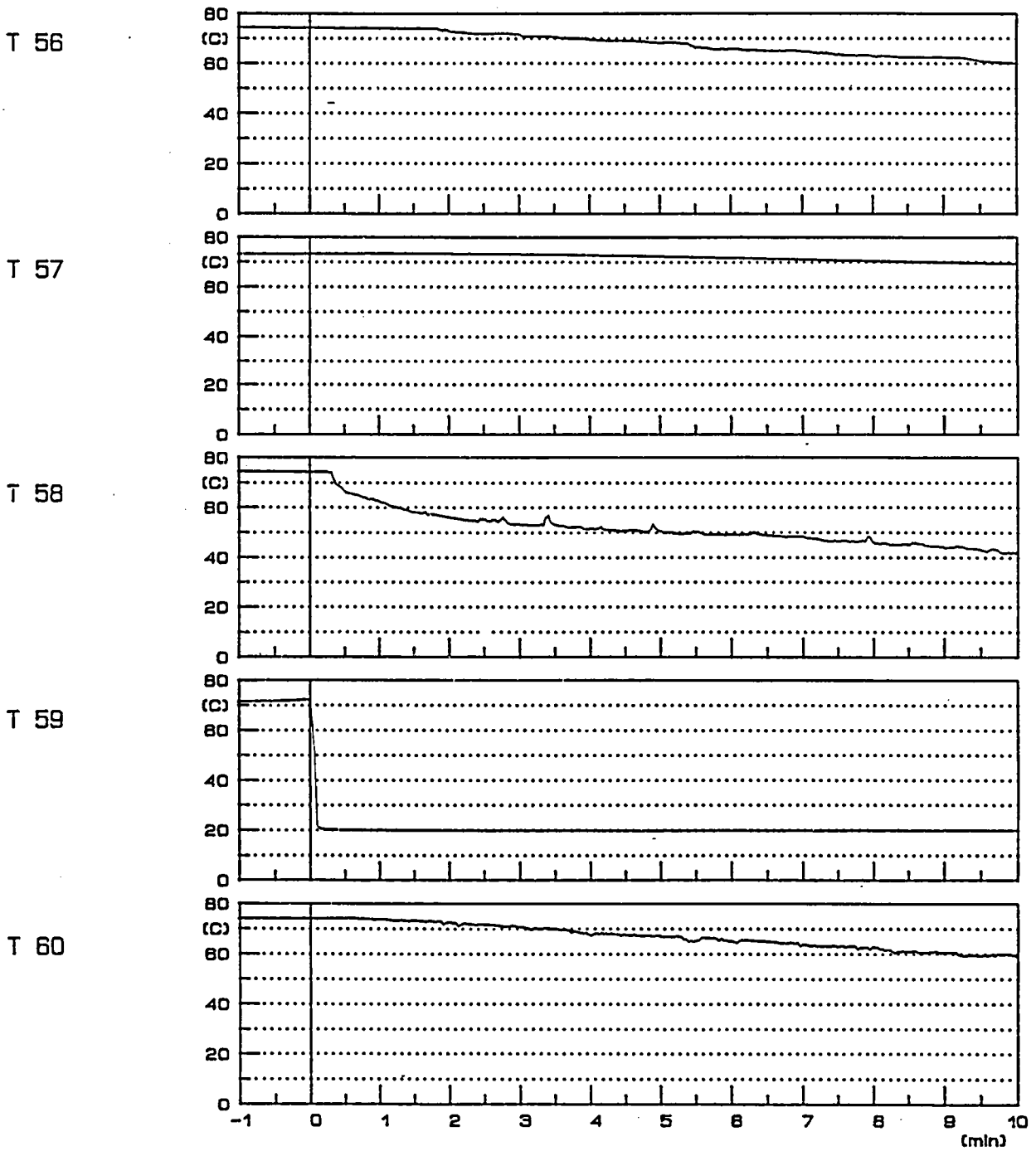
Test :	106	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



25. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	106							
		Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3

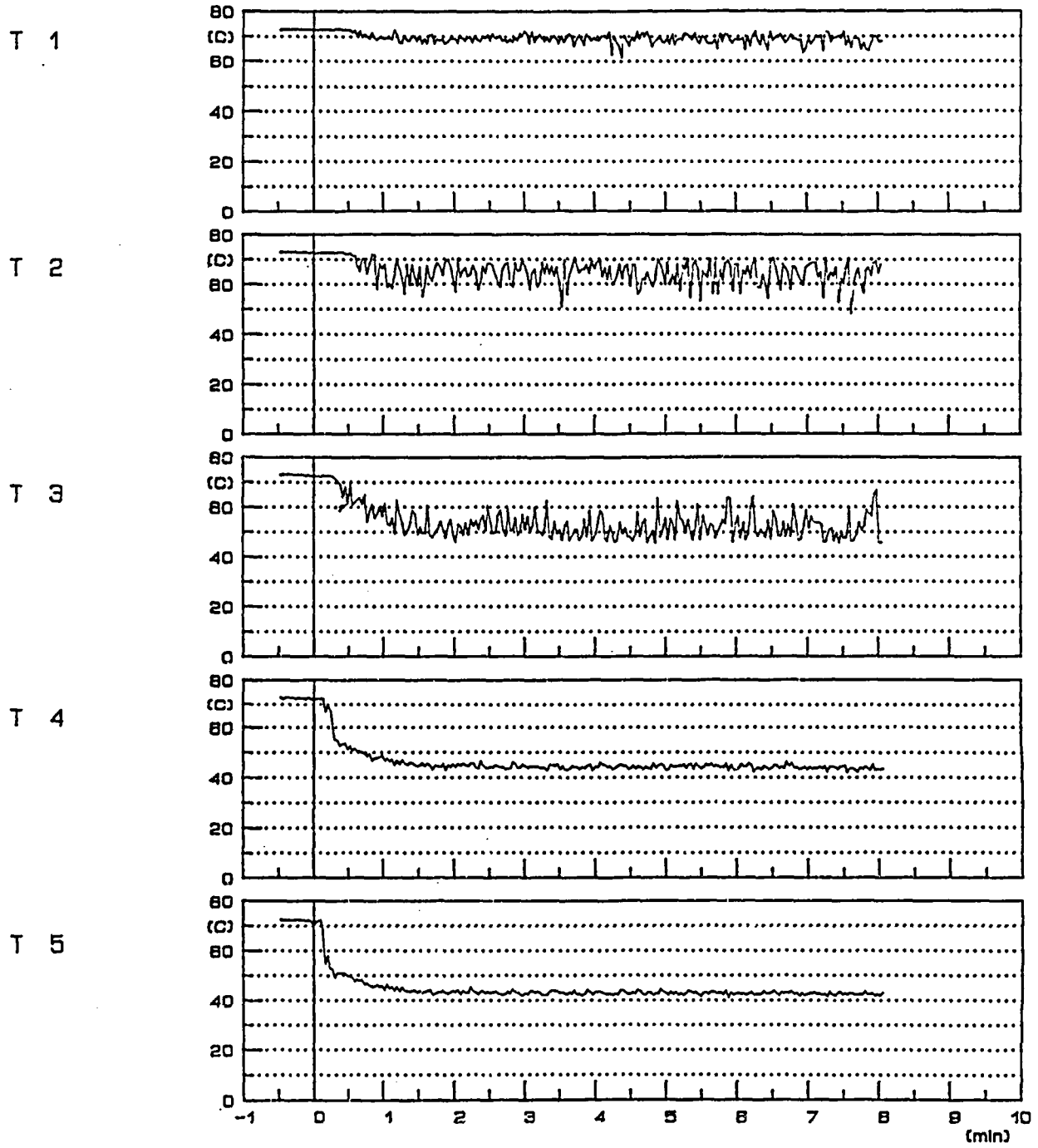


27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 107

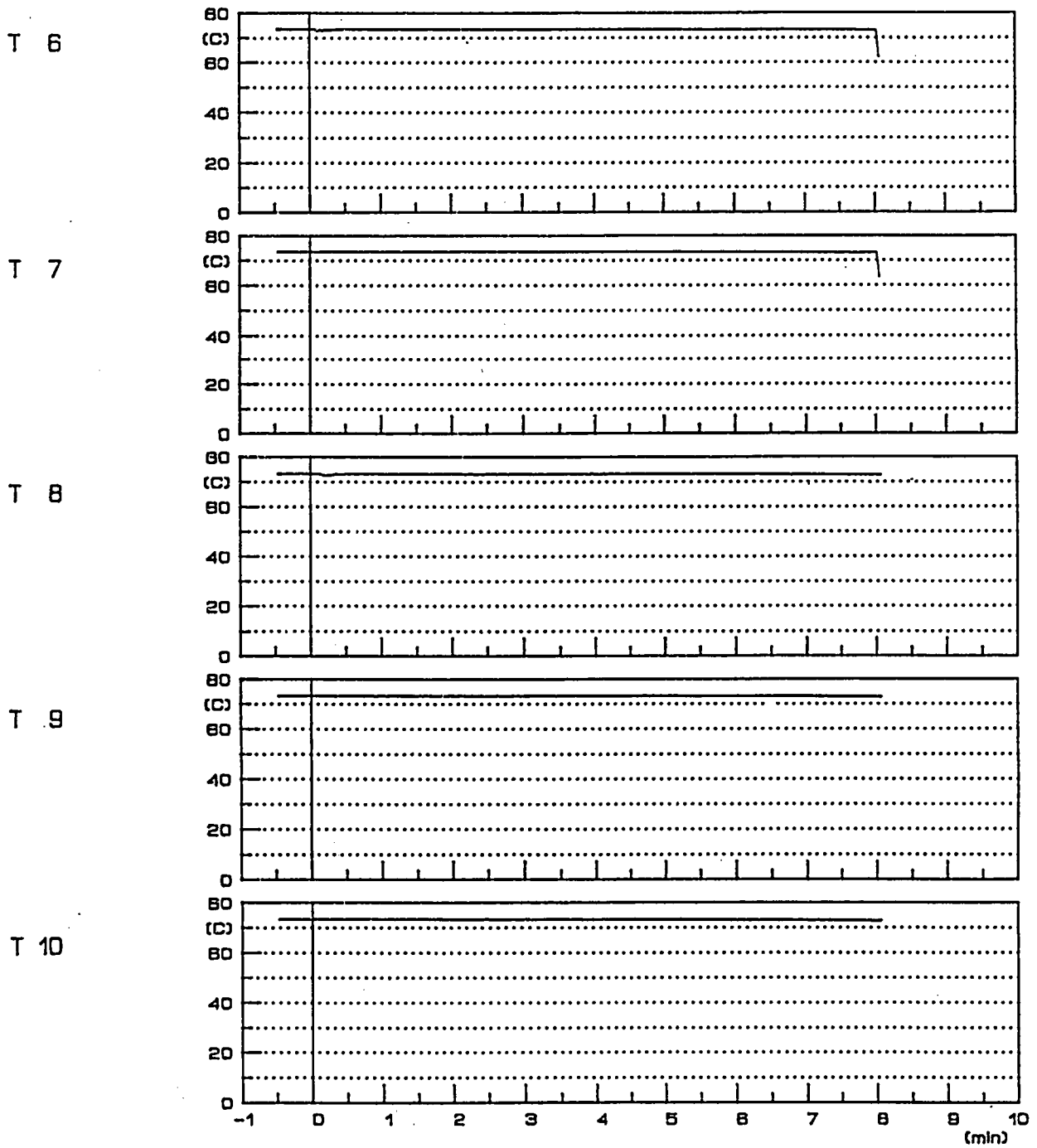
Q_c	=	14.8	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3



27. 6.1985

FLUID AND THERMAL MIXING TESTS

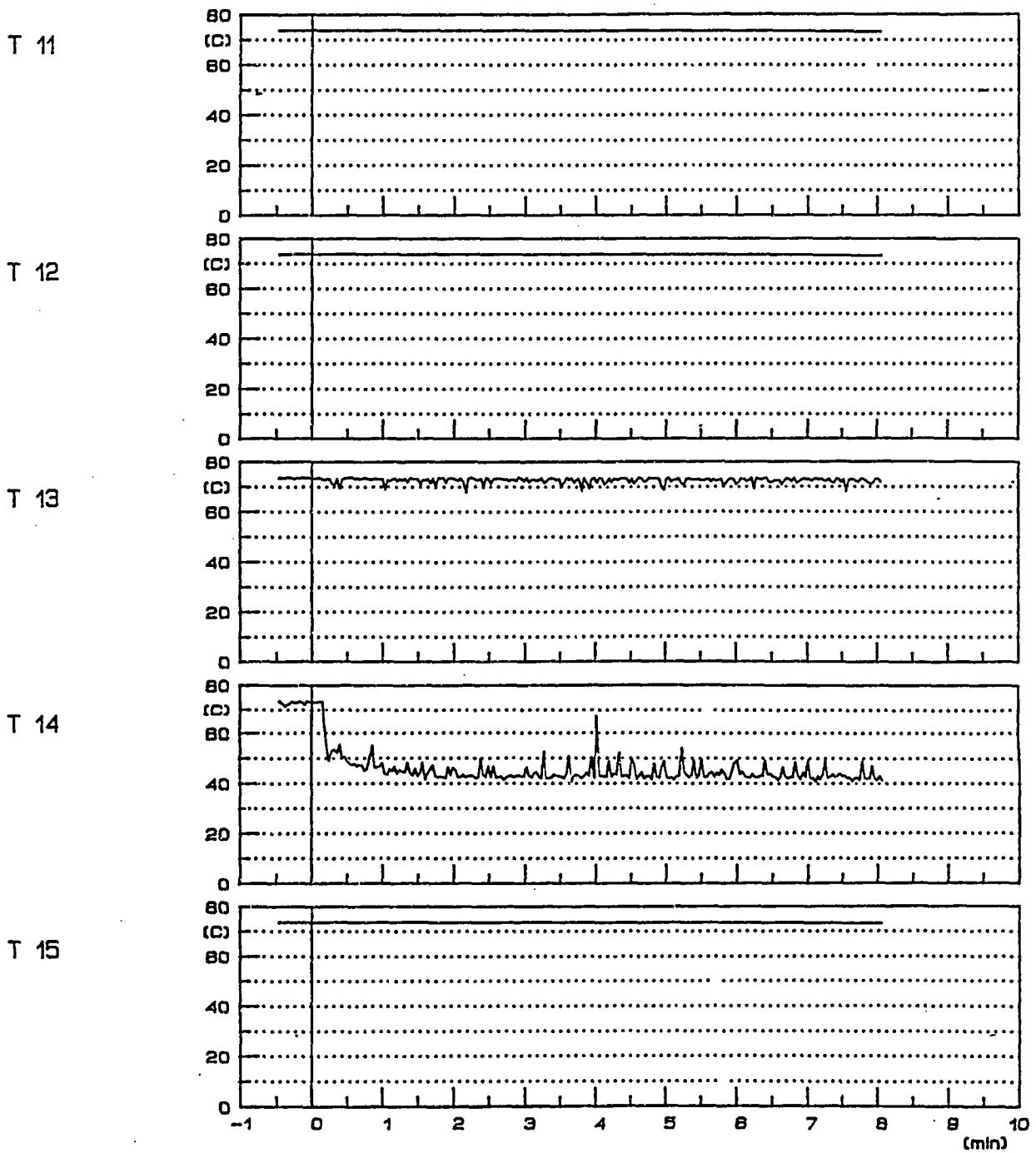
Test :	107	Q_c =	14.8	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	107	Q_c =	14.8	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3

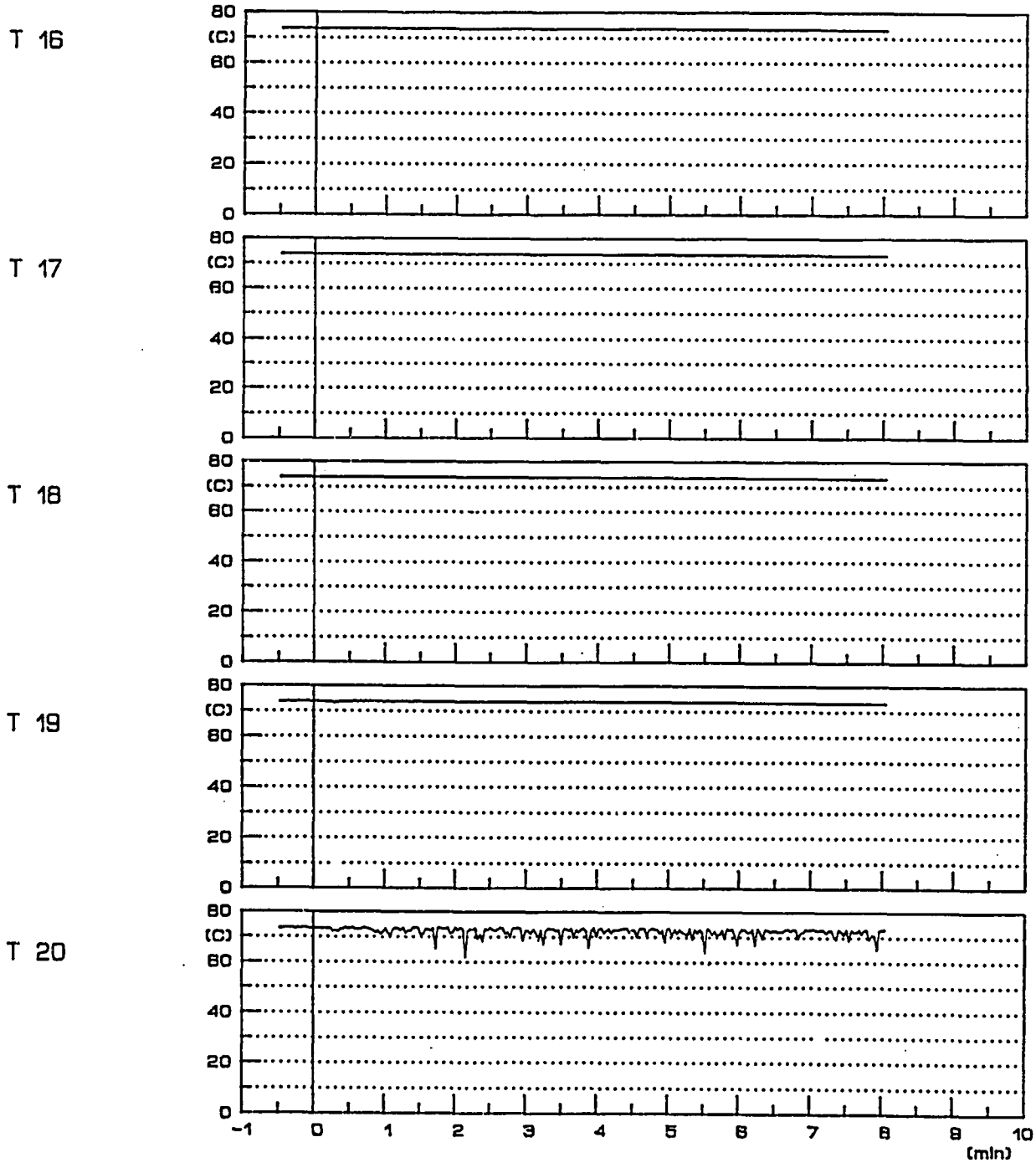


27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 107

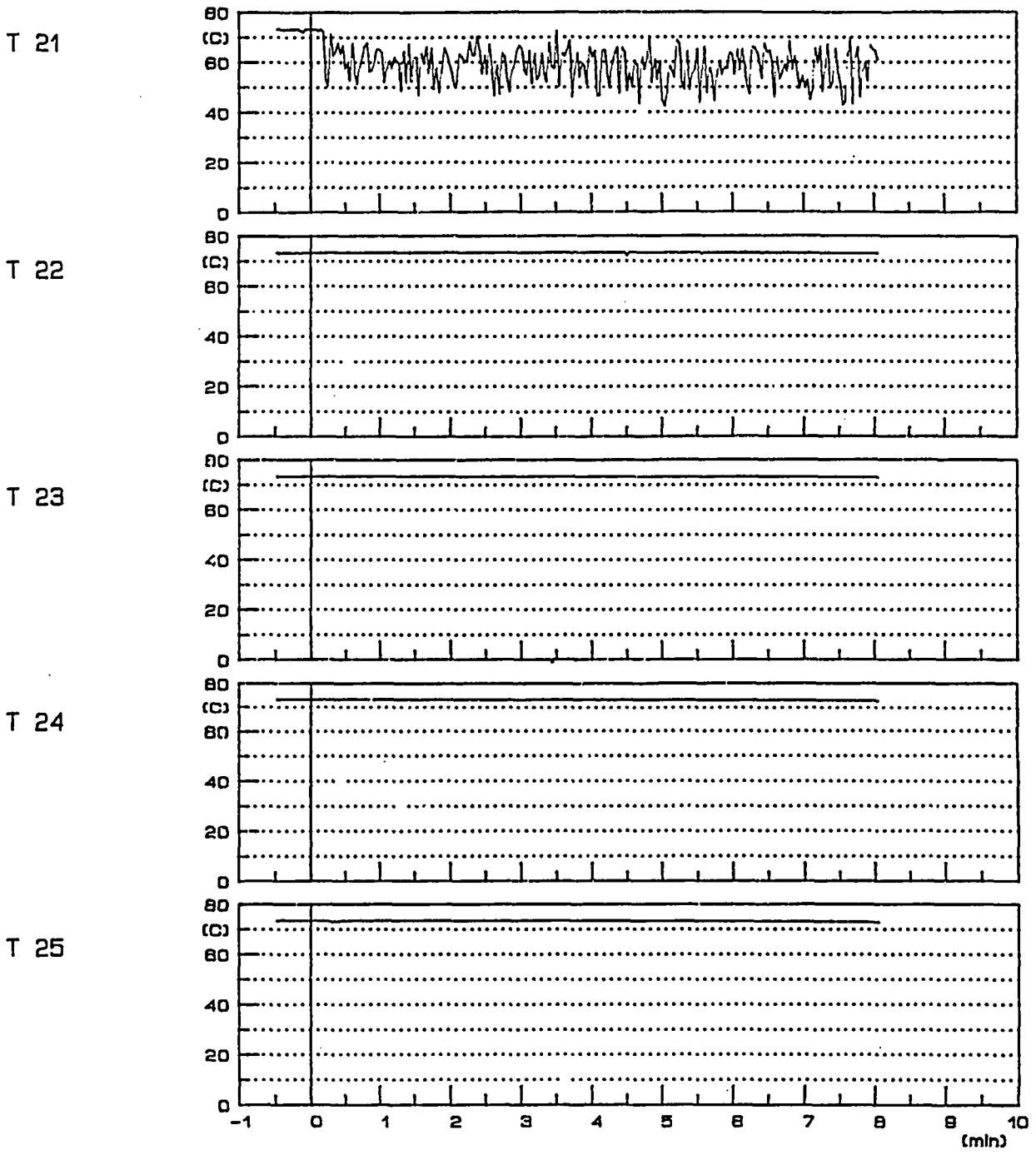
Q_c	=	14.8	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3



27. 6.1985

FLUID AND THERMAL MIXING TESTS

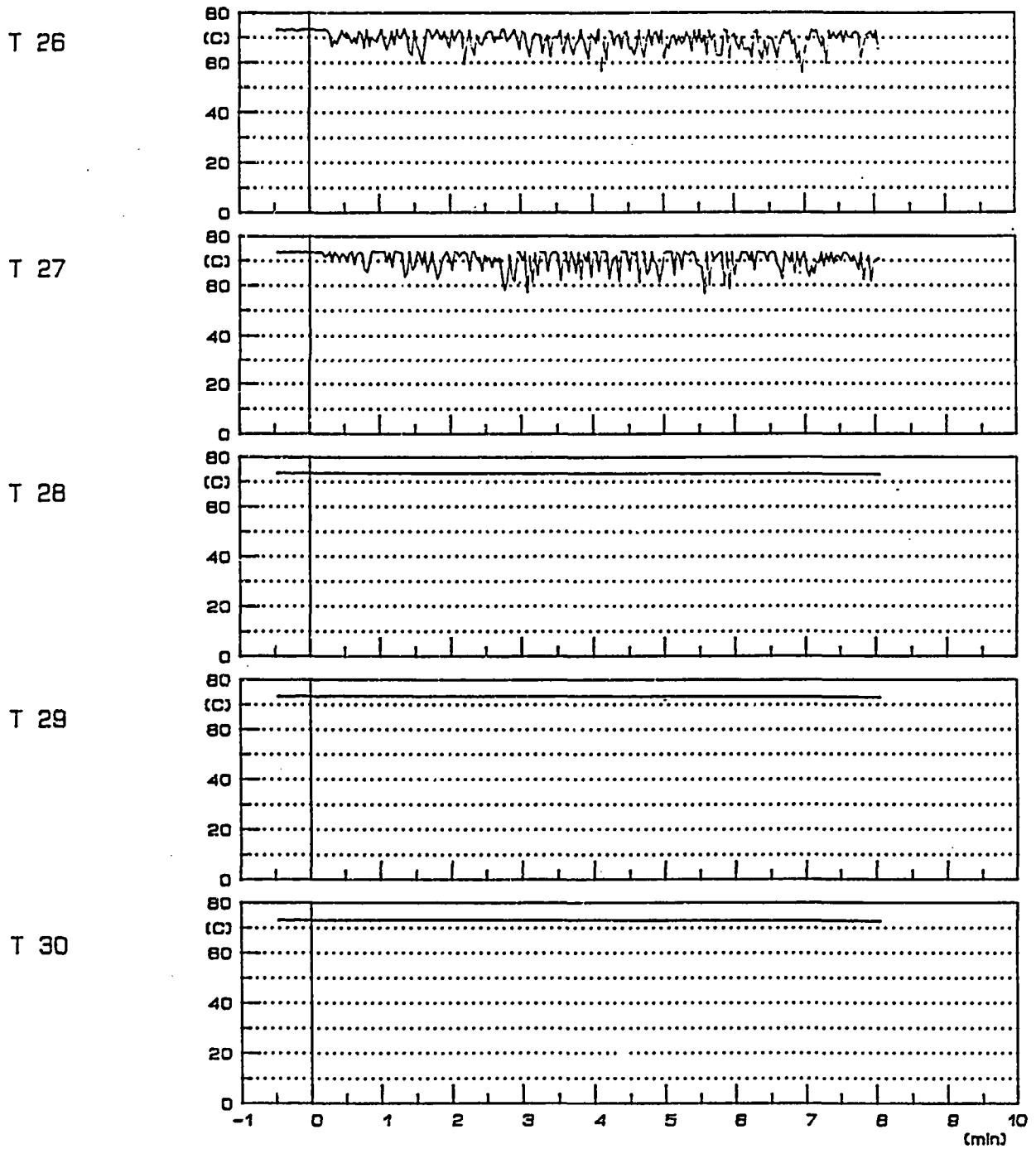
Test :	107	Q_c	=	14.8	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
		ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1170.	kg/m^3



27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test :	107	Q_c =	14.8	dm^3/s	$Q_{HPI,A}$ =	1.48	dm^3/s
		ρ = -	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3

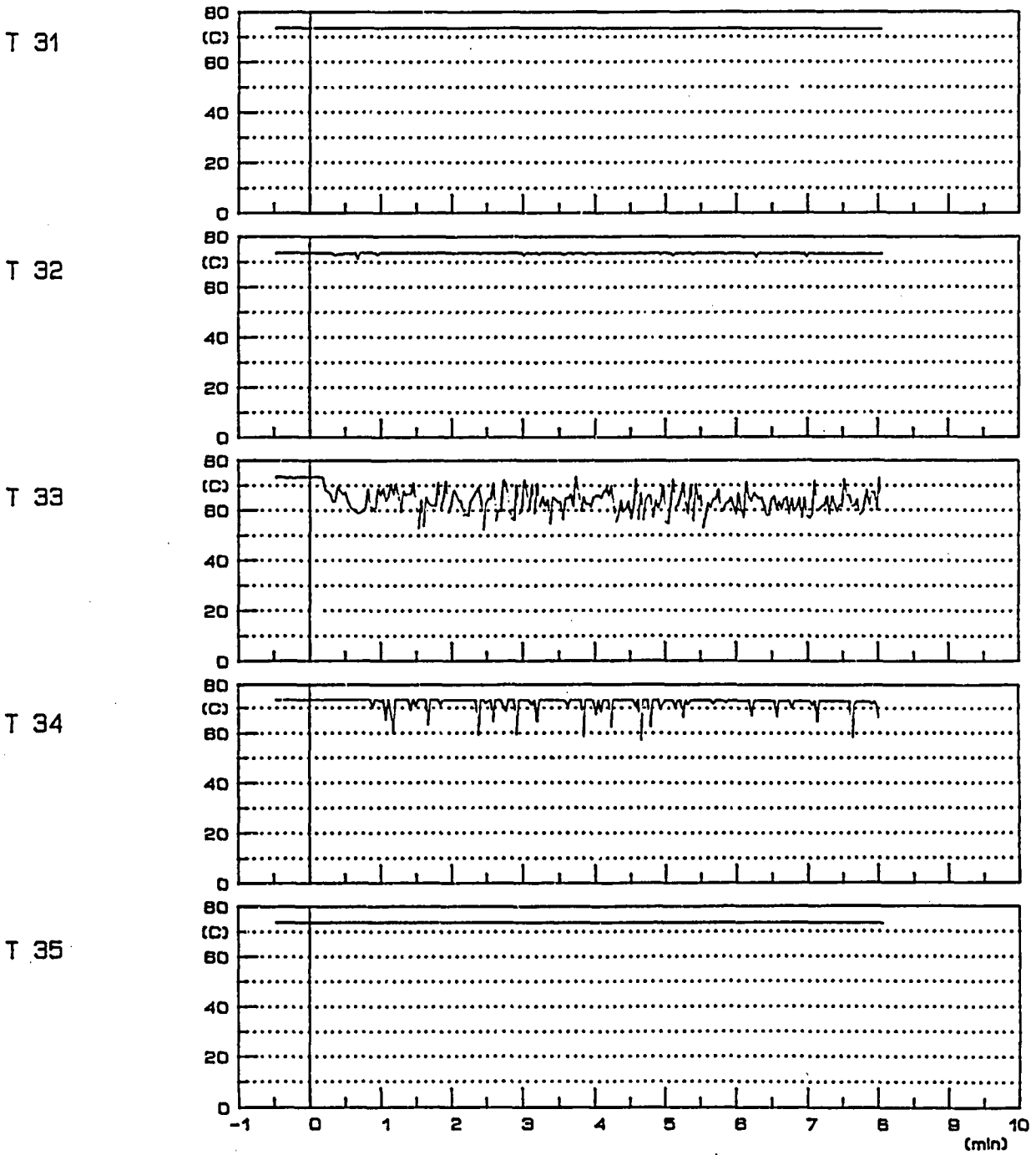


27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 107

Q_c	=	14.8	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3

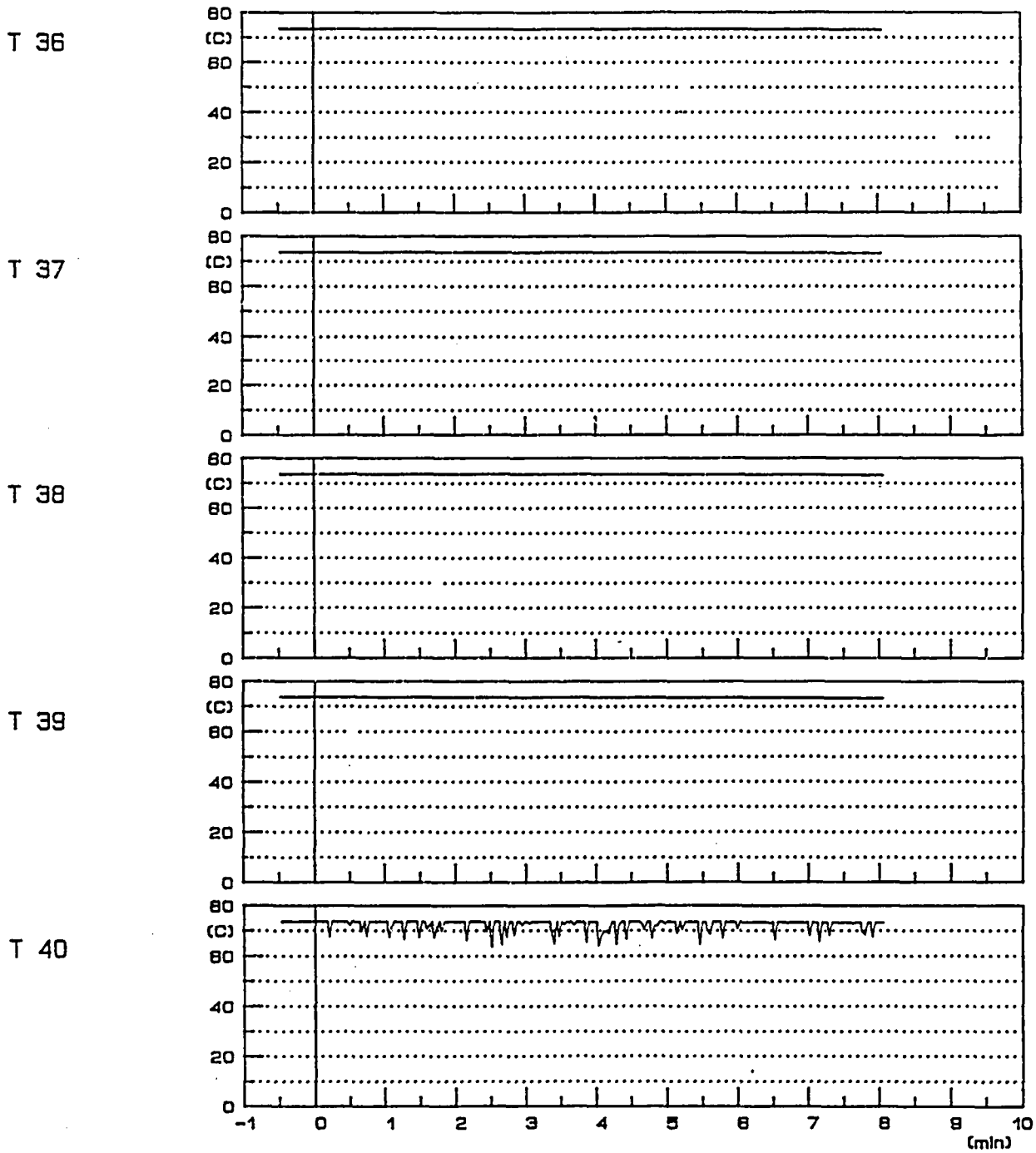


27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 107

Q_c	=	14.8	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3

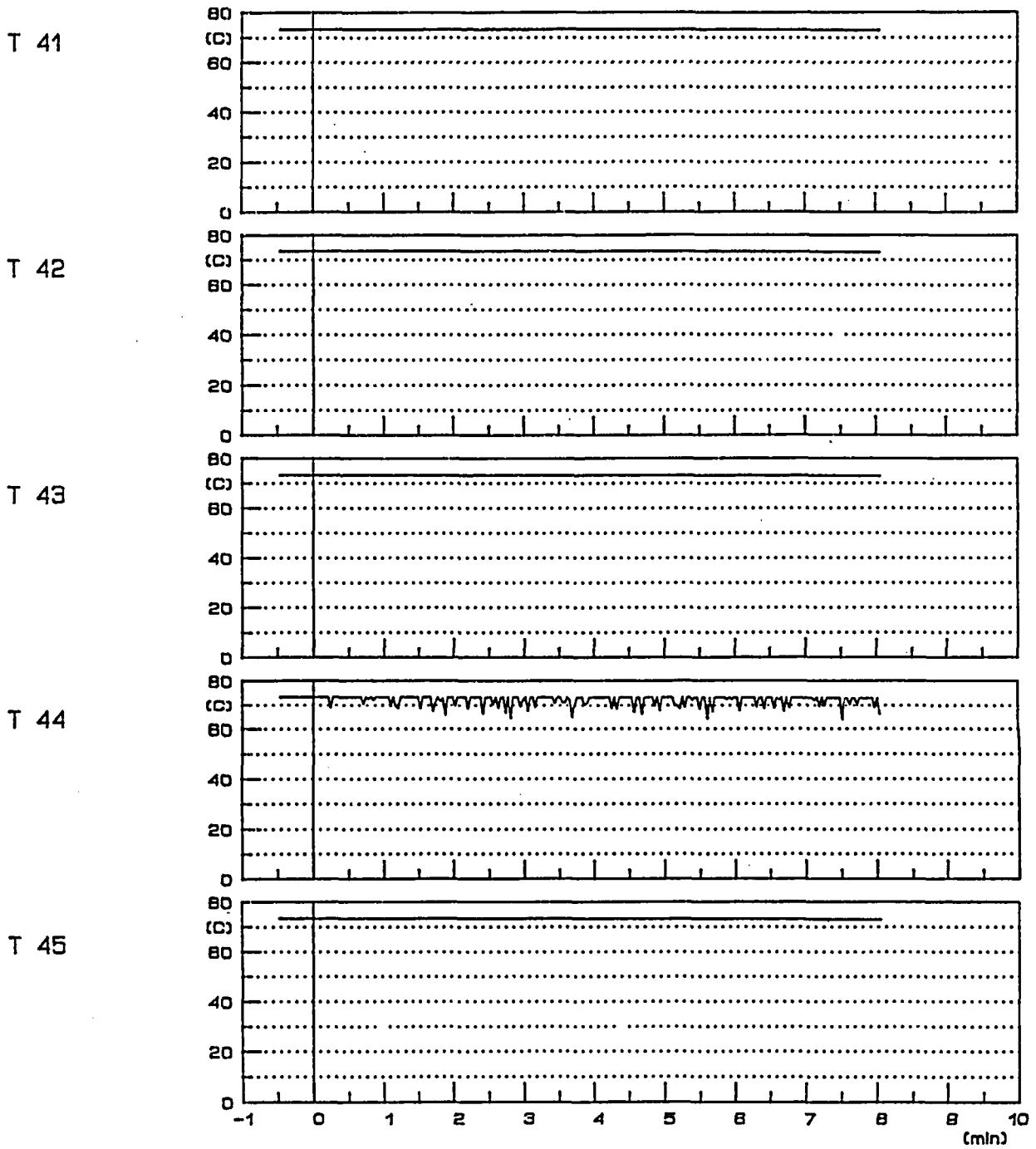


27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 107

Q_c	=	14.8	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3



27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 107

Q_c = 14.8 dm^3/s

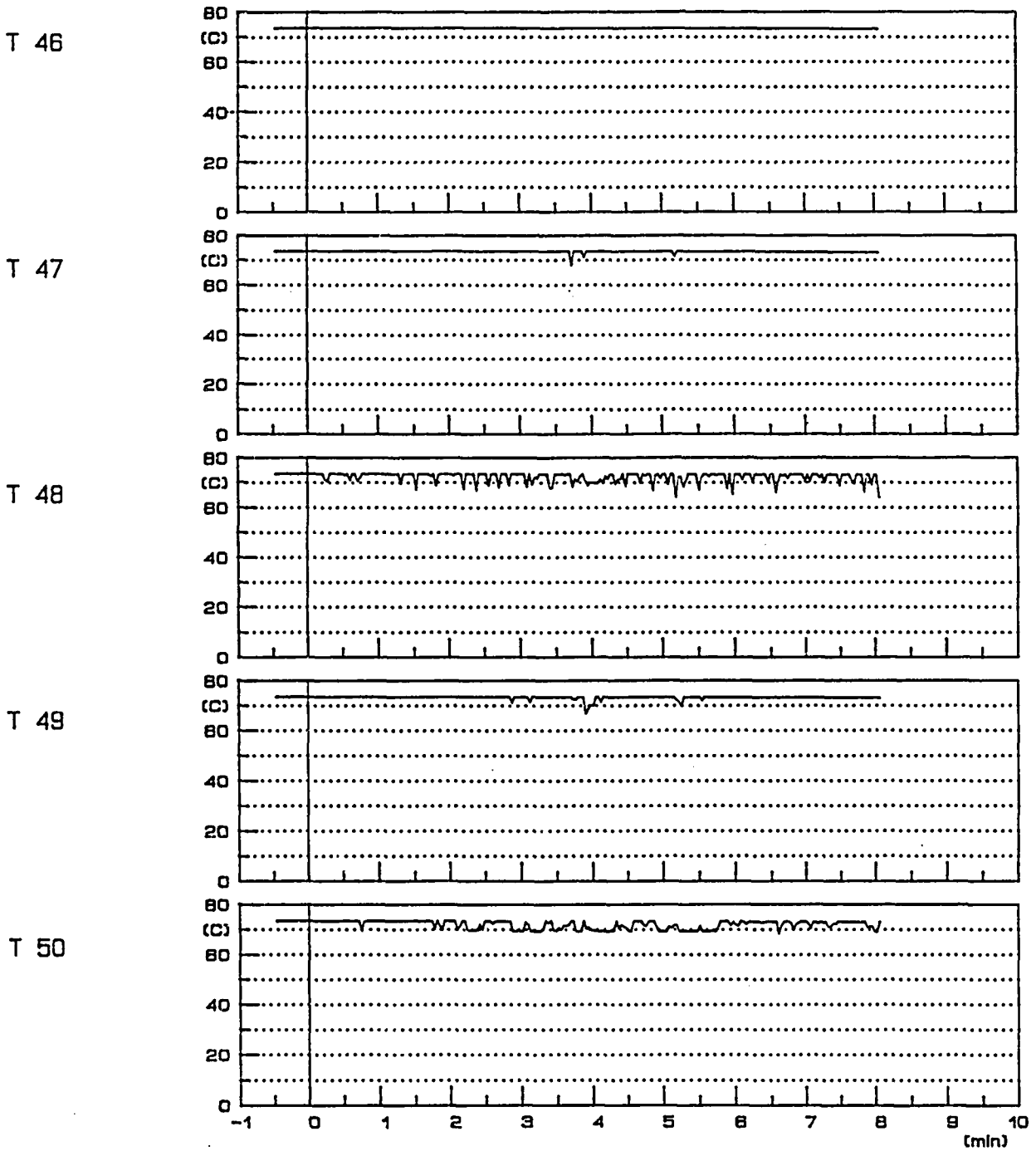
ρ = 977. kg/m^3

$Q_{HPI,A}$ = 1.48 dm^3/s

$Q_{HPI,B}$ = 0.00 dm^3/s

$Q_{HPI,C}$ = 0.00 dm^3/s

ρ = 1170. kg/m^3

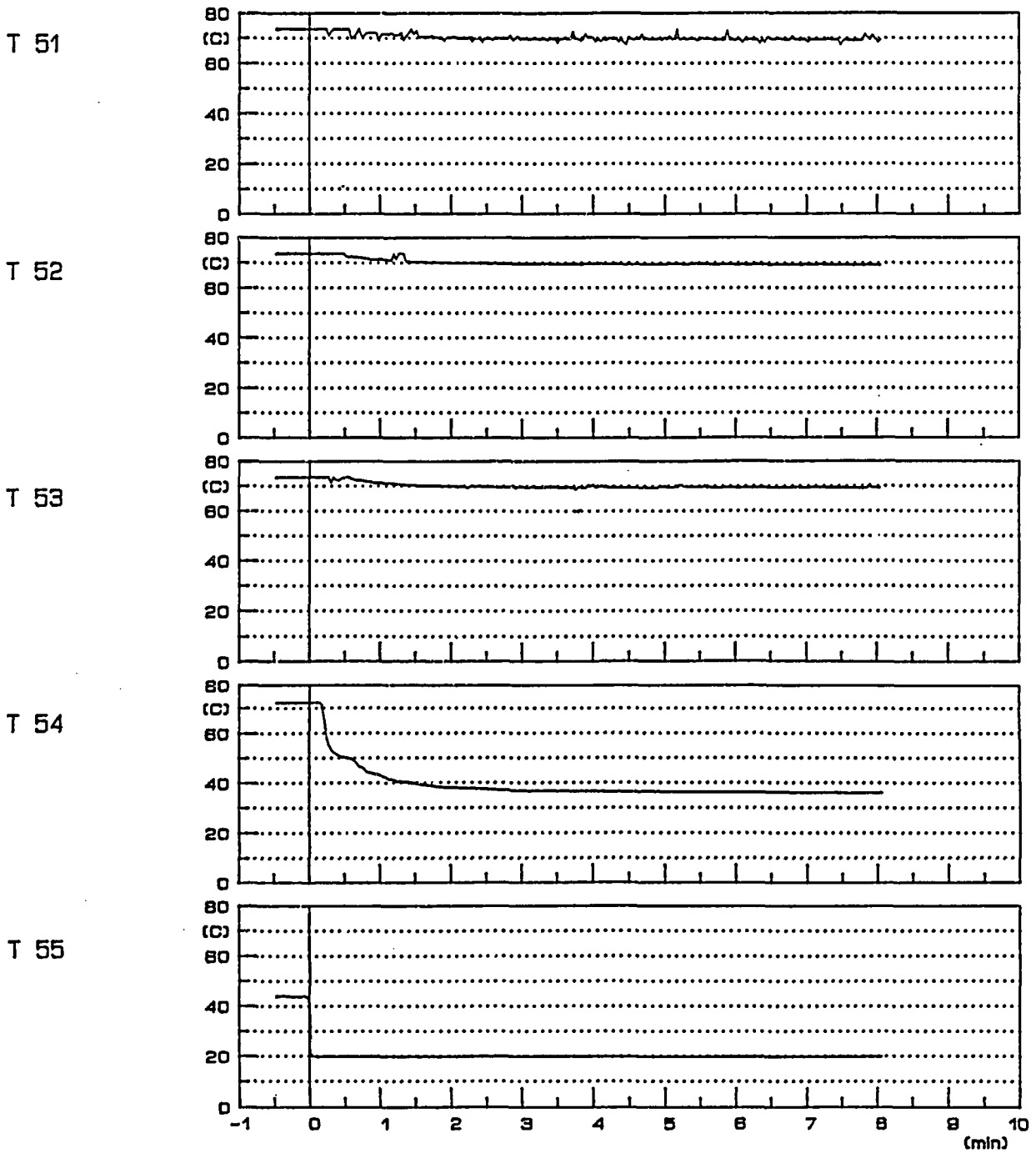


27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 107

Q_c	=	14.8	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3

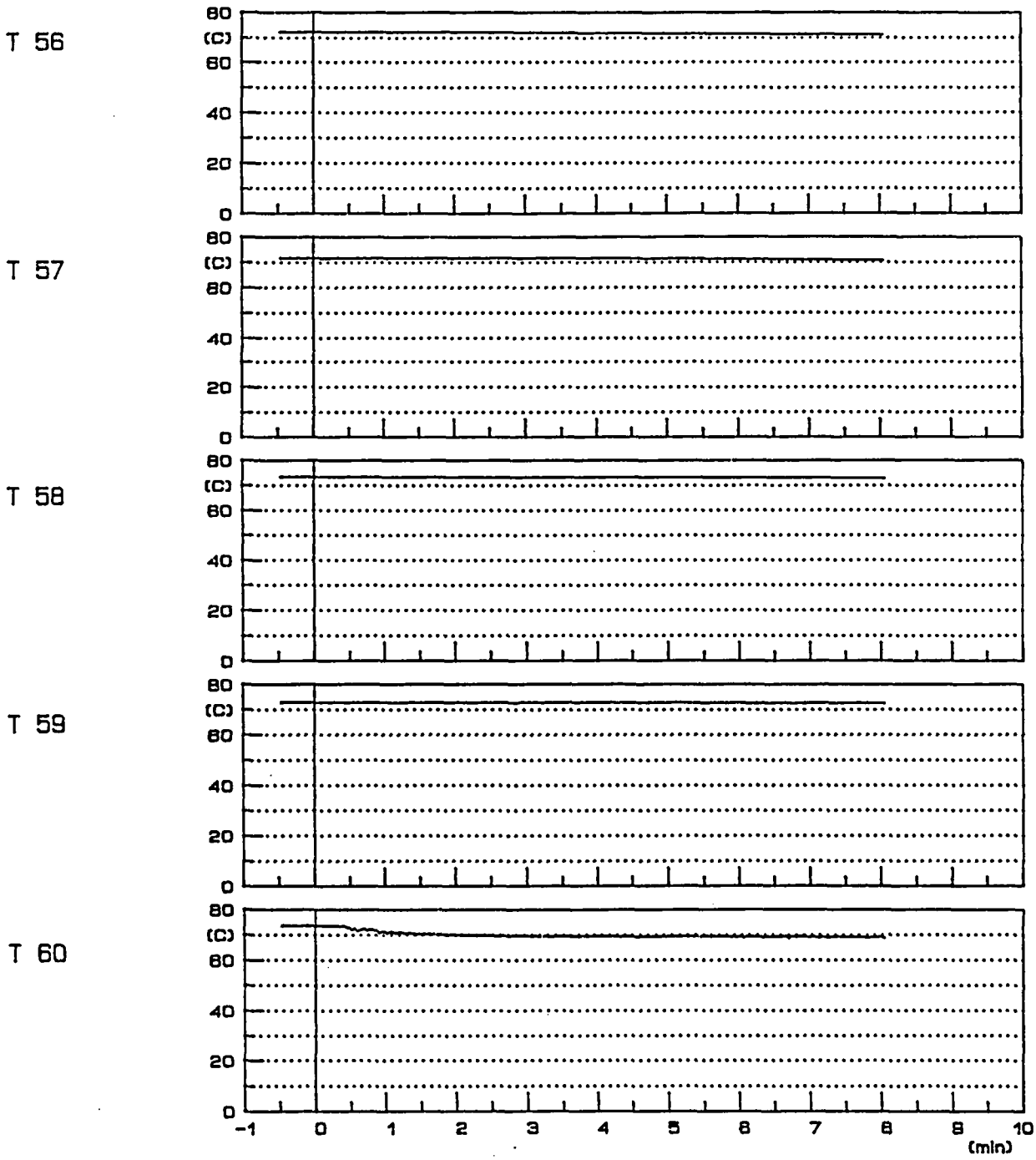


27. 6.1985

FLUID AND THERMAL MIXING TESTS

Test : 107

Q_c	=	14.8	dm^3/s	$Q_{HPI,A}$	=	1.48	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3

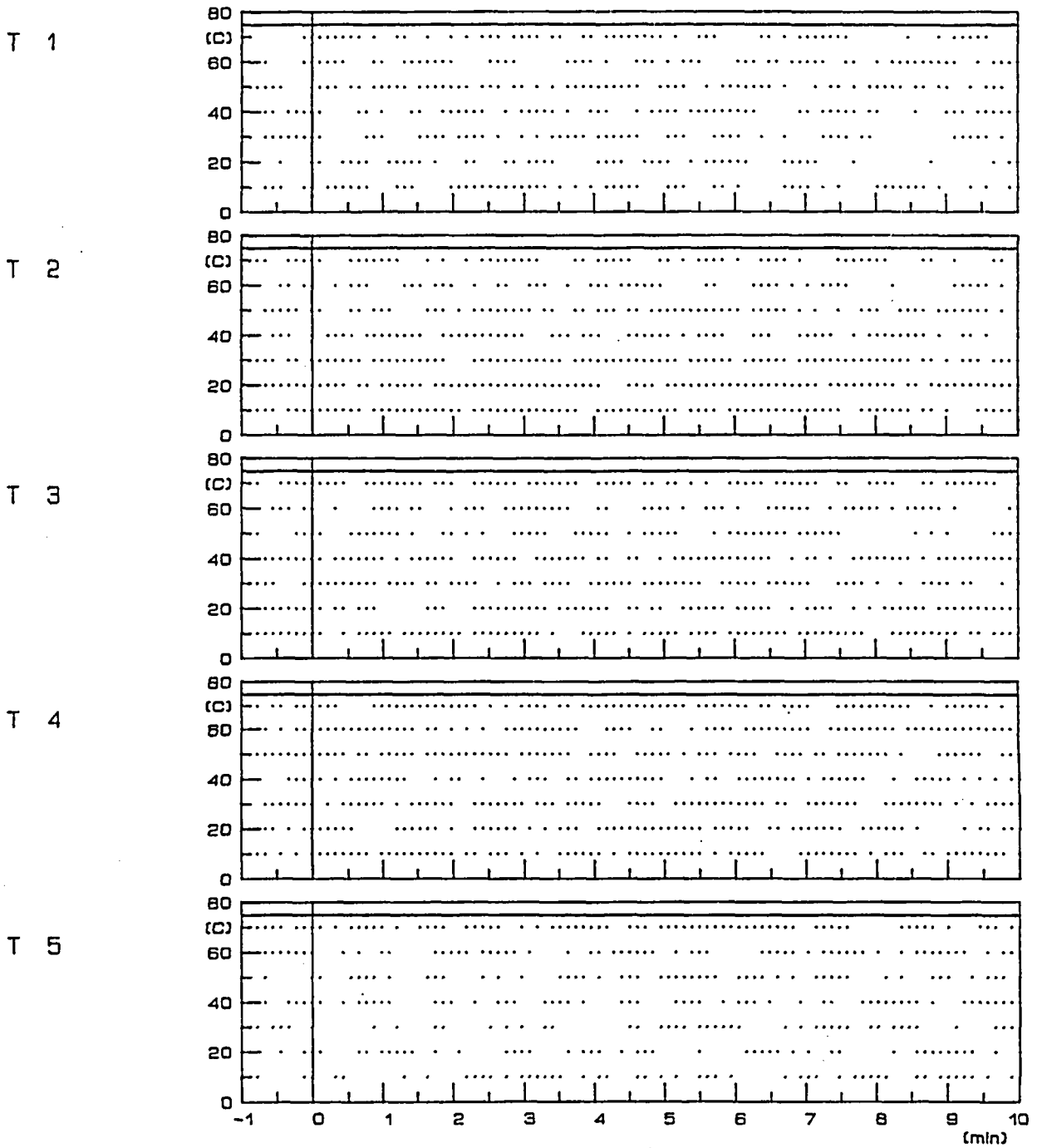


15. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 108

Q_A	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	.42	dm^3/s
				ρ	=	1172.	kg/m^3

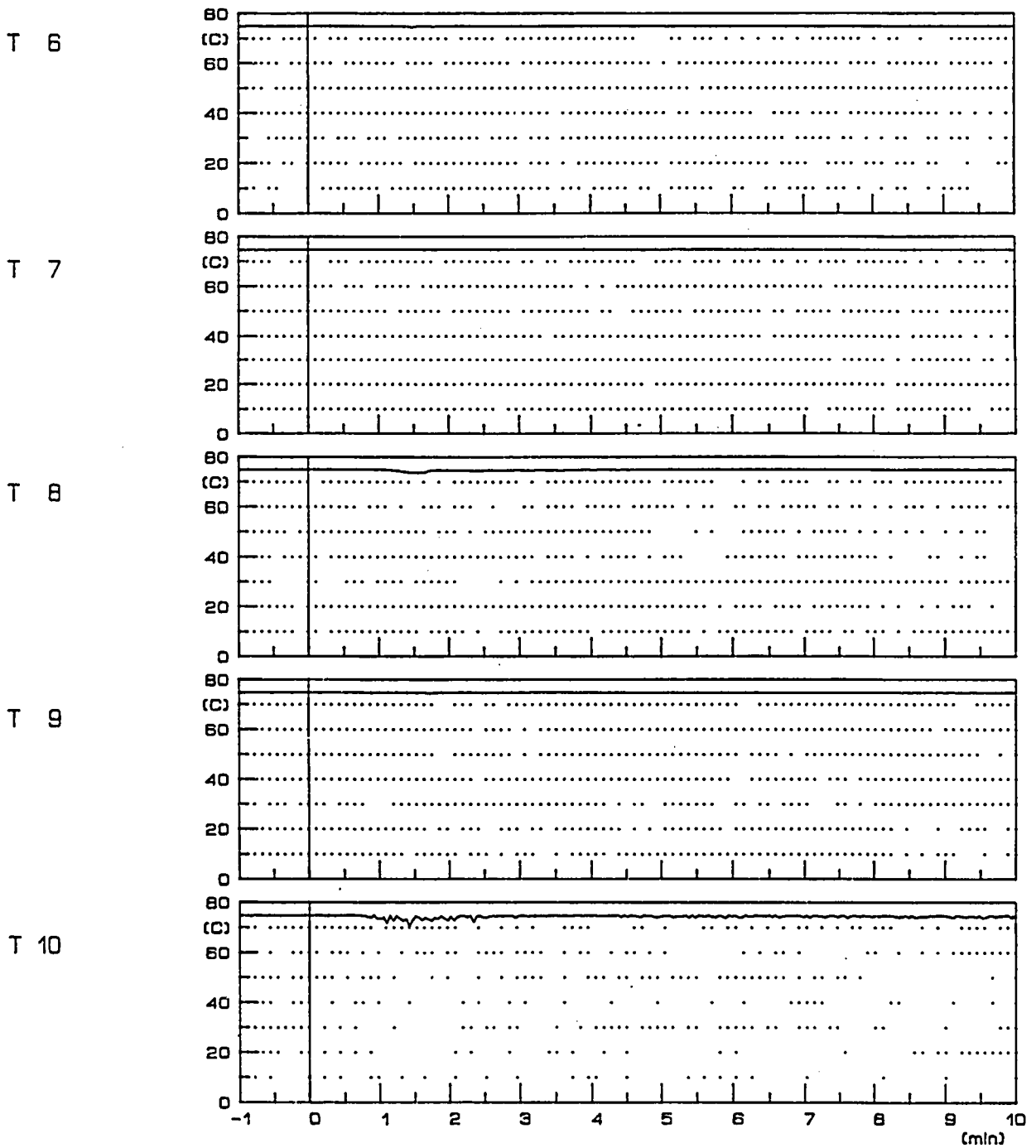


15. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 108

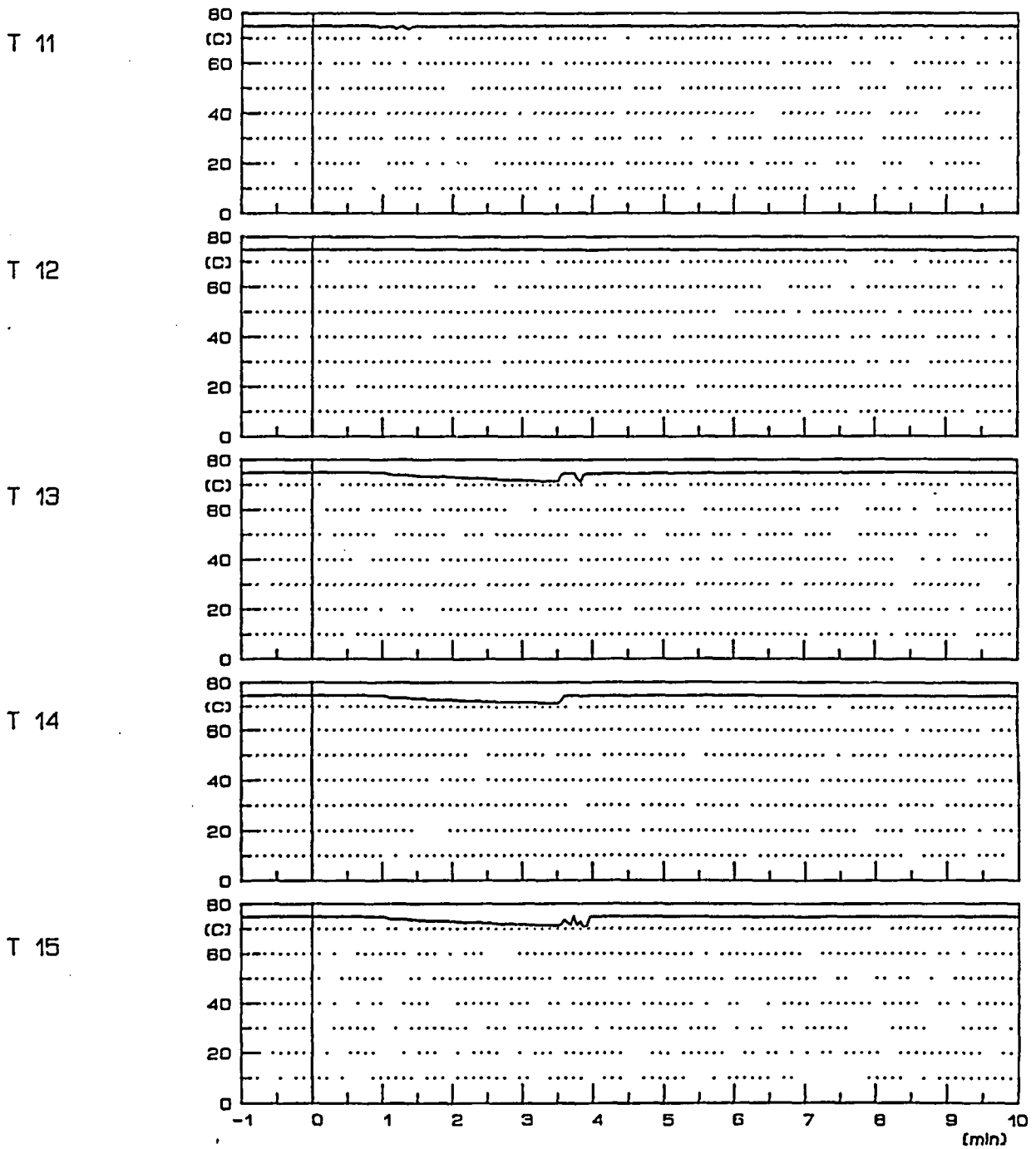
Q_A	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	.42	dm^3/s
				ρ	=	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

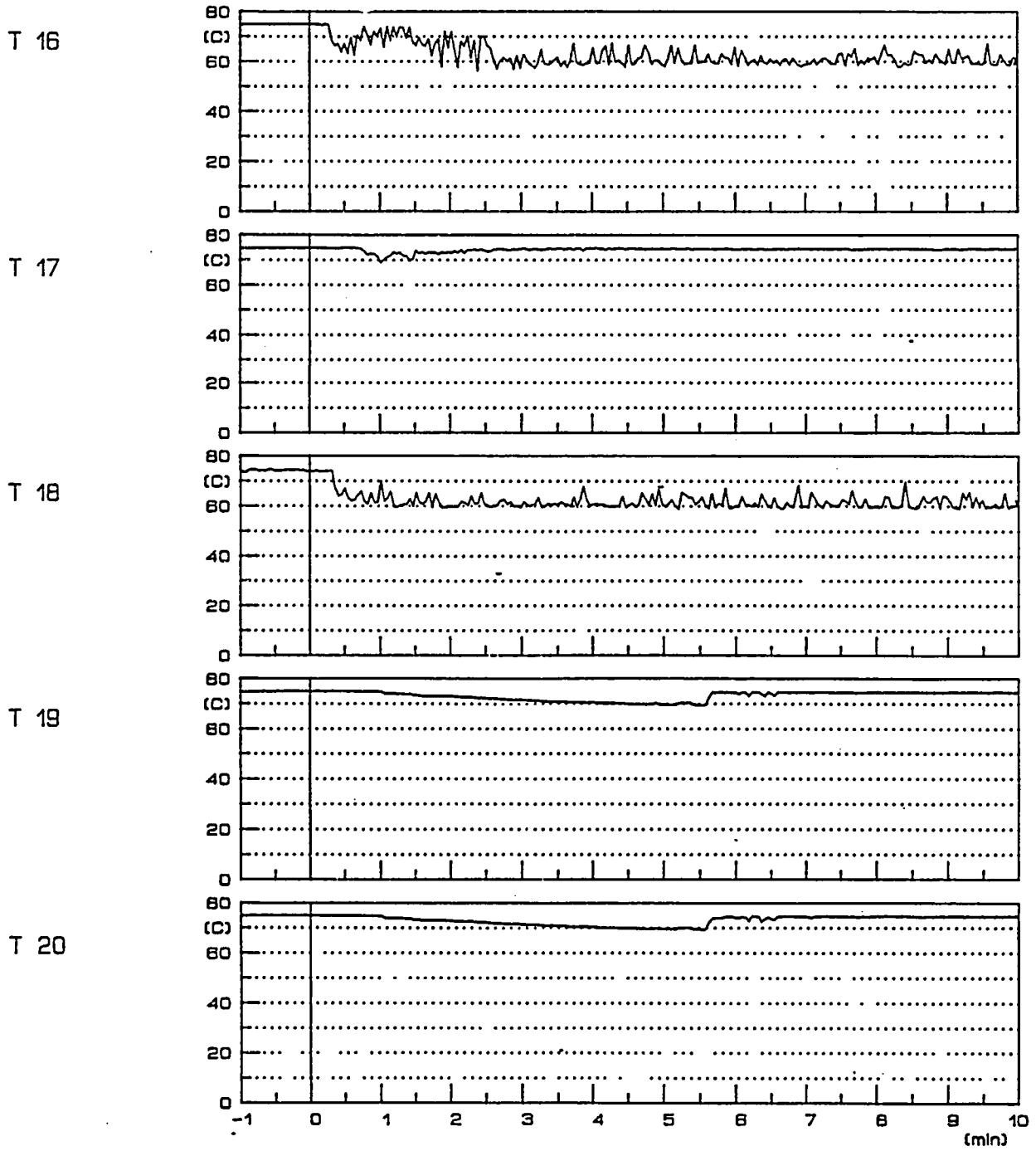
Test :	108	Q_A =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	.42	dm^3/s
					ρ =	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

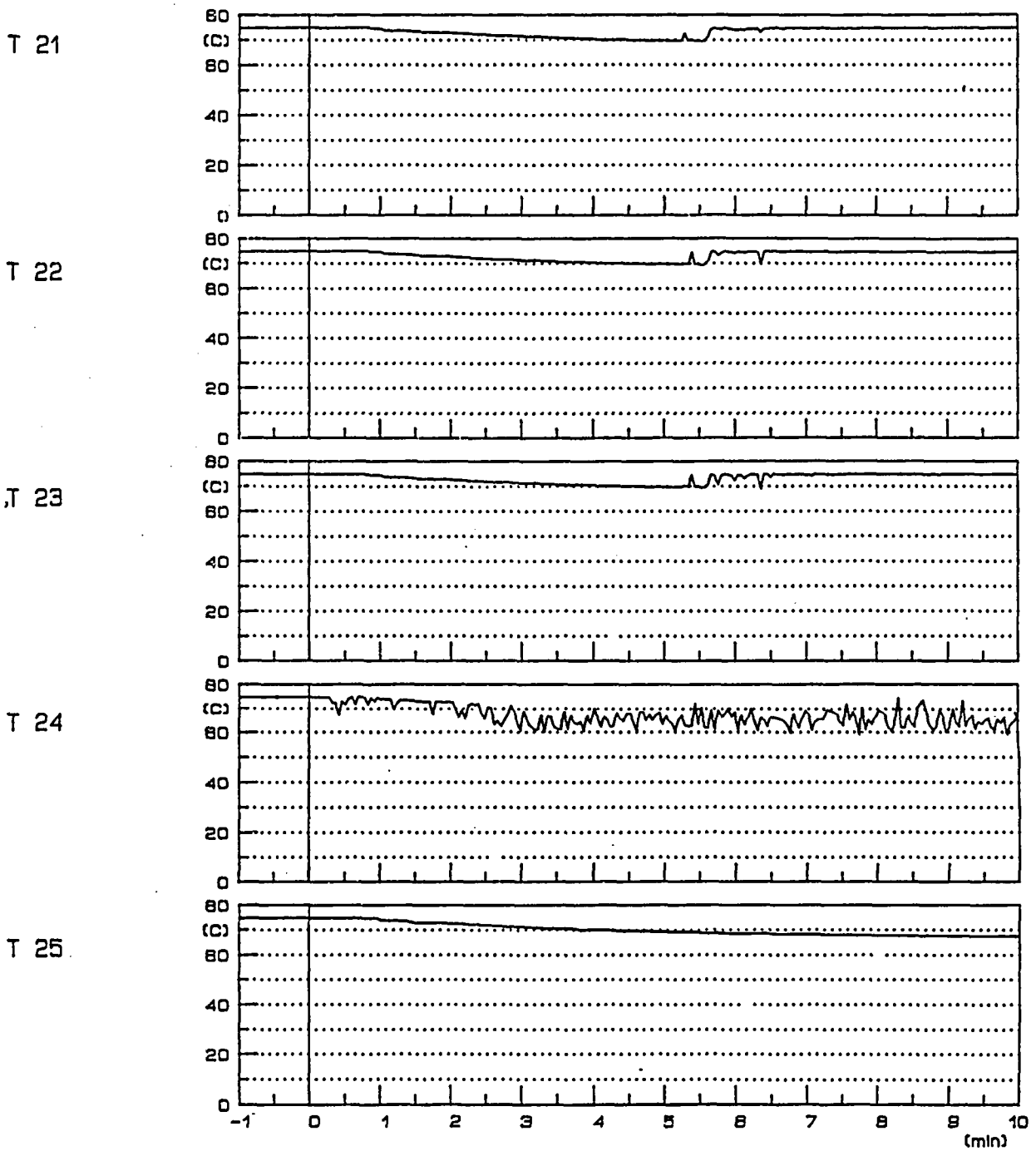
Test :	108	Q_A = 4.2 dm³/s	$Q_{HPI,A}$ = 0.00 dm³/s
		ρ = 978. kg/m³	$Q_{HPI,B}$ = .42 dm³/s
			$Q_{HPI,C}$ = .42 dm³/s
			ρ = 1172. kg/m³



15. 8.1985

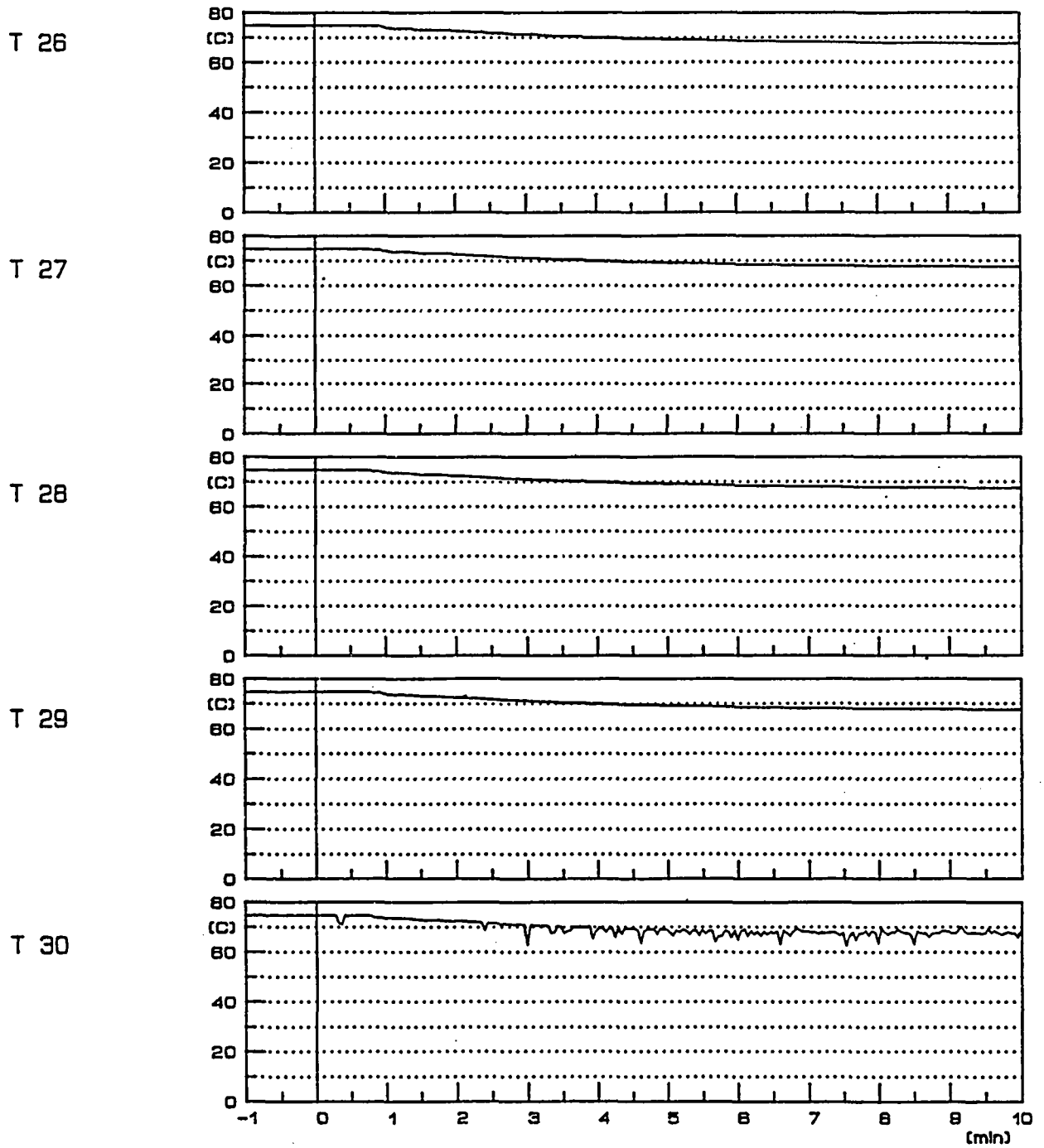
FLUID AND THERMAL MIXING TESTS

Test :	108	Q_A =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	.42	dm^3/s
					ρ =	1172.	kg/m^3



FLUID AND THERMAL MIXING TESTS

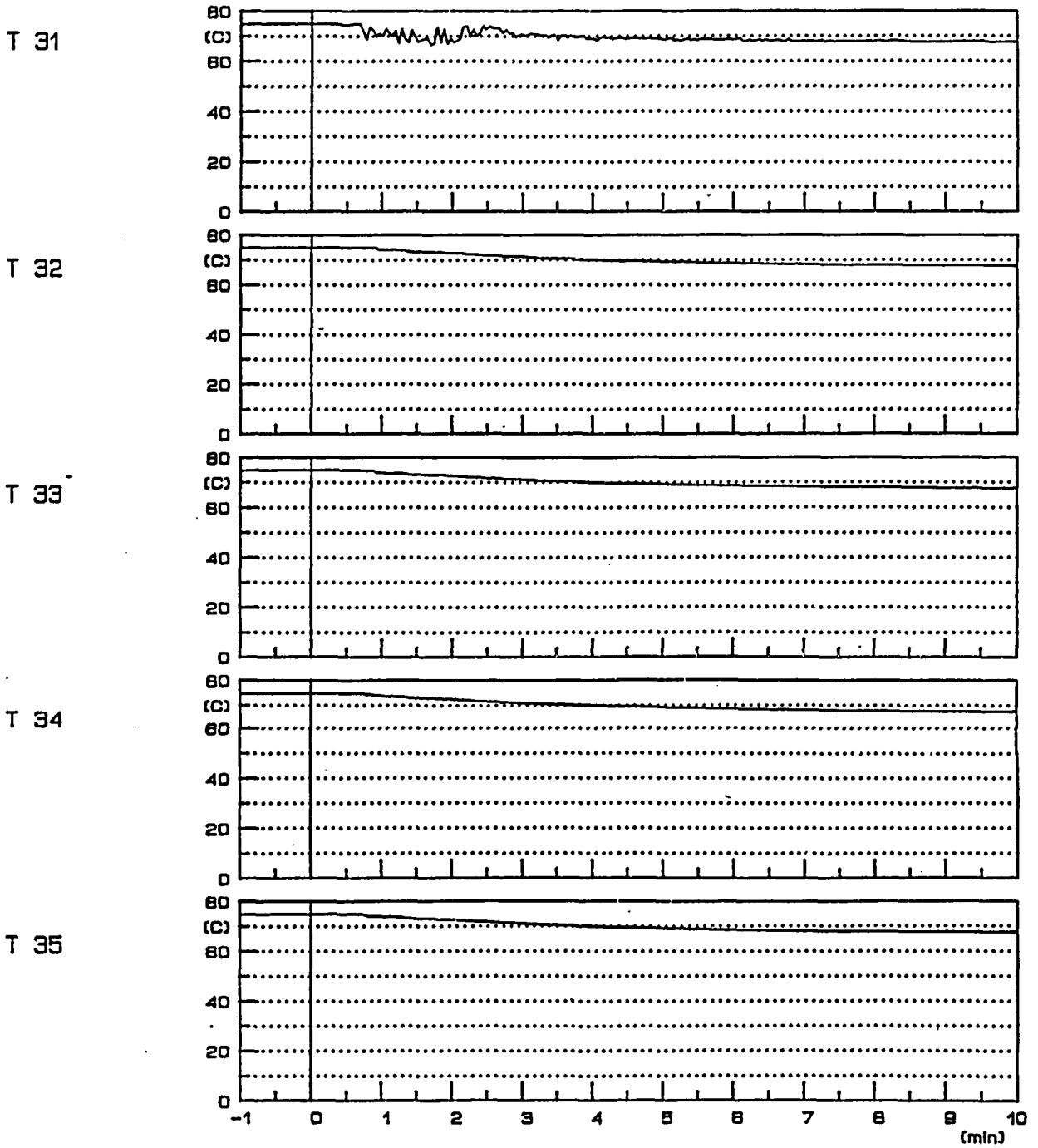
Test :	108	Q_A	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
	-	ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

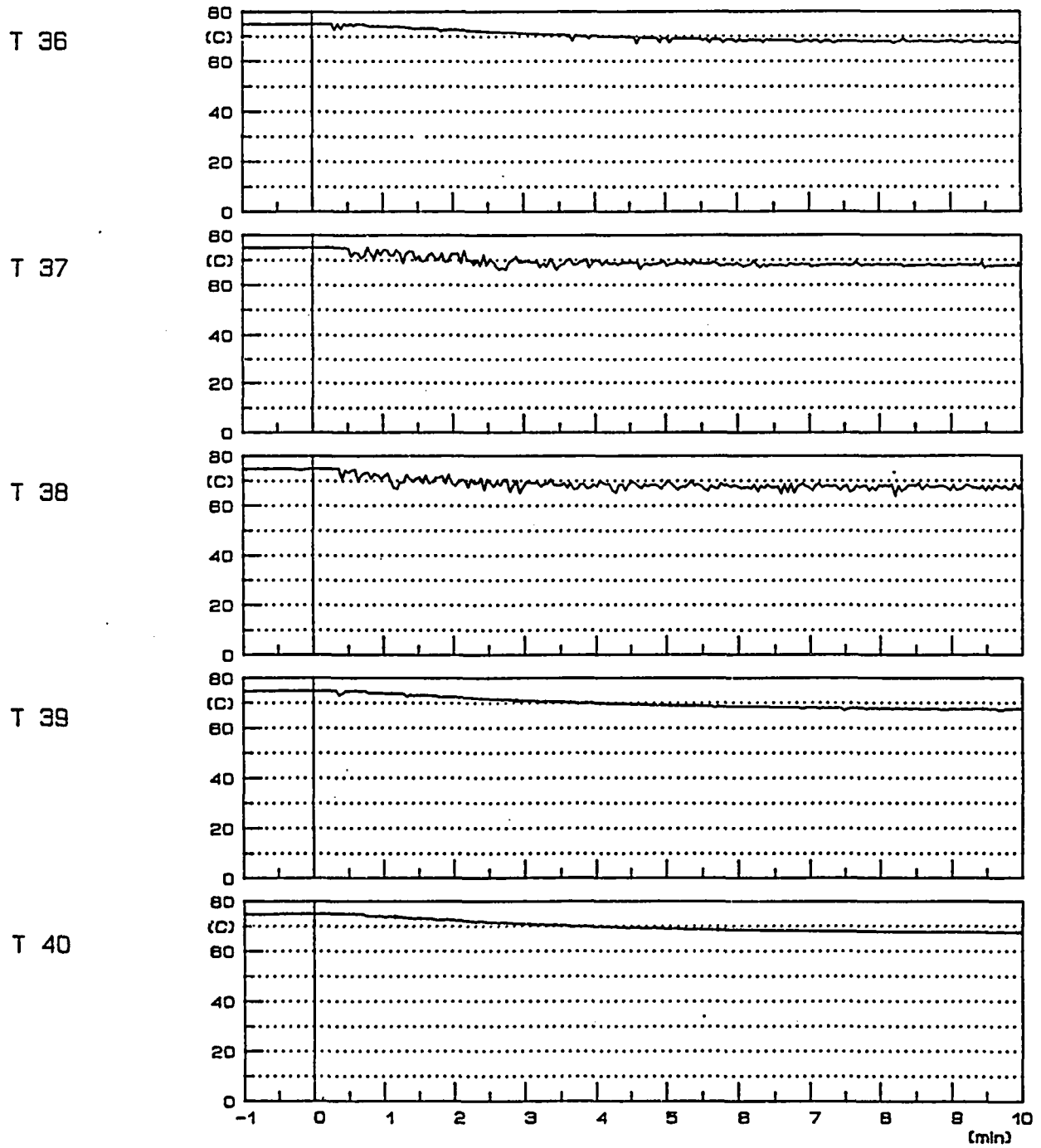
Test :	108	Q_A =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	.42	dm^3/s
					ρ =	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

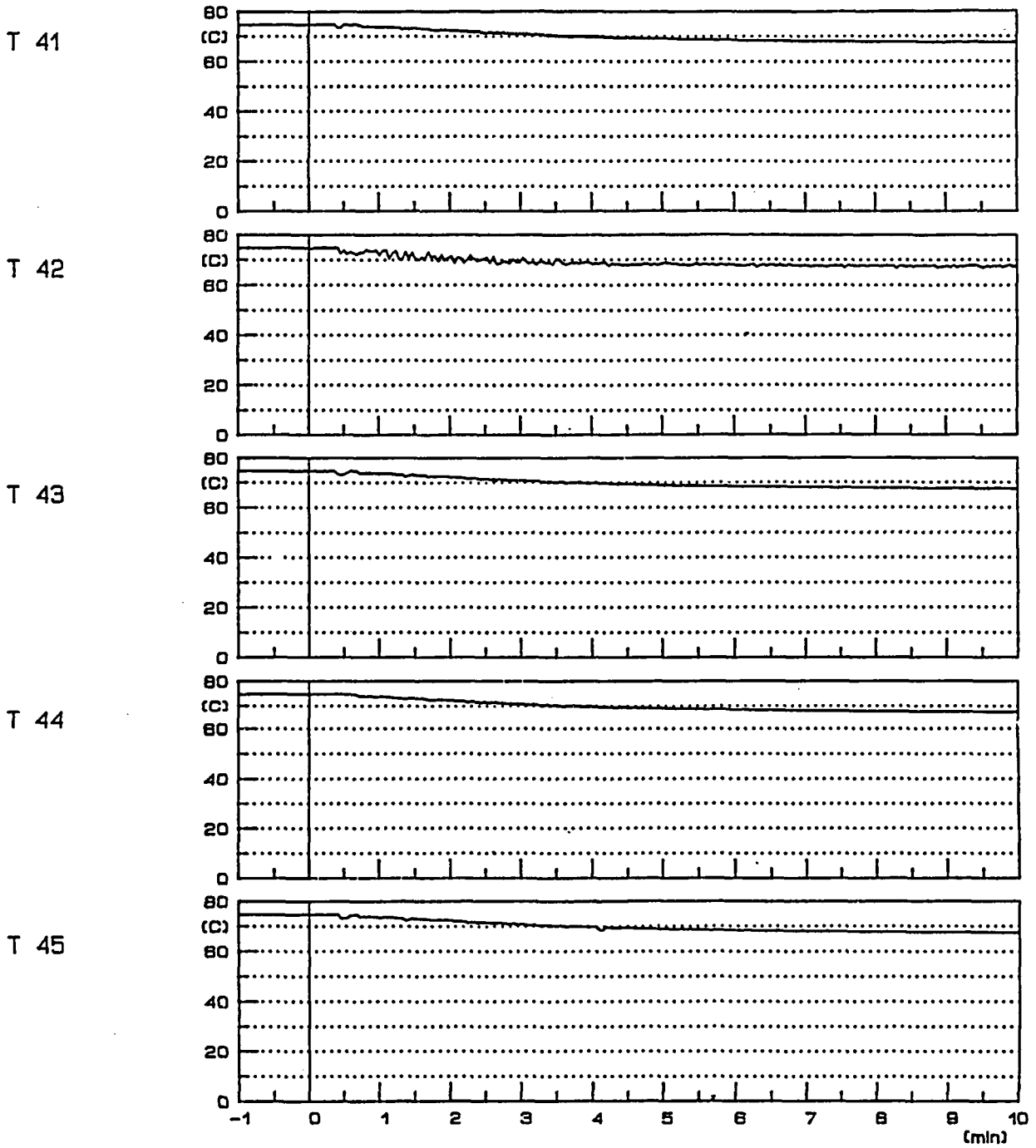
Test :	108	Q_A =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	.42	dm^3/s
					ρ =	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

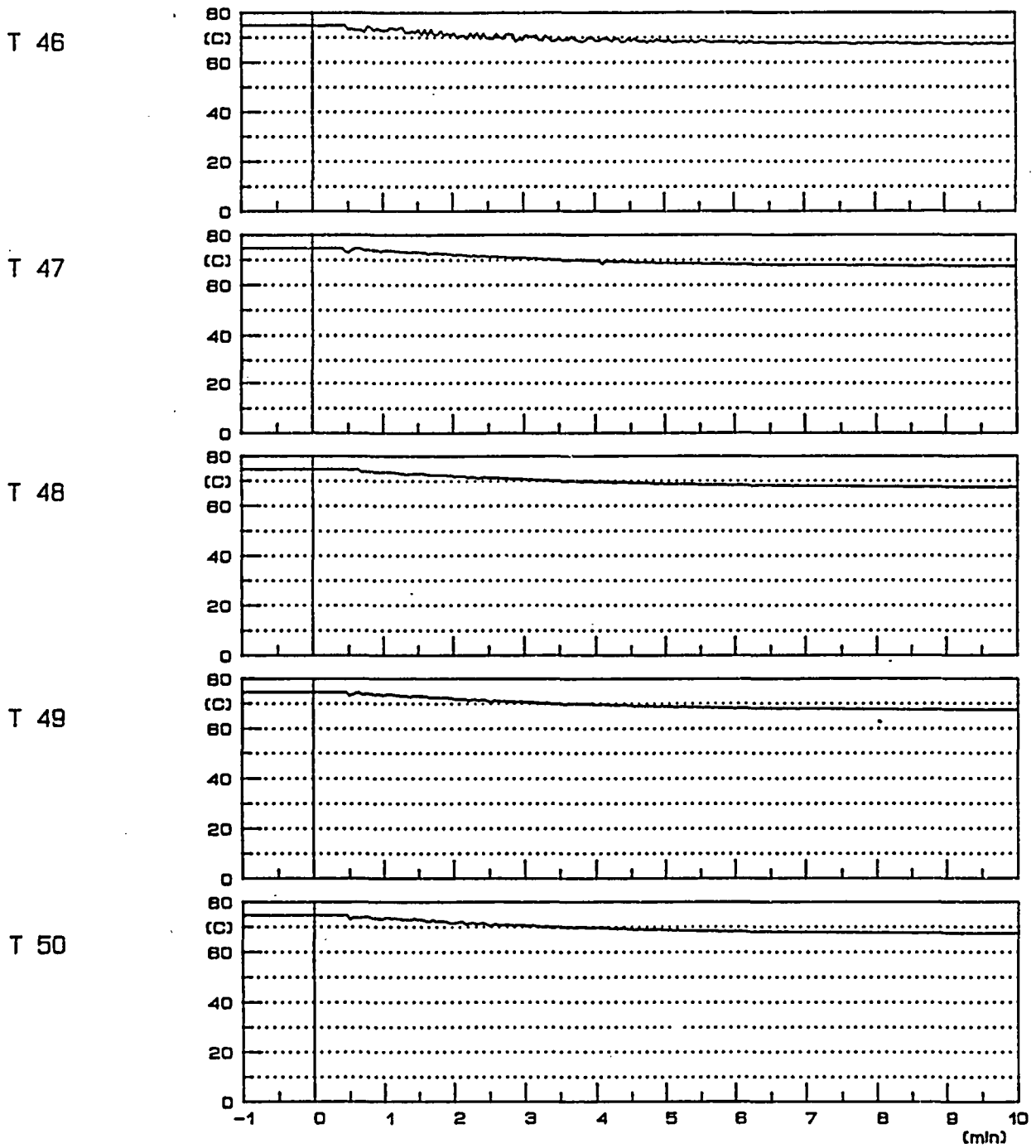
Test :	108	Q_A	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 108

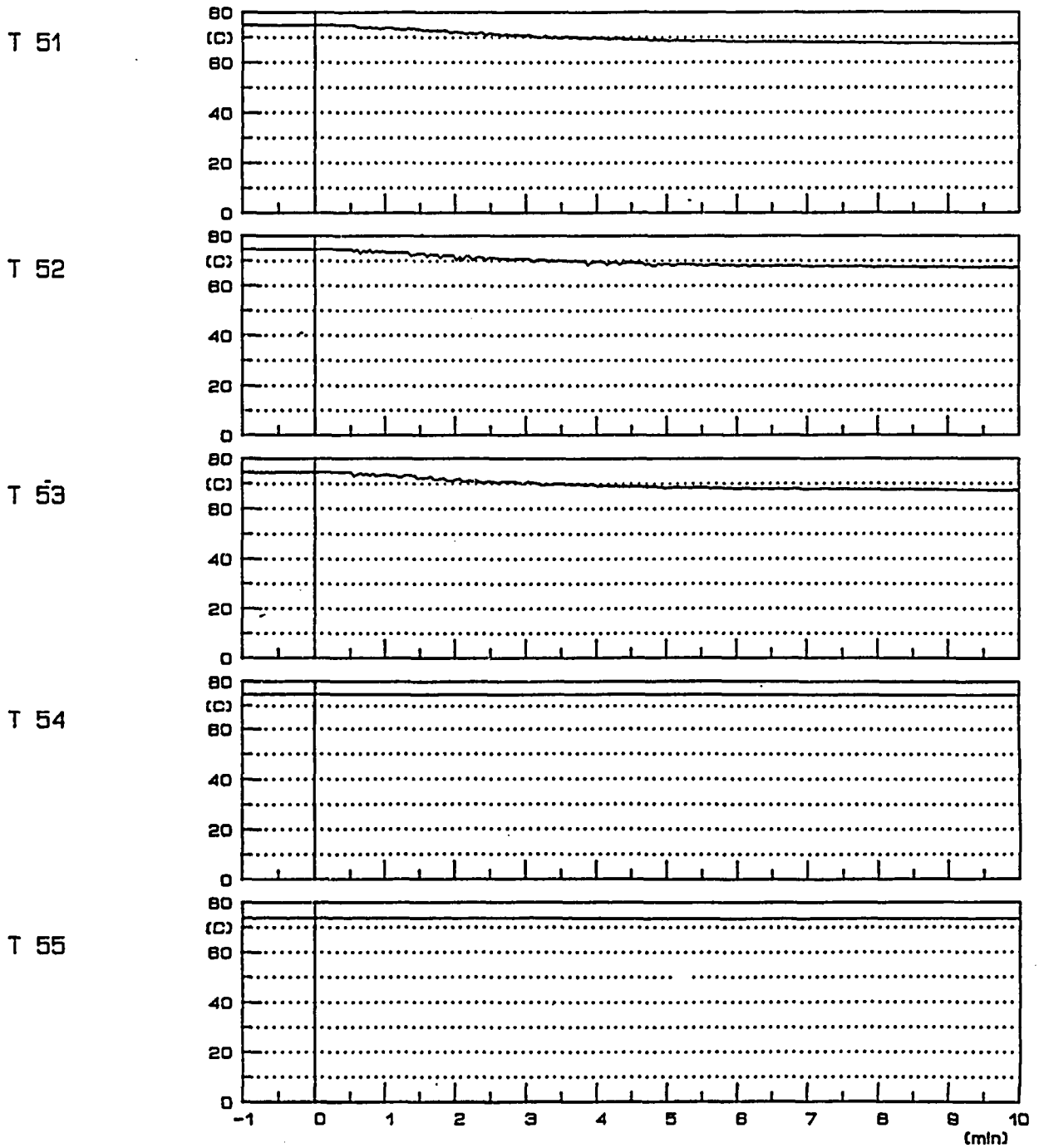
Q_A	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	.42	dm^3/s
				ρ	=	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

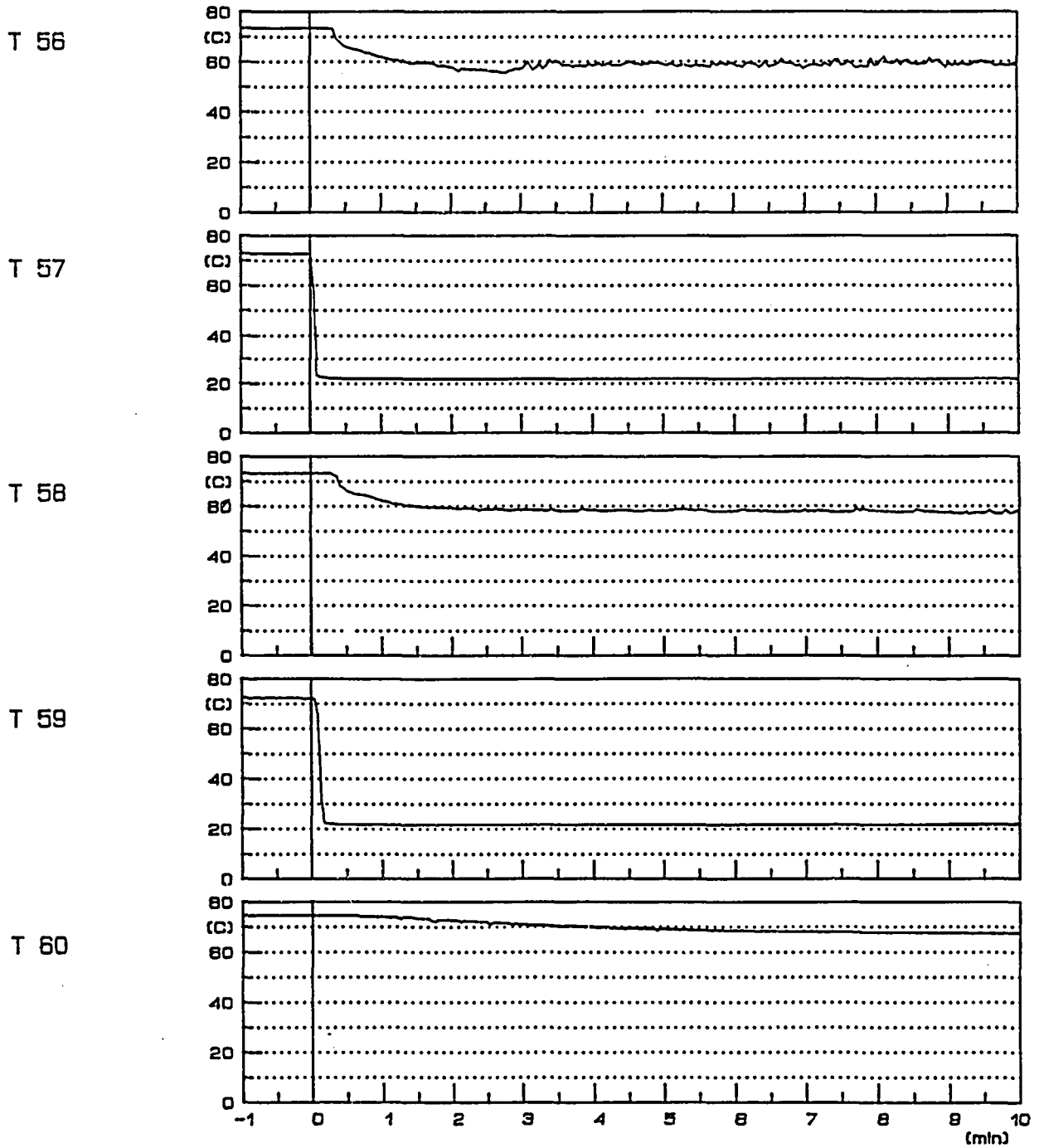
Test :	108	Q_A =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	.42	dm^3/s
					ρ =	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

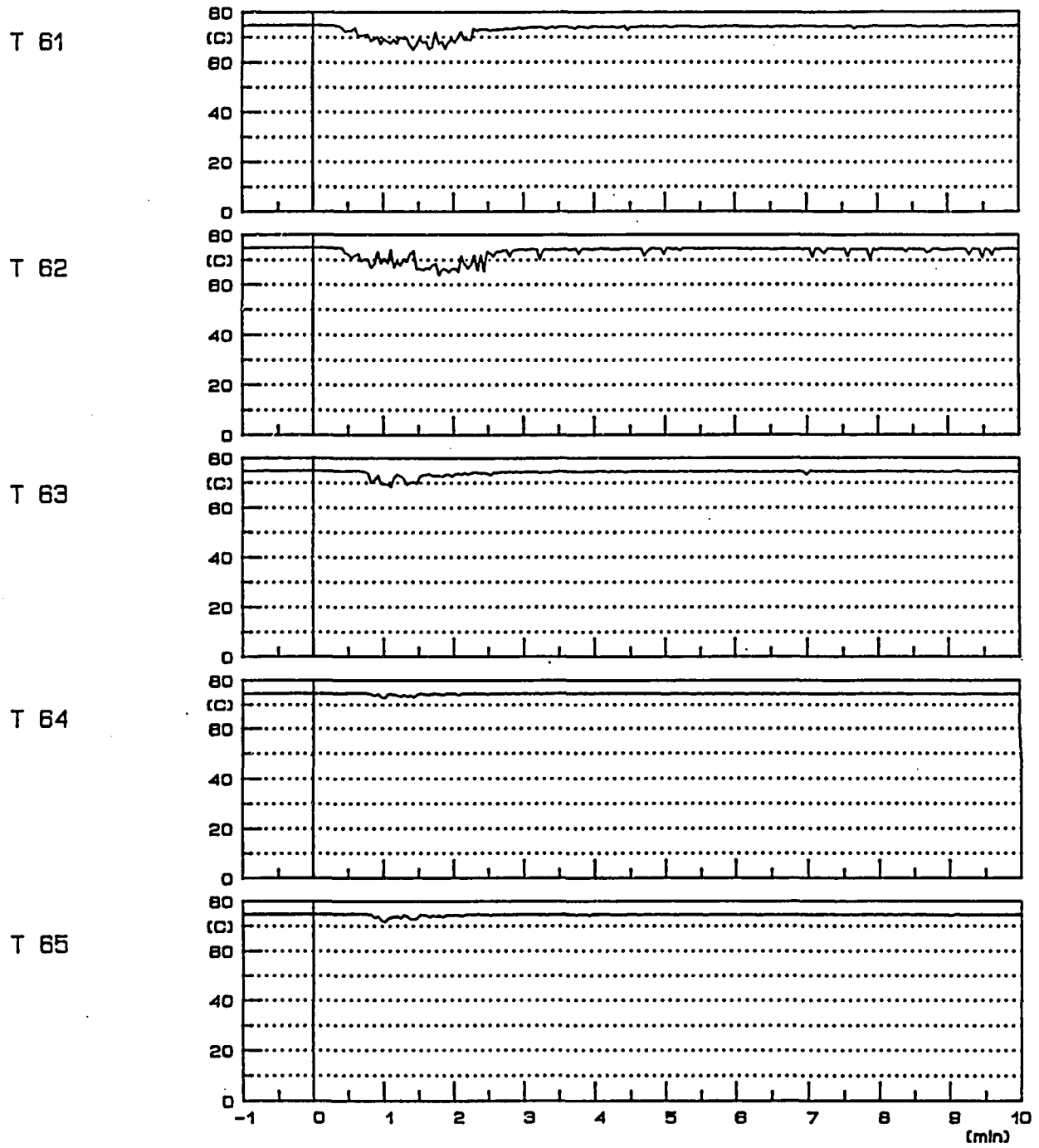
Test :	108	Q_A =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	.42	dm^3/s
					ρ =	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

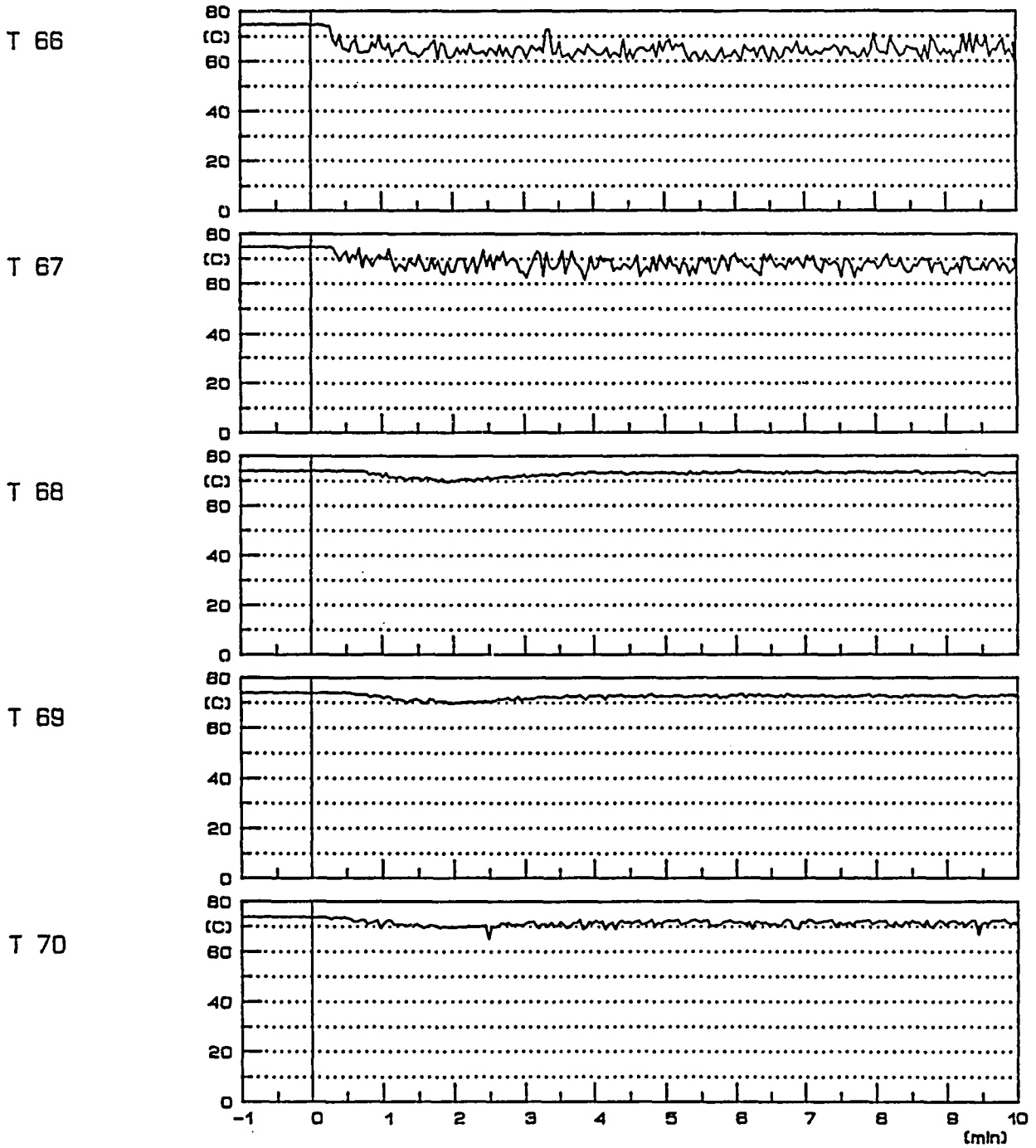
Test :	108	Q_A =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	.42	dm^3/s
					ρ =	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

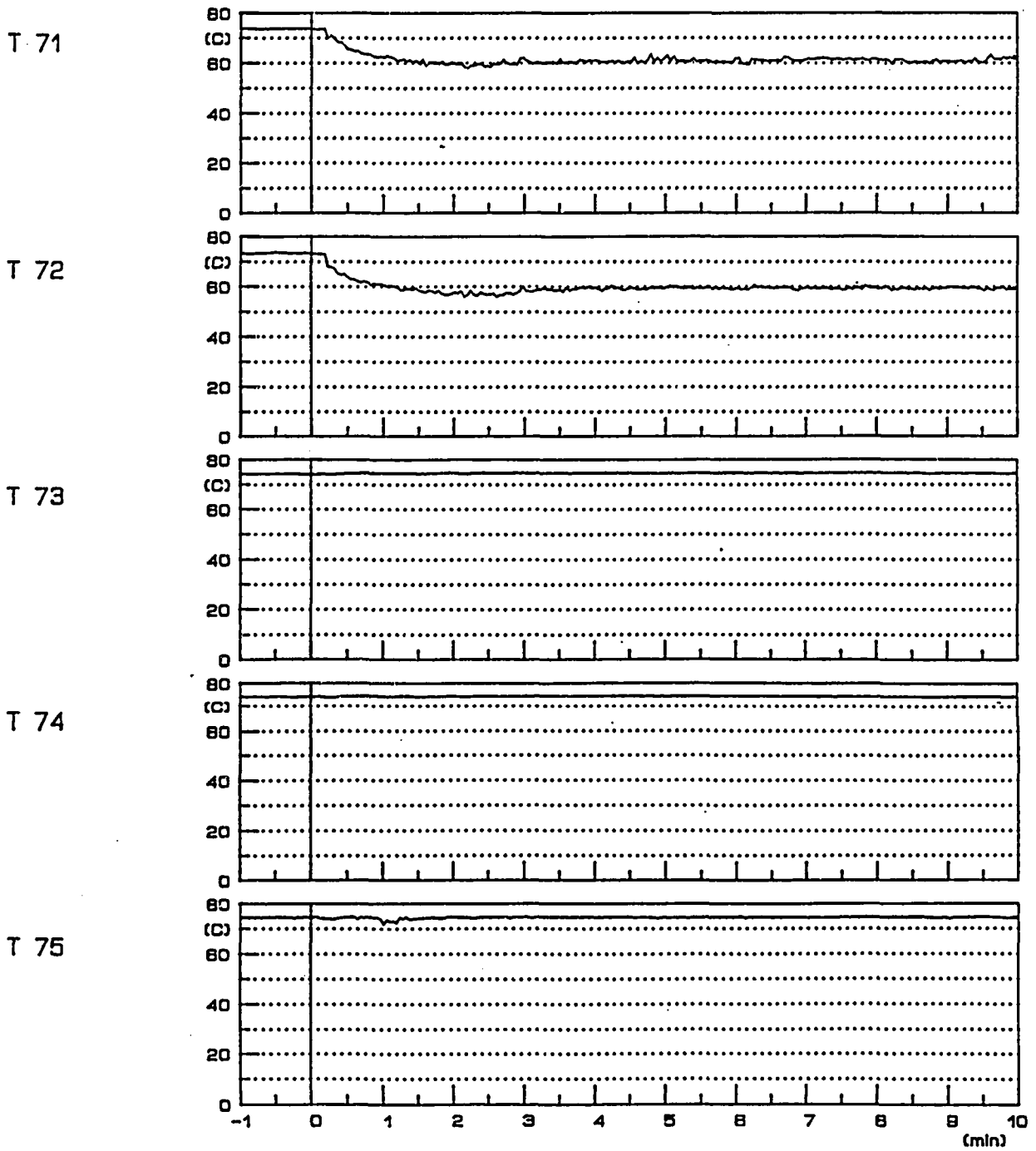
Test :	108	Q_A =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	.42	dm^3/s
					ρ =	1172.	kg/m^3



15. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	108	Q_A	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1172.	kg/m^3

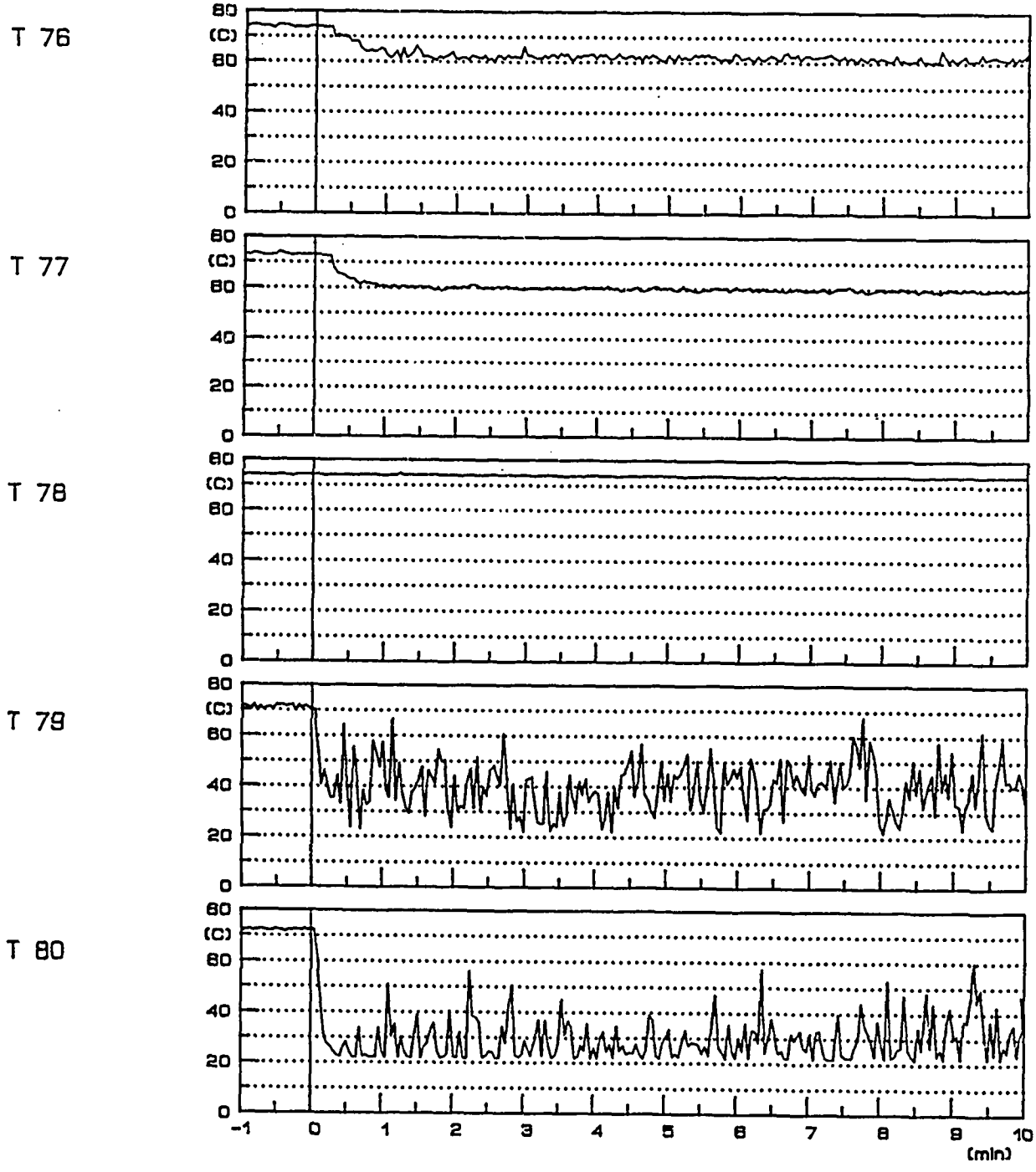


15. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 108

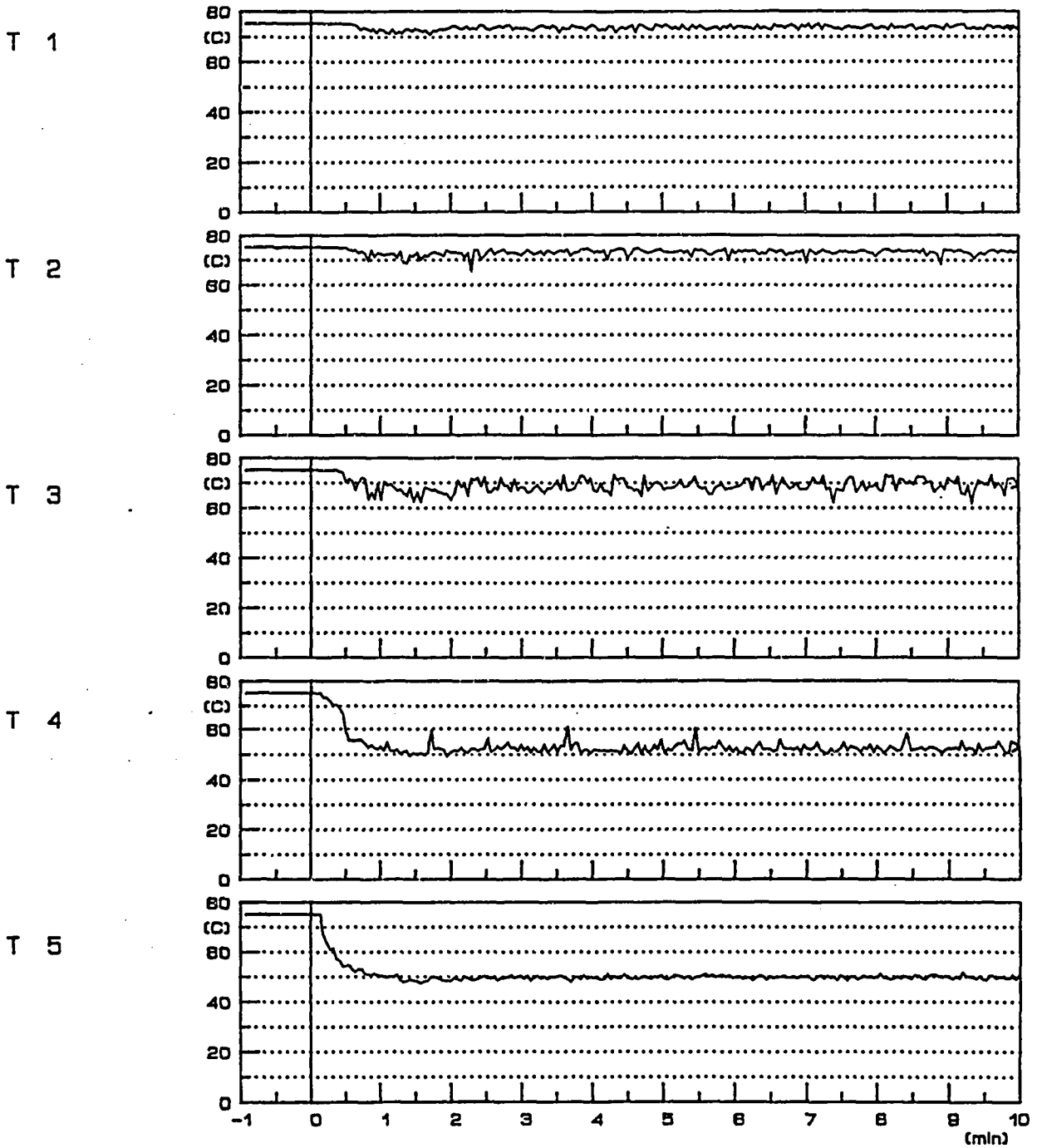
Q_A	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	.42	dm^3/s
				ρ	=	1172.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

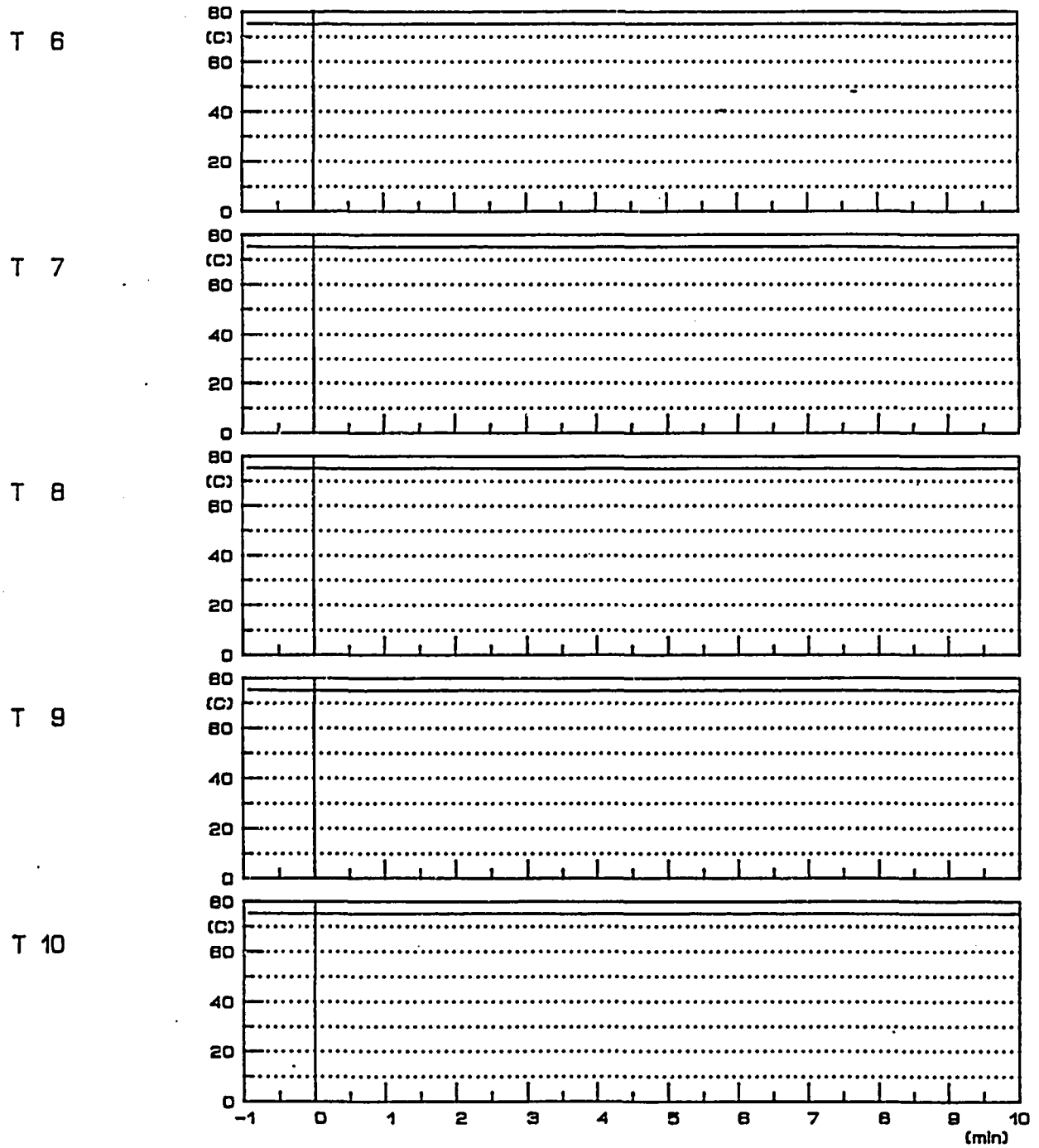
Test :	109	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

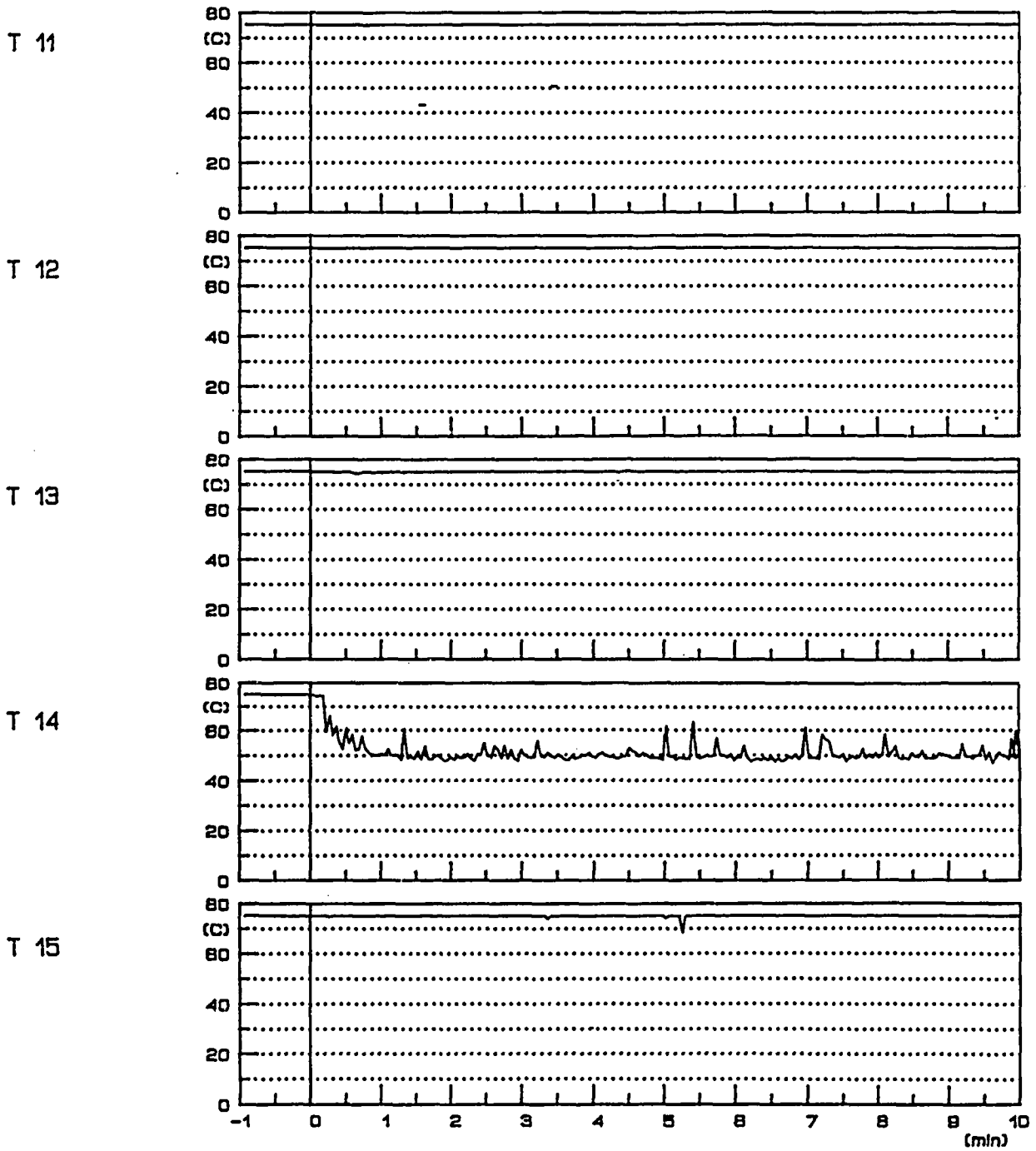
Test :	109	Q_c = 4.2 dm^3/s	$Q_{HPI,A}$ = 1.04 dm^3/s
		ρ = 977. kg/m^3	$Q_{HPI,B}$ = 0.00 dm^3/s
			$Q_{HPI,C}$ = 0.00 dm^3/s
			ρ = 1167. kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	109	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3

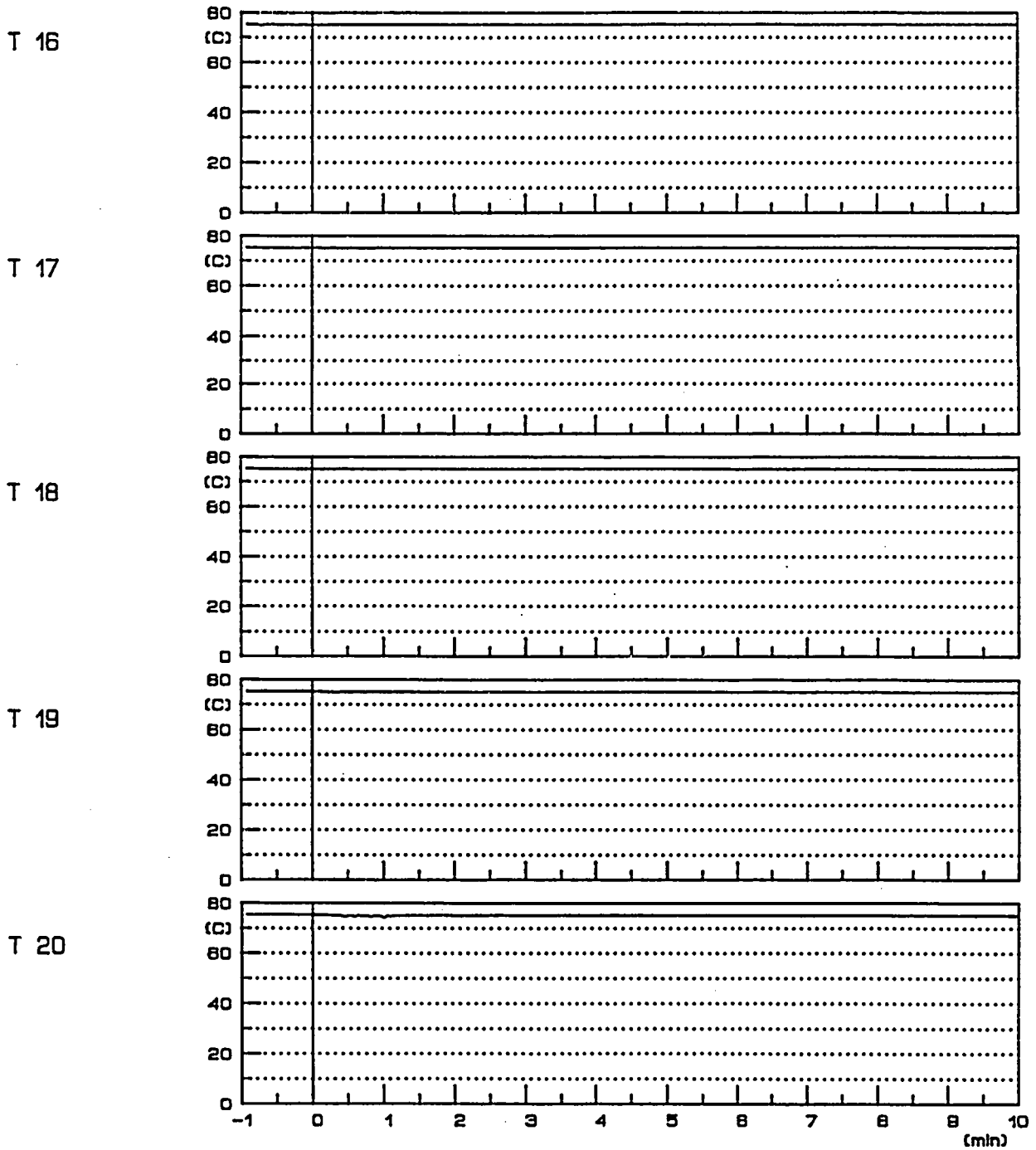


16. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 109

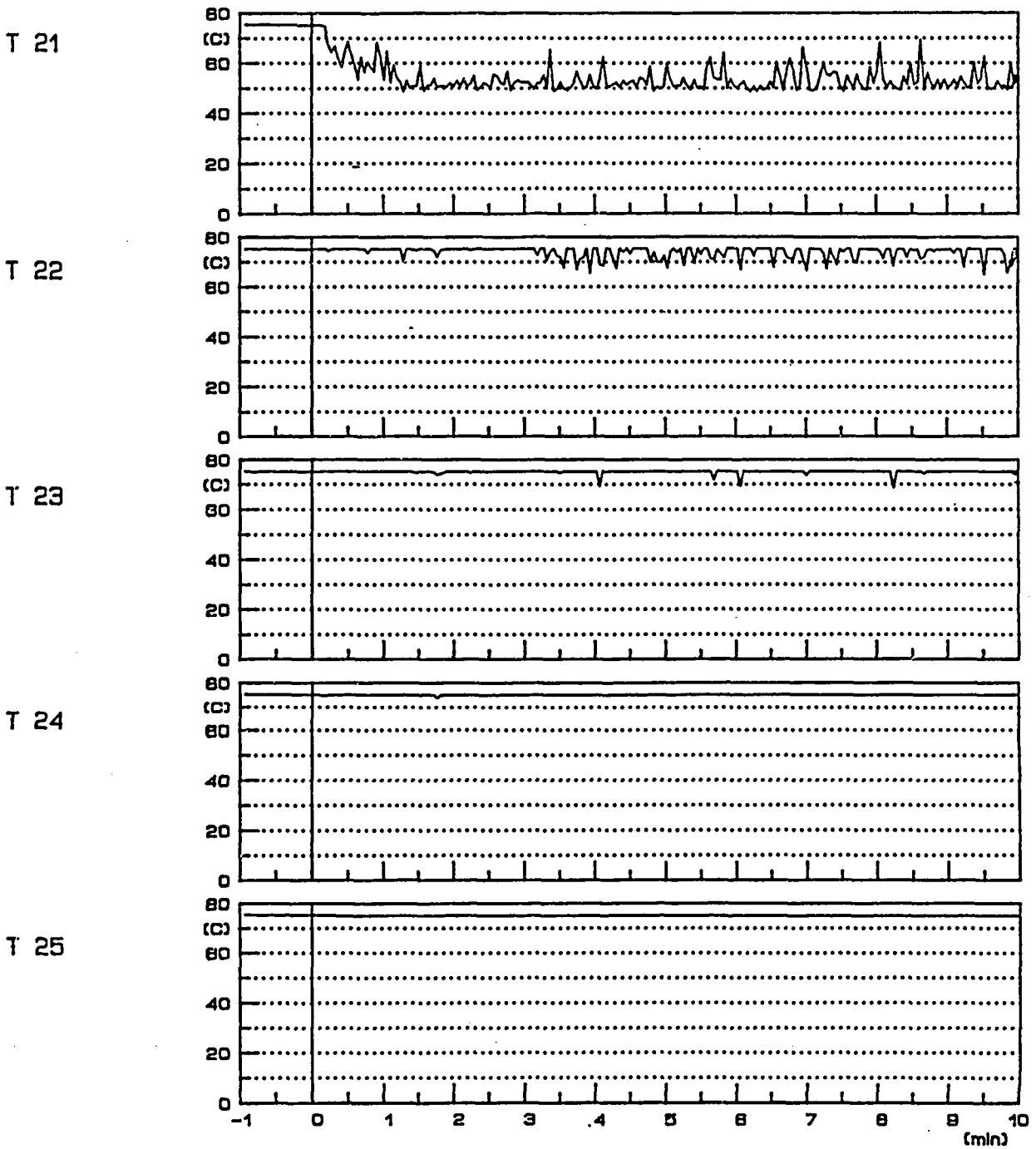
Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1167.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	109	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3

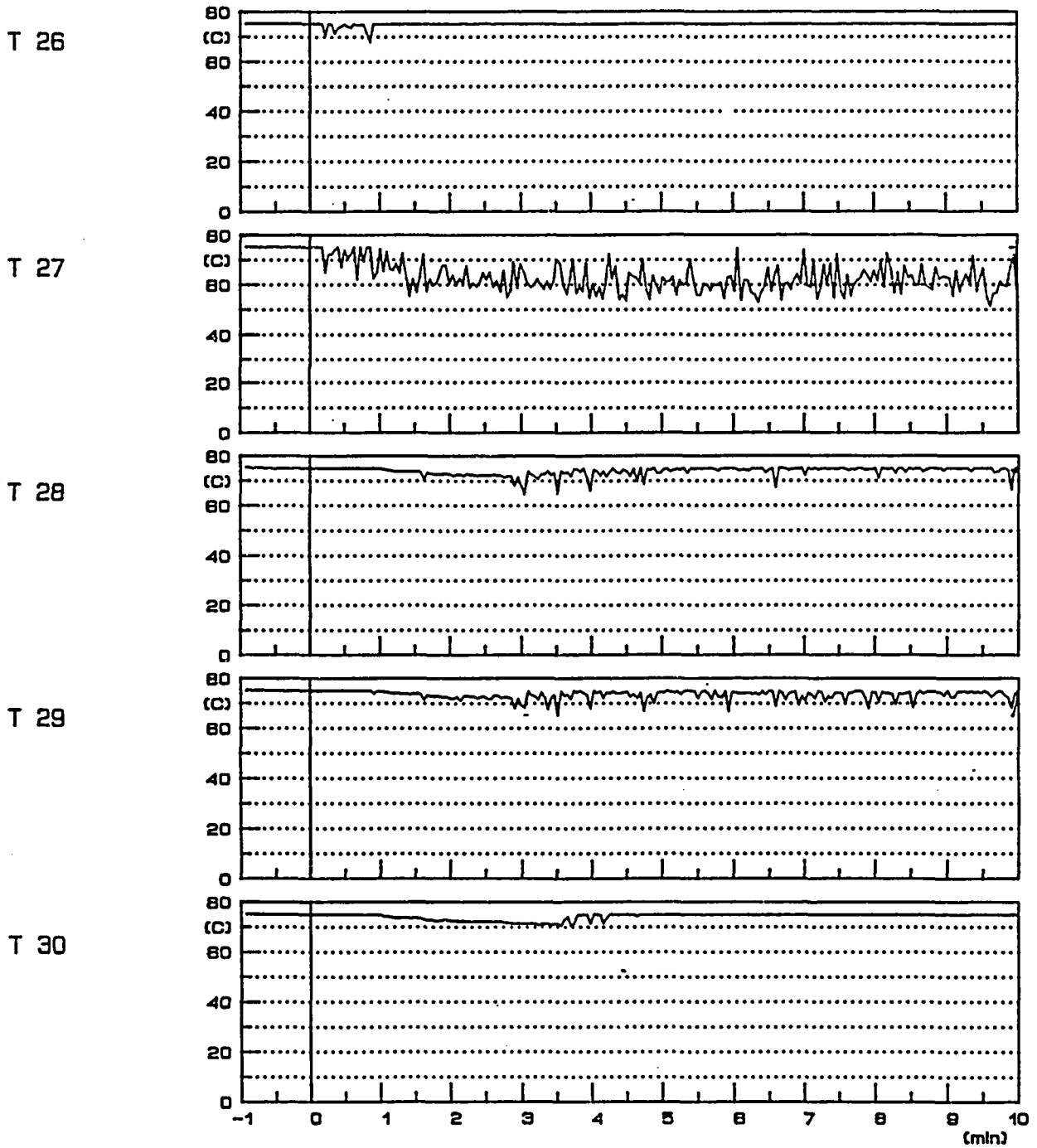


16. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 109

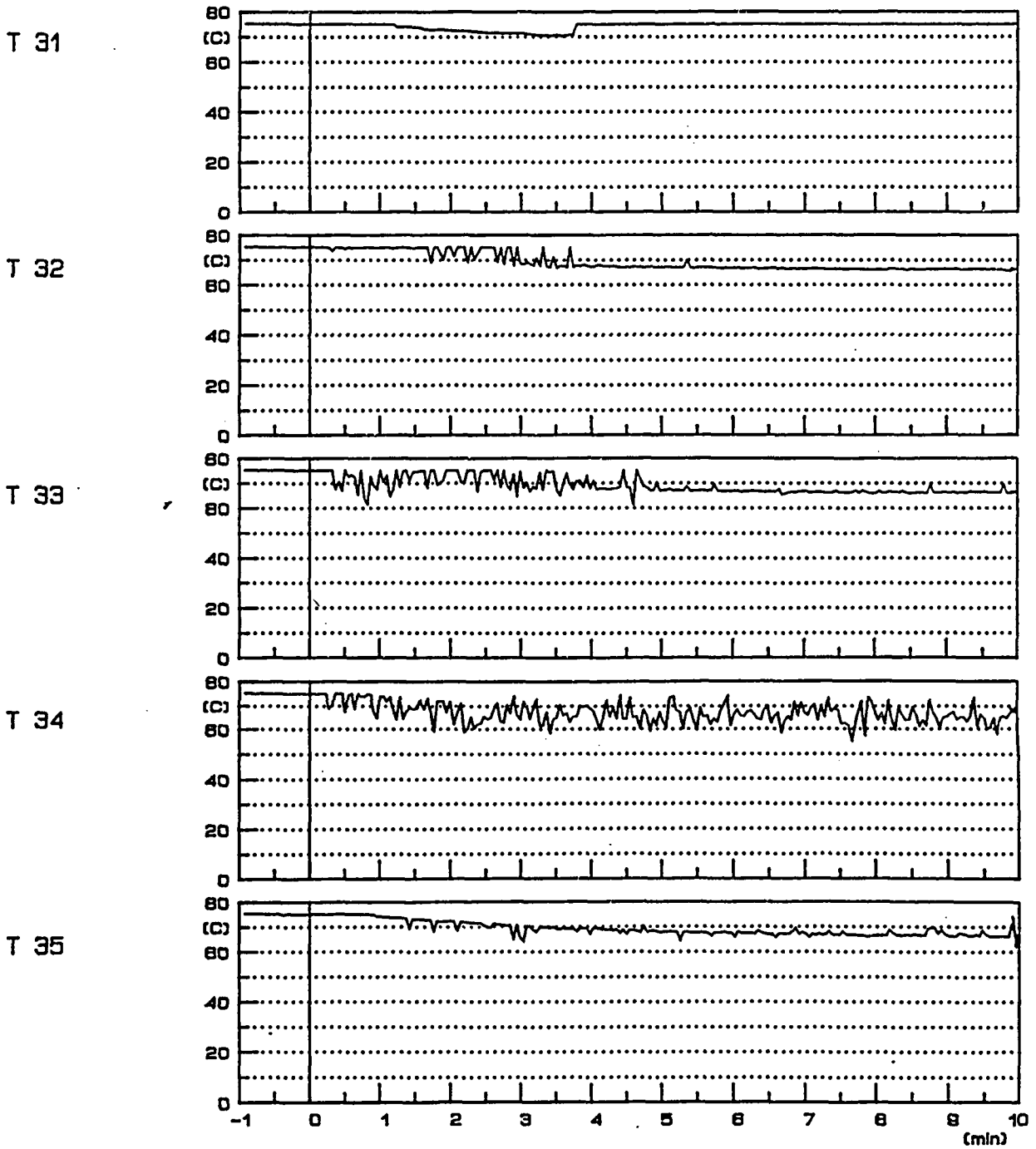
Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1167.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	109	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3

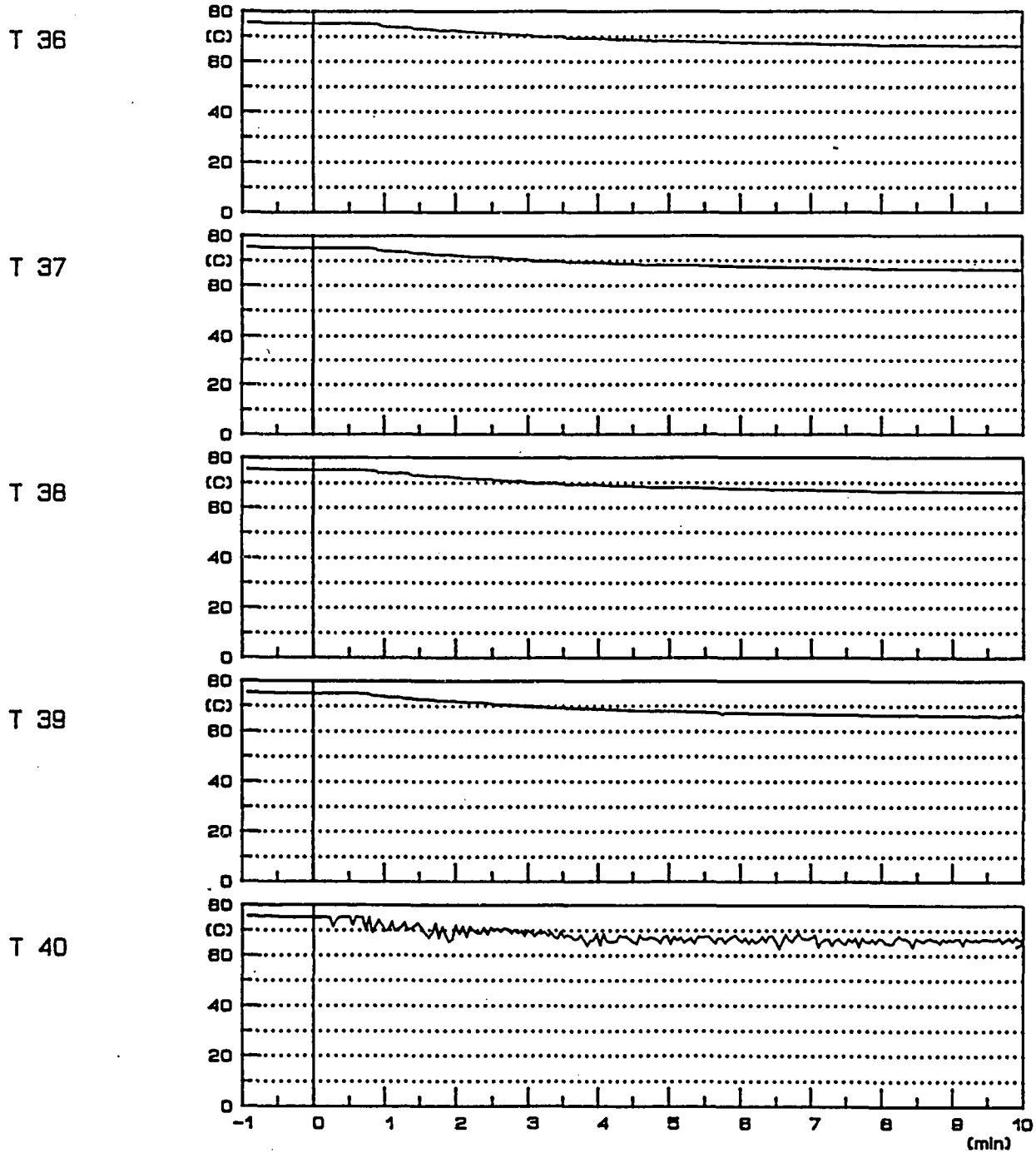


16. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 109

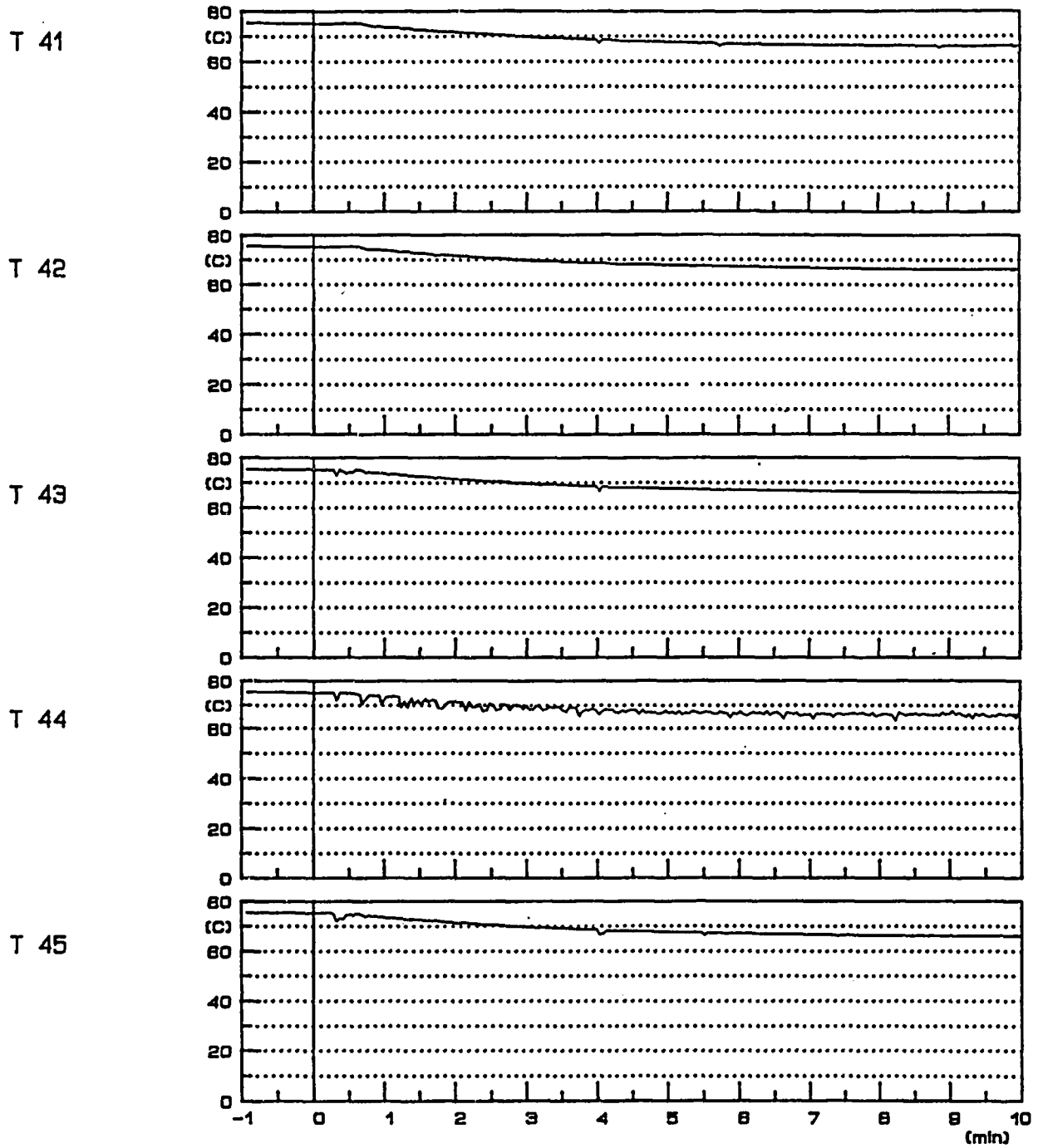
Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1167.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	109	Q_C =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3

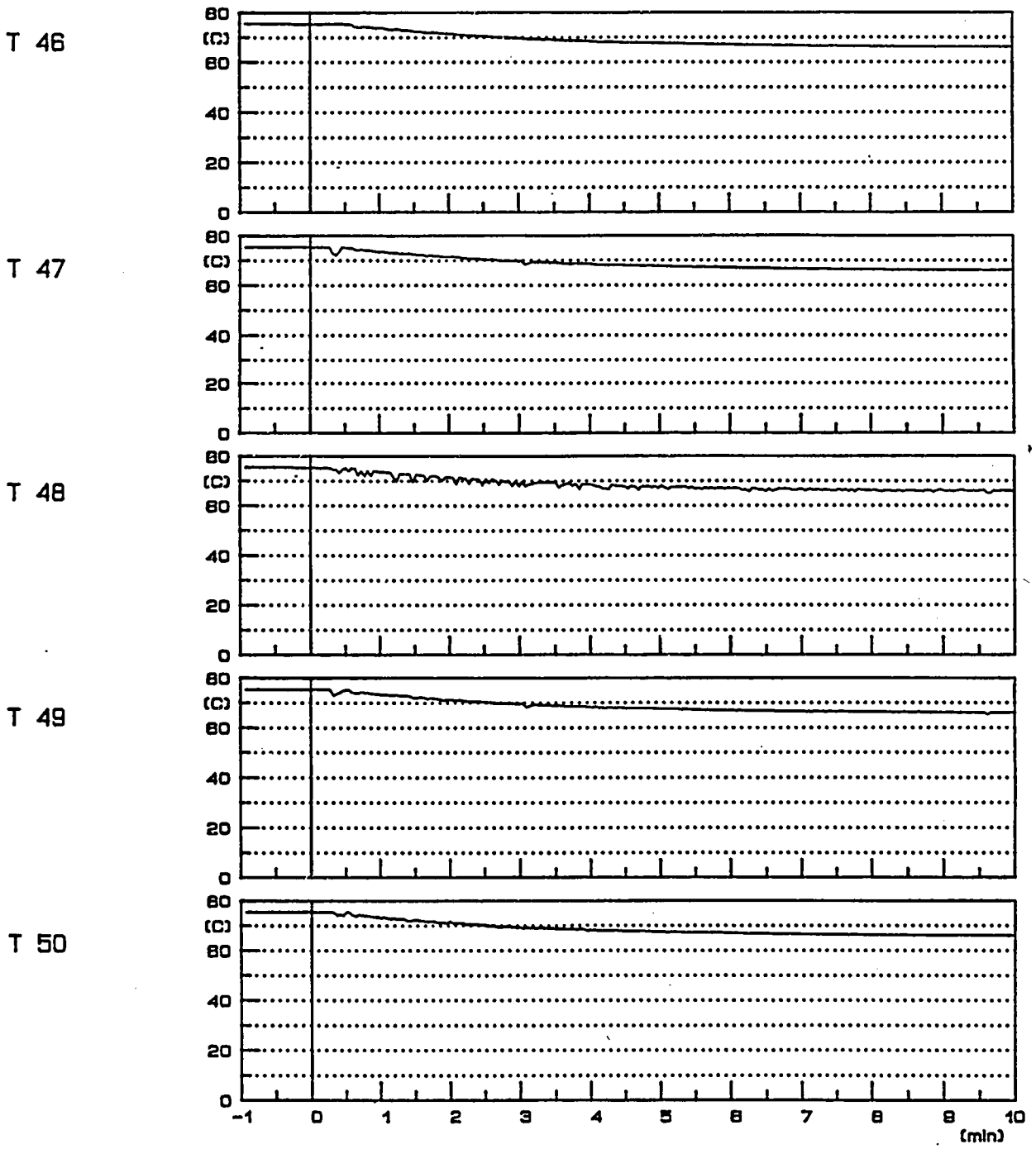


16. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 109

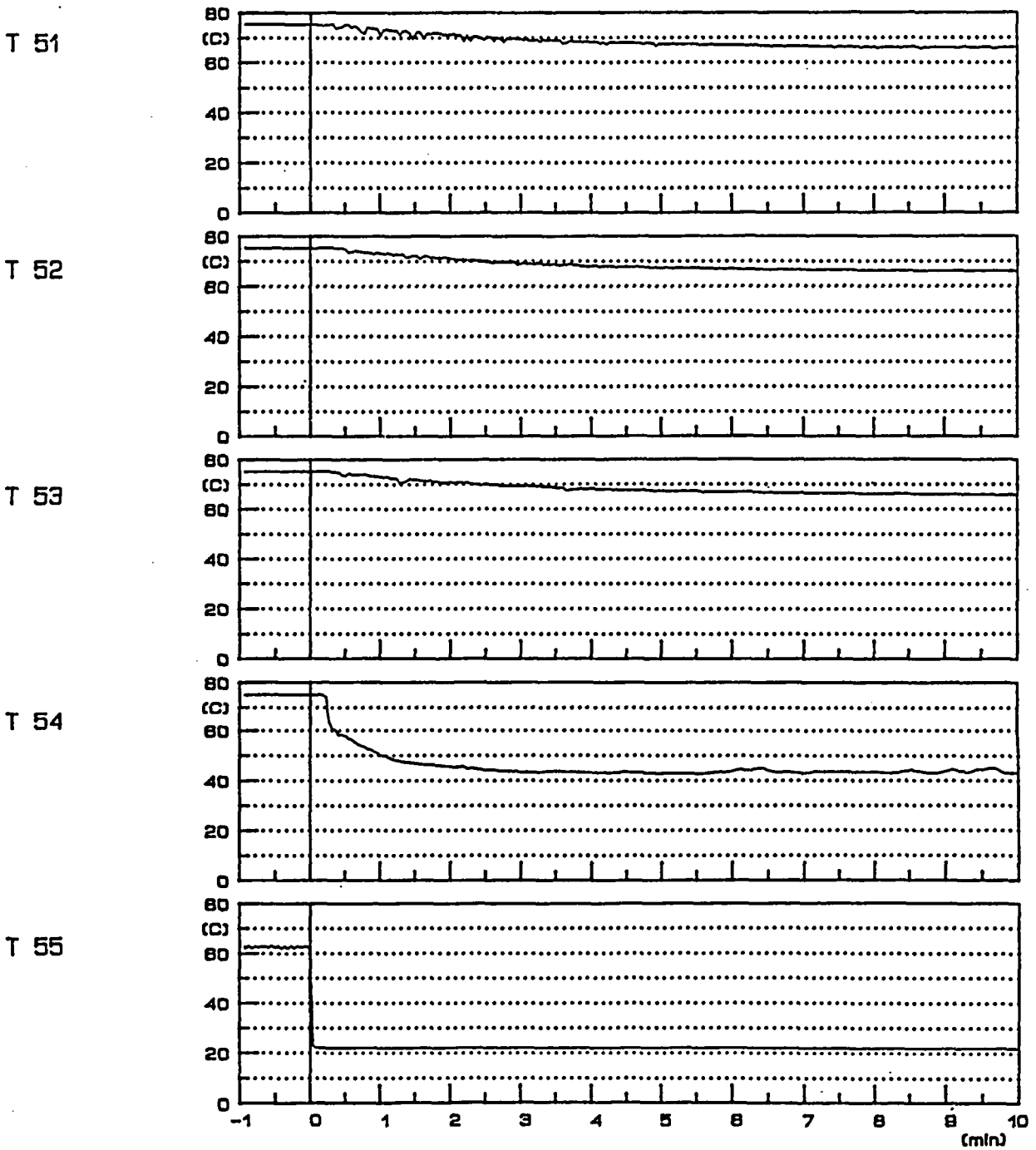
Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1167.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

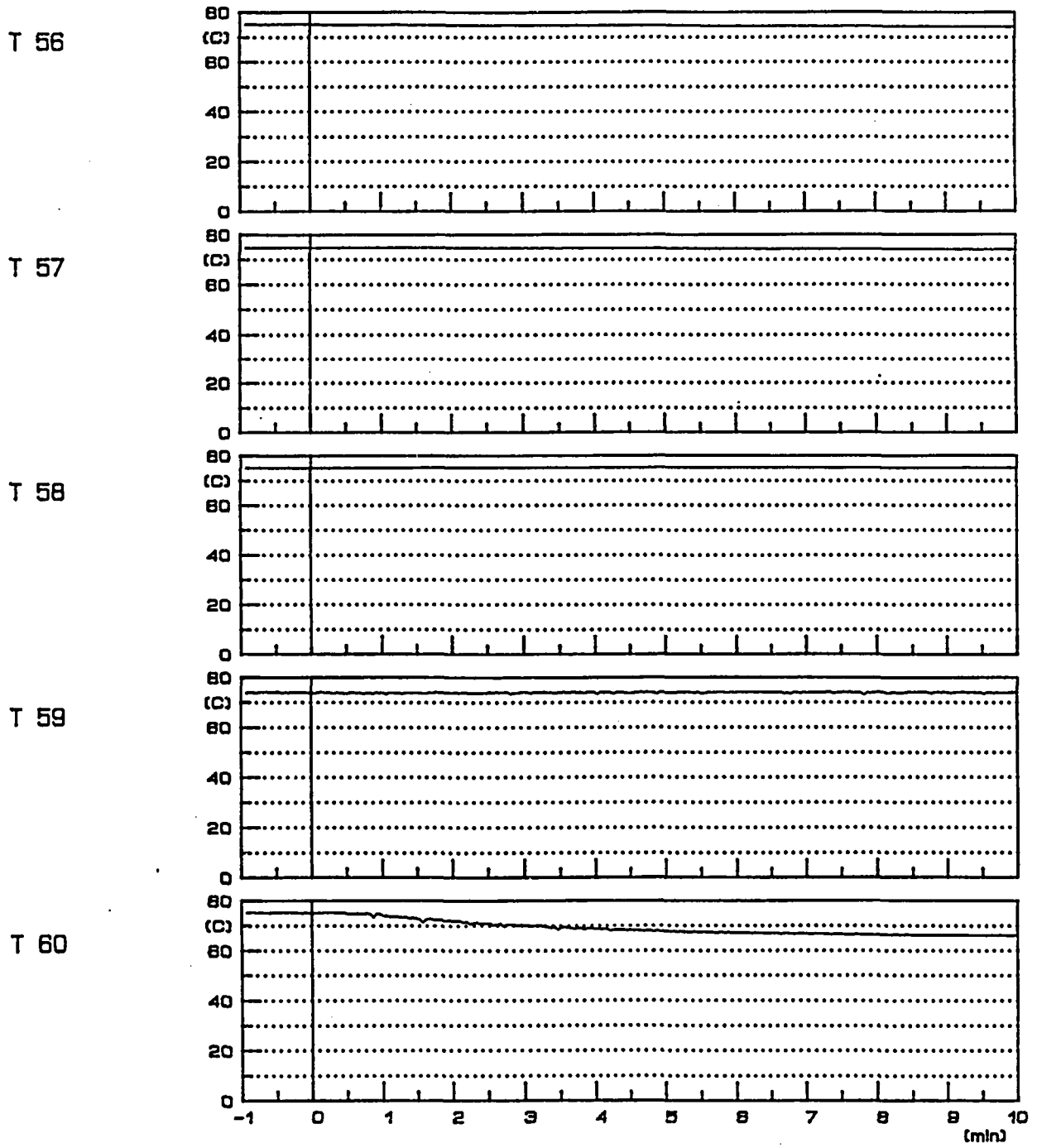
Test :	109	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

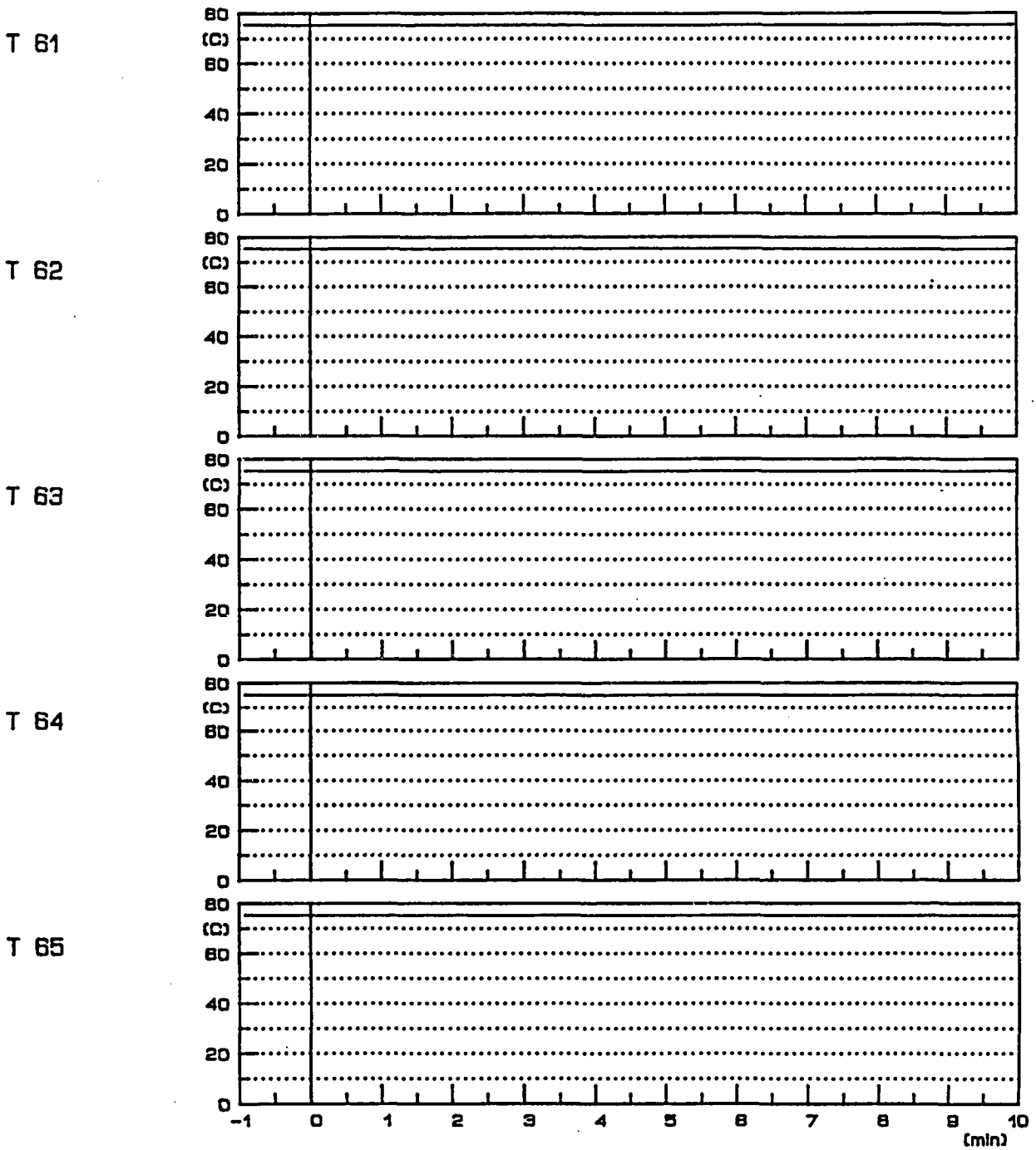
Test :	109	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

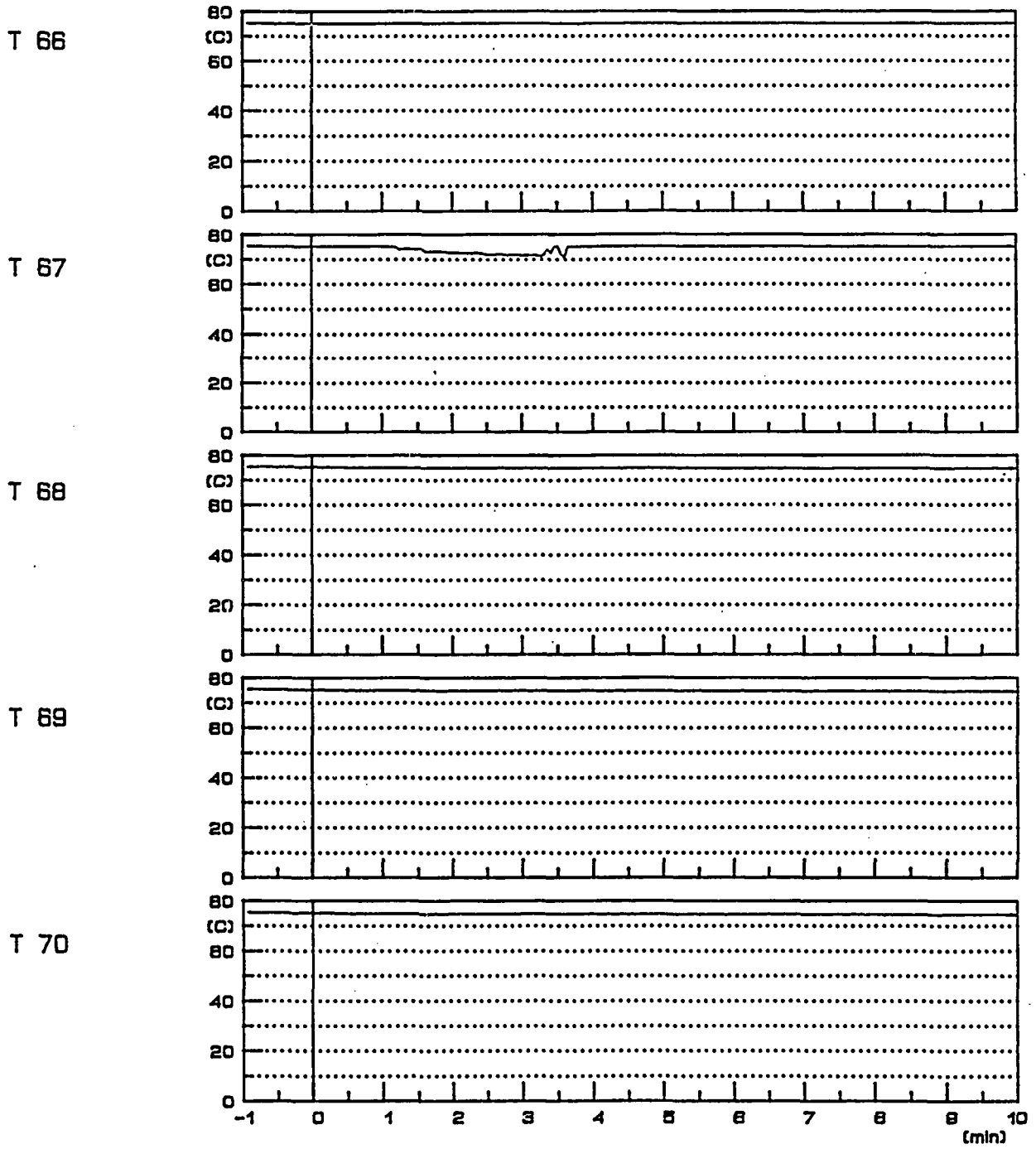
Test :	109	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04 dm^3/s
		ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1167. kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

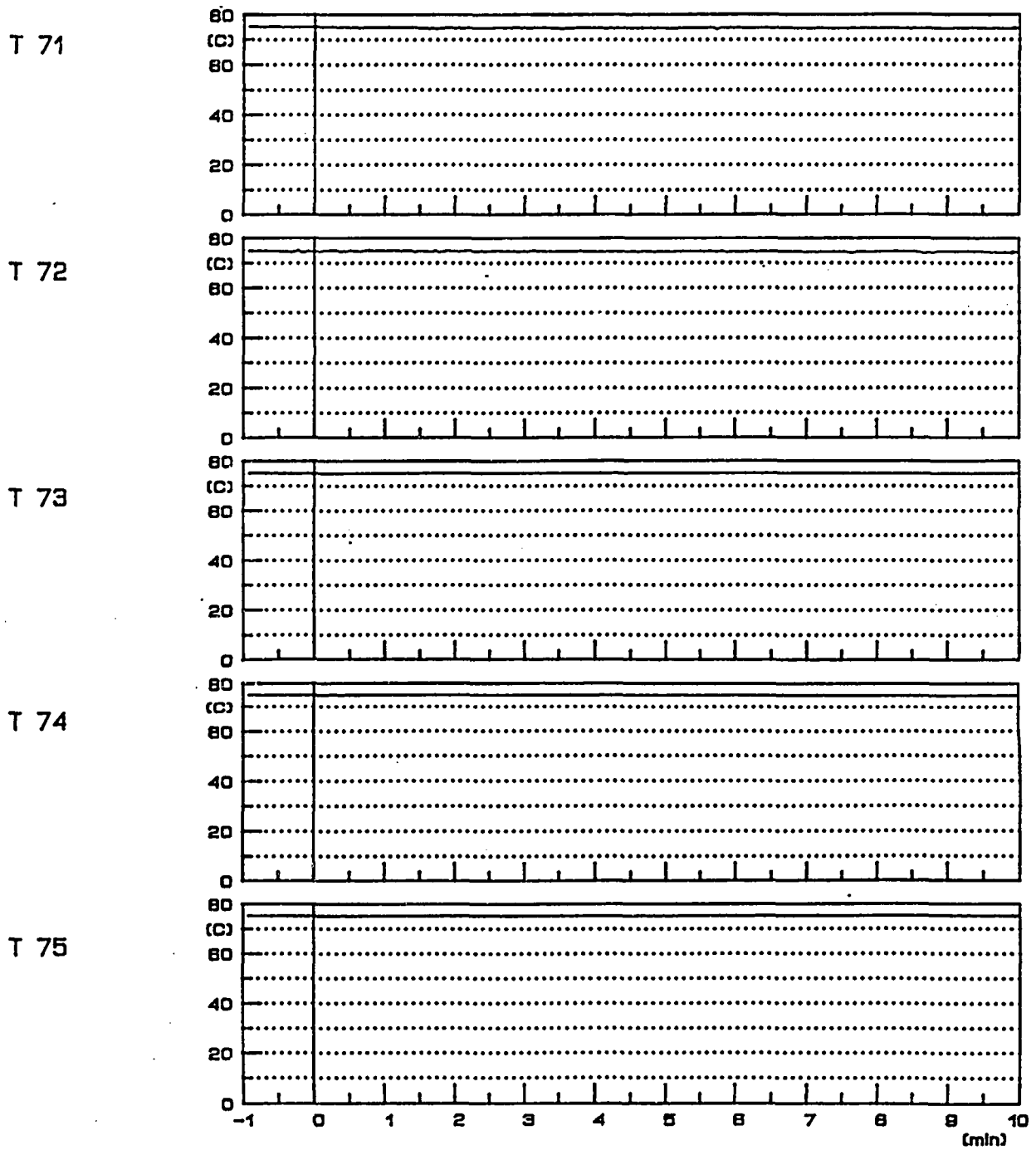
Test :	109	Q_C =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

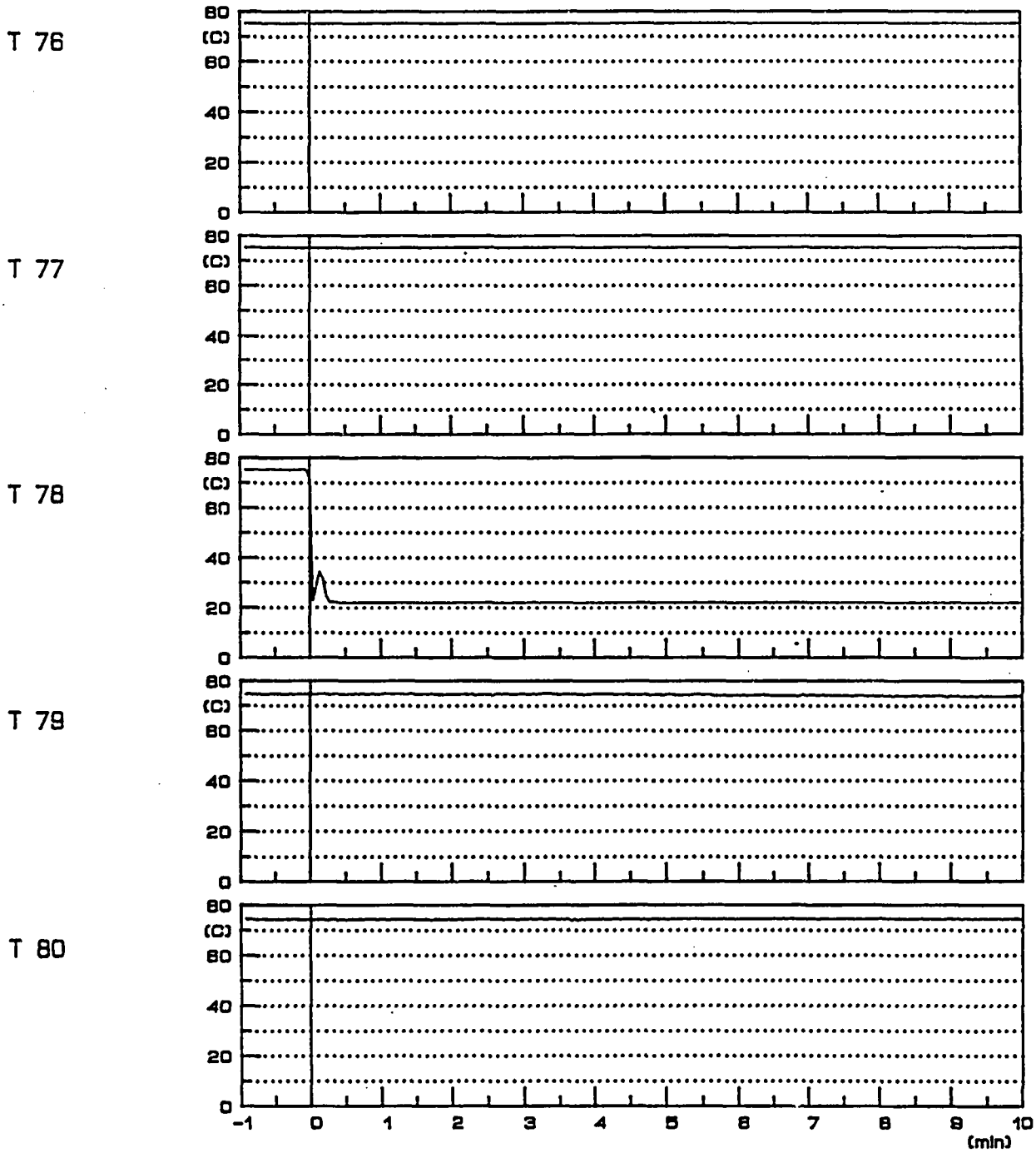
Test :	109	Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	977.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1167.	kg/m^3



16. 8.1985

FLUID AND THERMAL MIXING TESTS

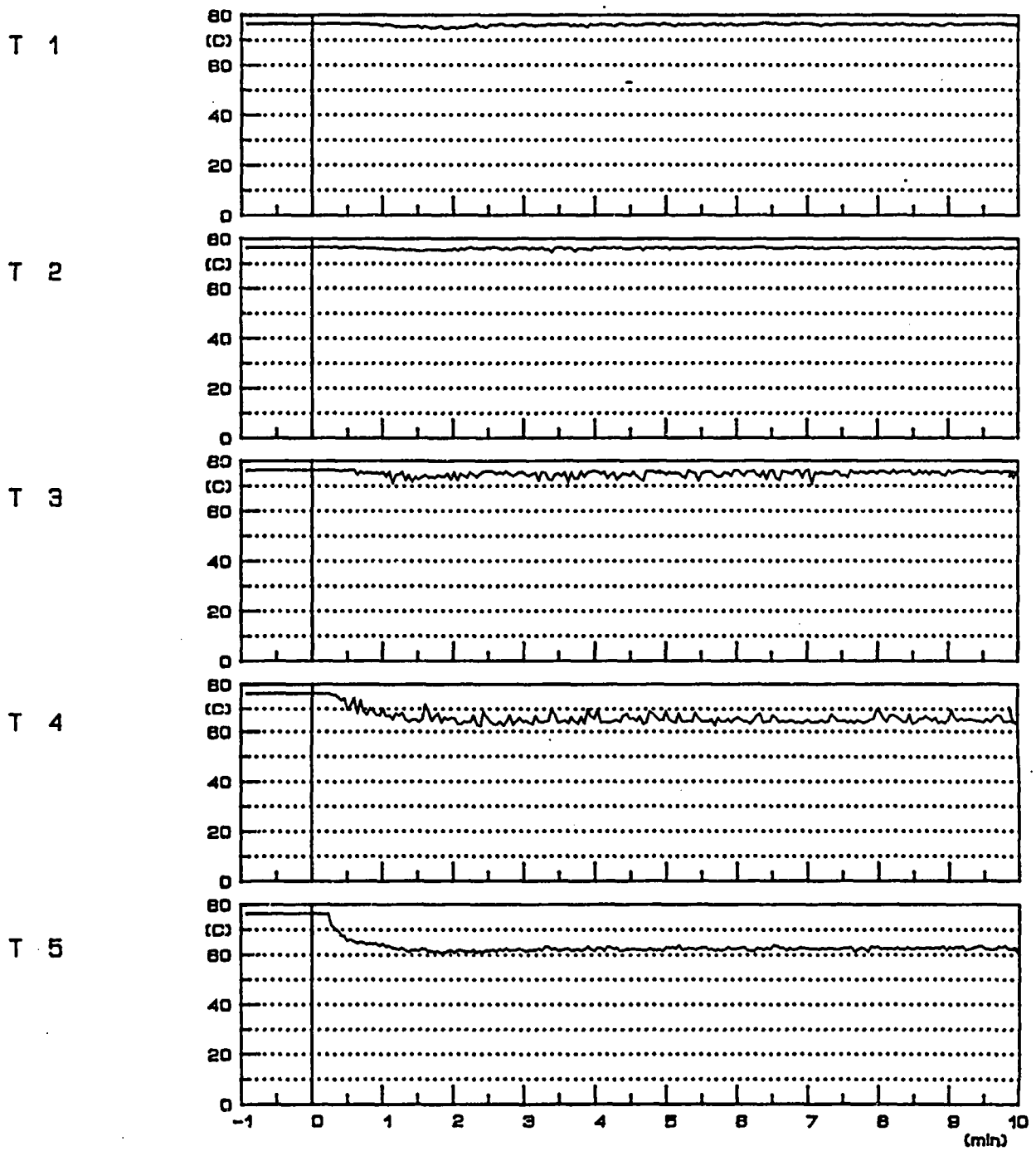
Test :	109	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	977.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

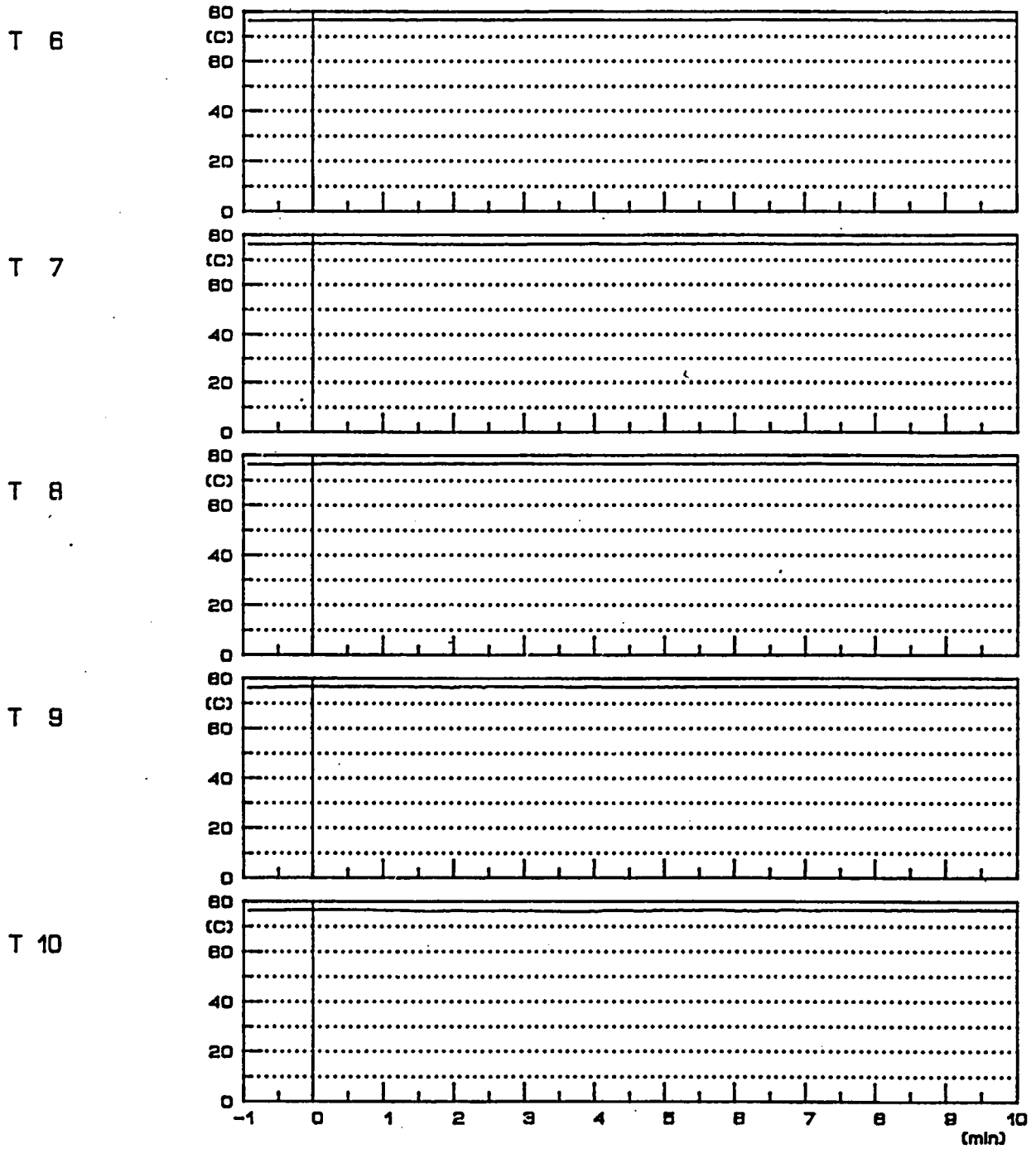
Test :	110	Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

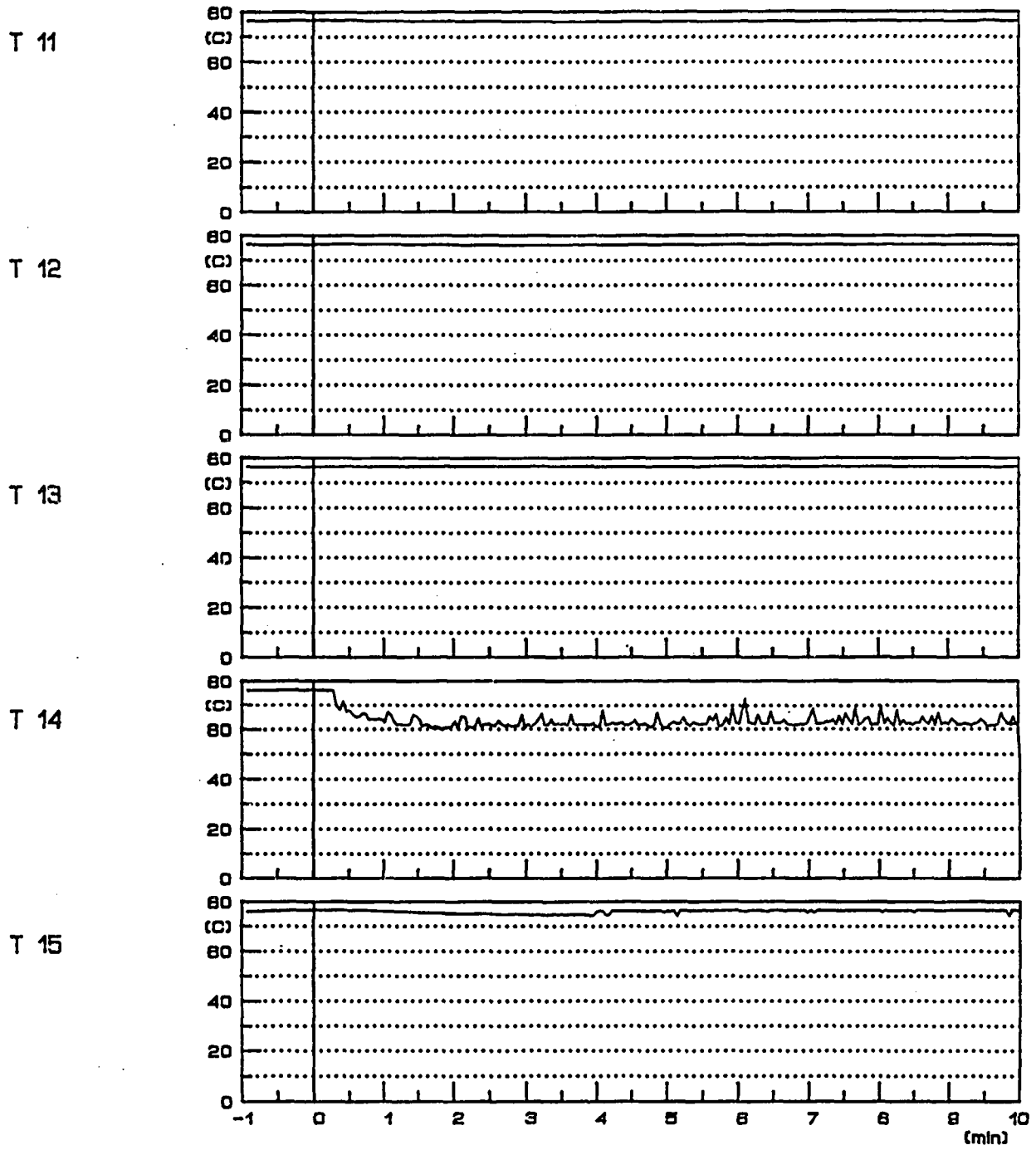
Test :	110	Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

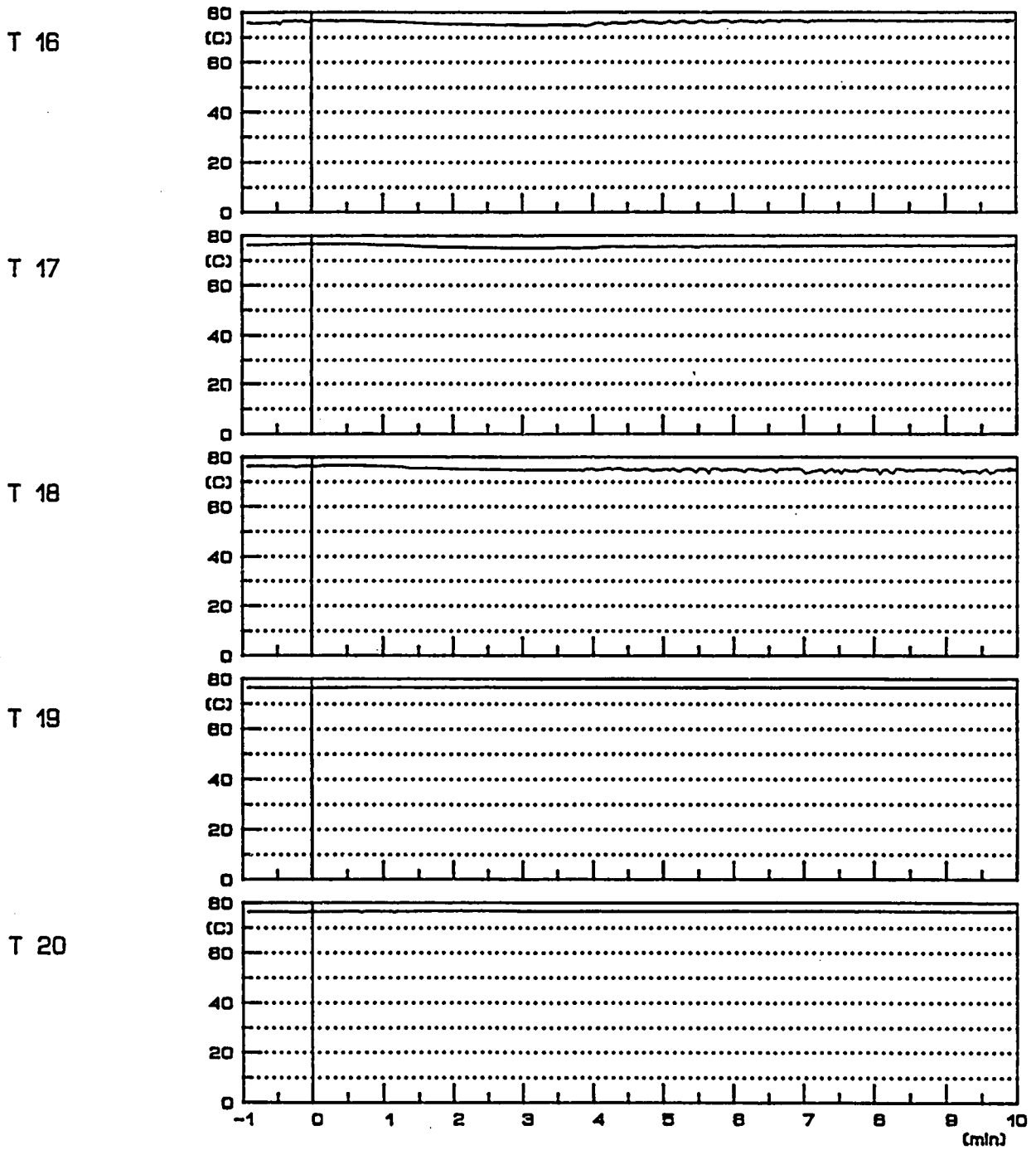
Test :	110	Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

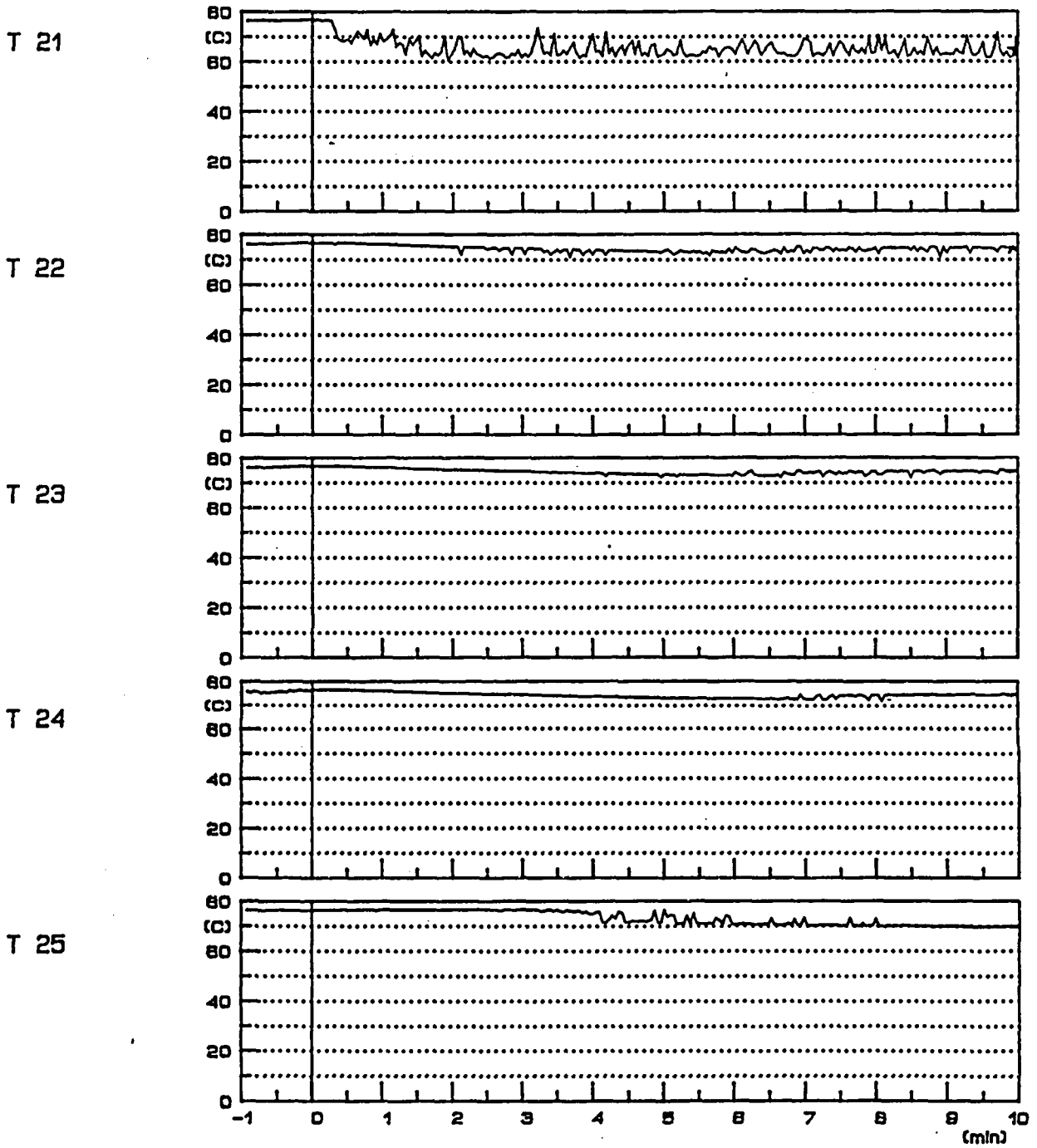
Test :	110	Q_B =	2.1	dm^3/s	$Q_{HPI,A}$ =	.42	dm^3/s
		ρ =	976.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	110	Q_B =	2.1	dm^3/s	$Q_{HPI,A}$ =	.42	dm^3/s
		ρ =	976.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1167.	kg/m^3

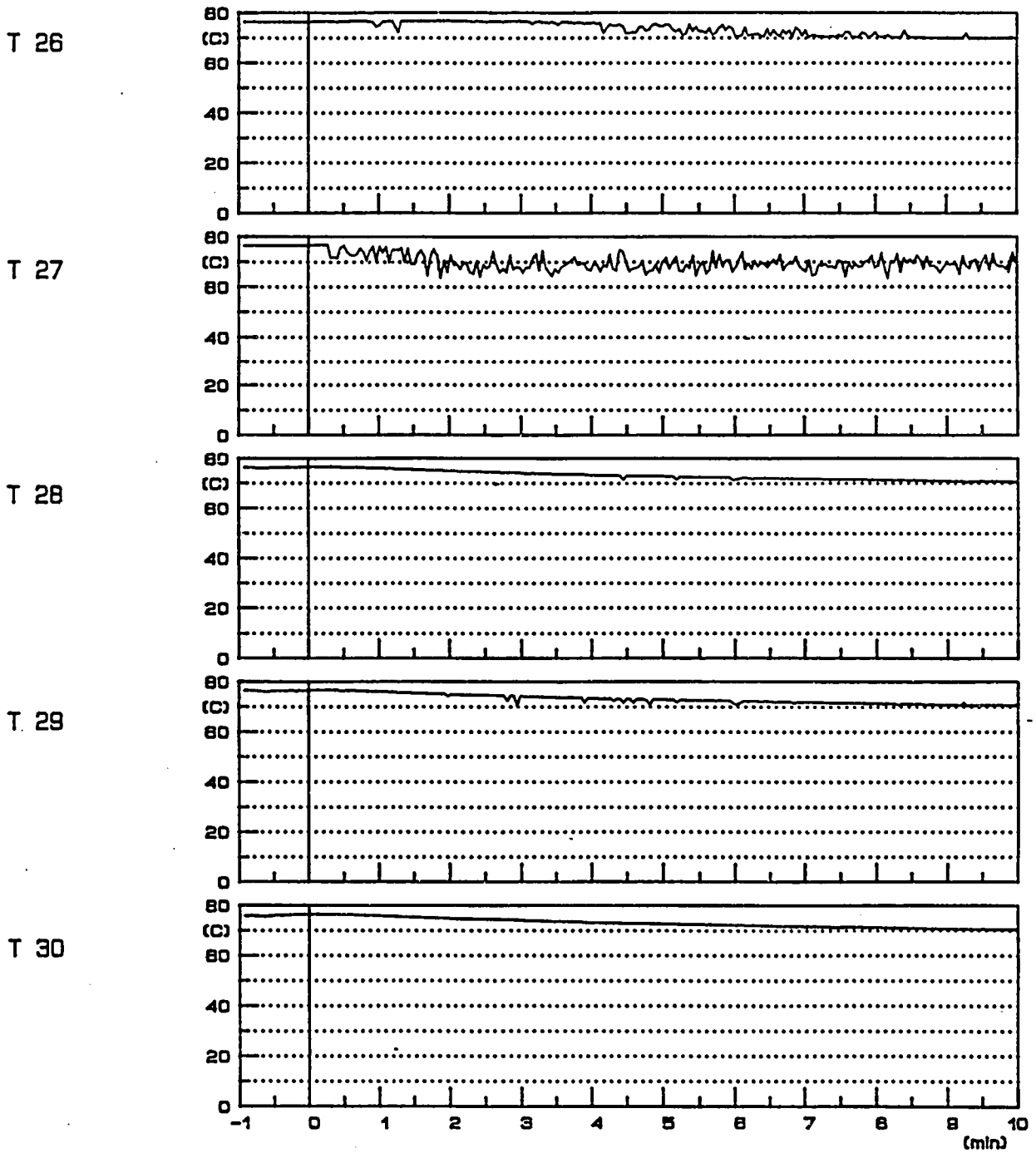


21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 110

Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 110

Q_B = 2.1 dm^3/s

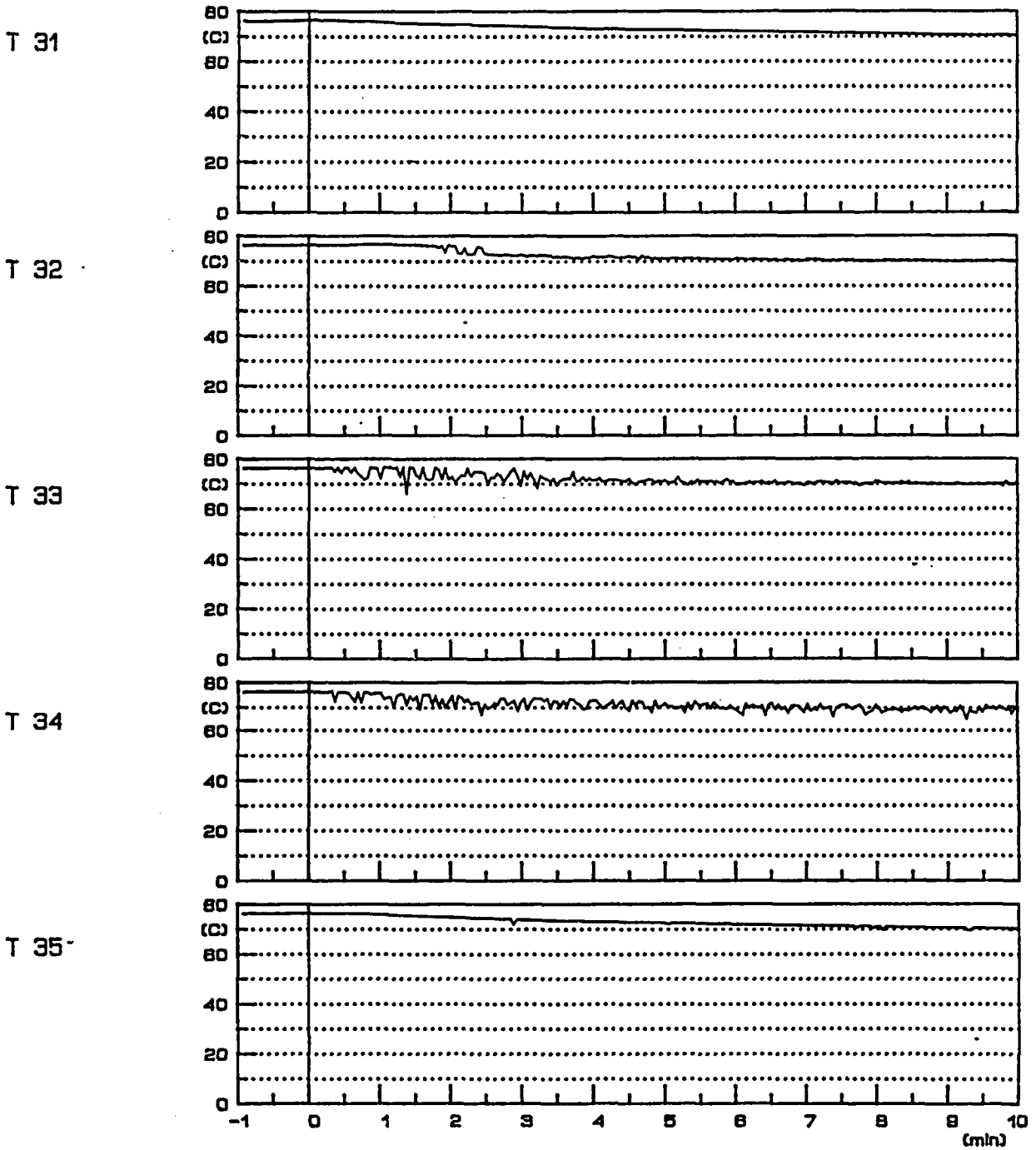
ρ = 976. kg/m^3

$Q_{HPI,A}$ = .42 dm^3/s

$Q_{HPI,B}$ = 0.00 dm^3/s

$Q_{HPI,C}$ = 0.00 dm^3/s

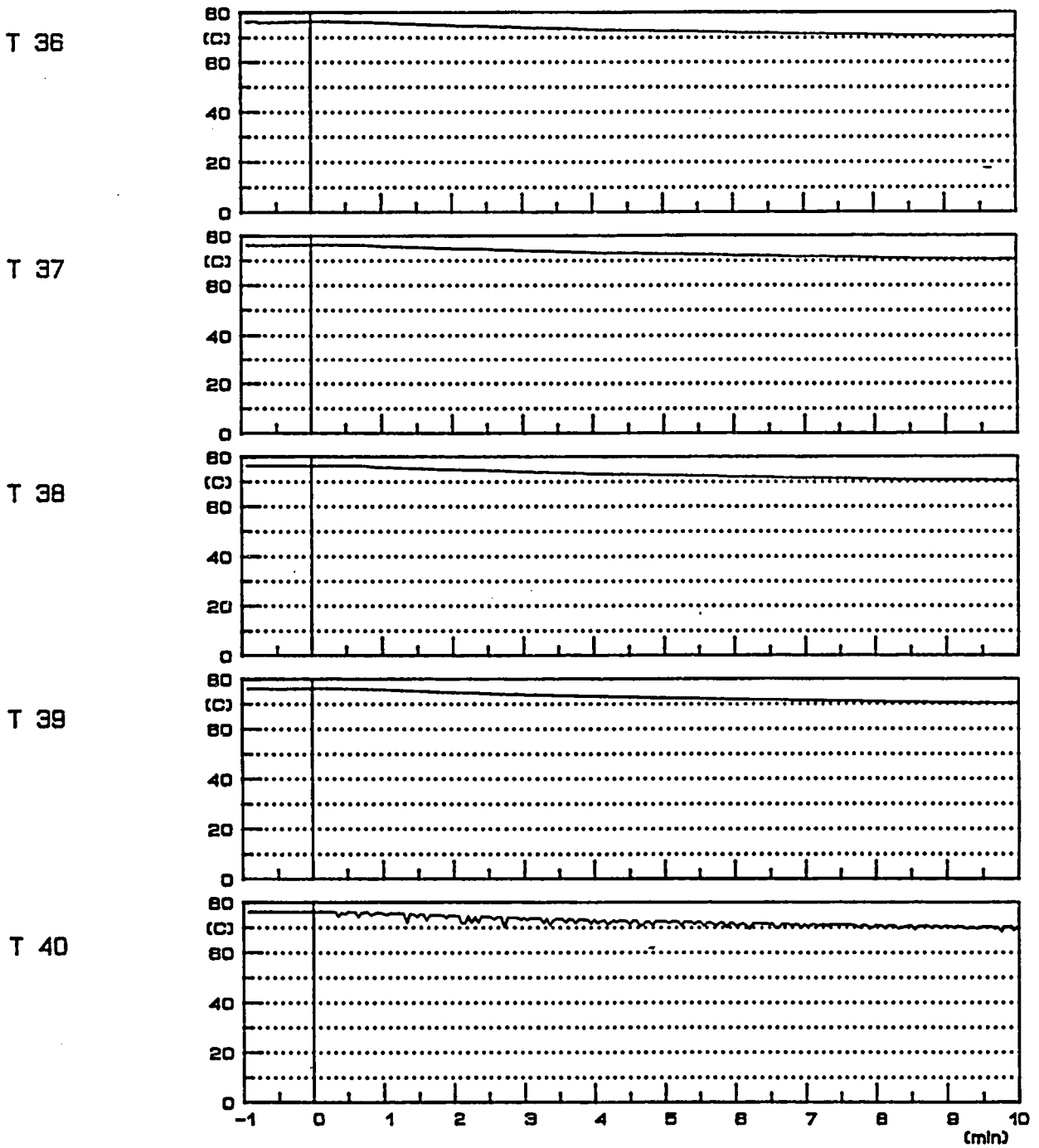
ρ = 1167. kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

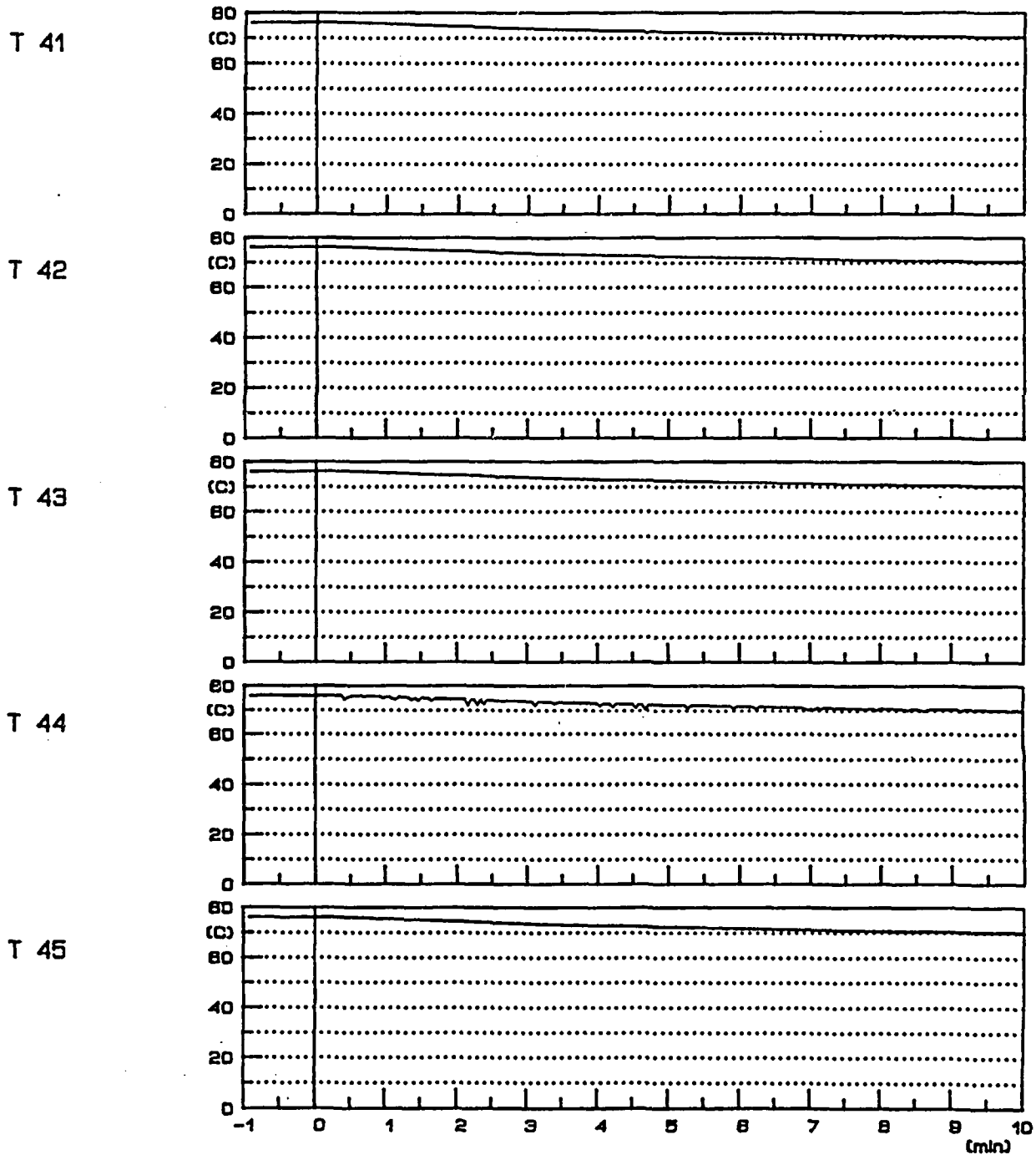
Test :	110	$\dot{Q}_B$	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	110	Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1167.	kg/m^3

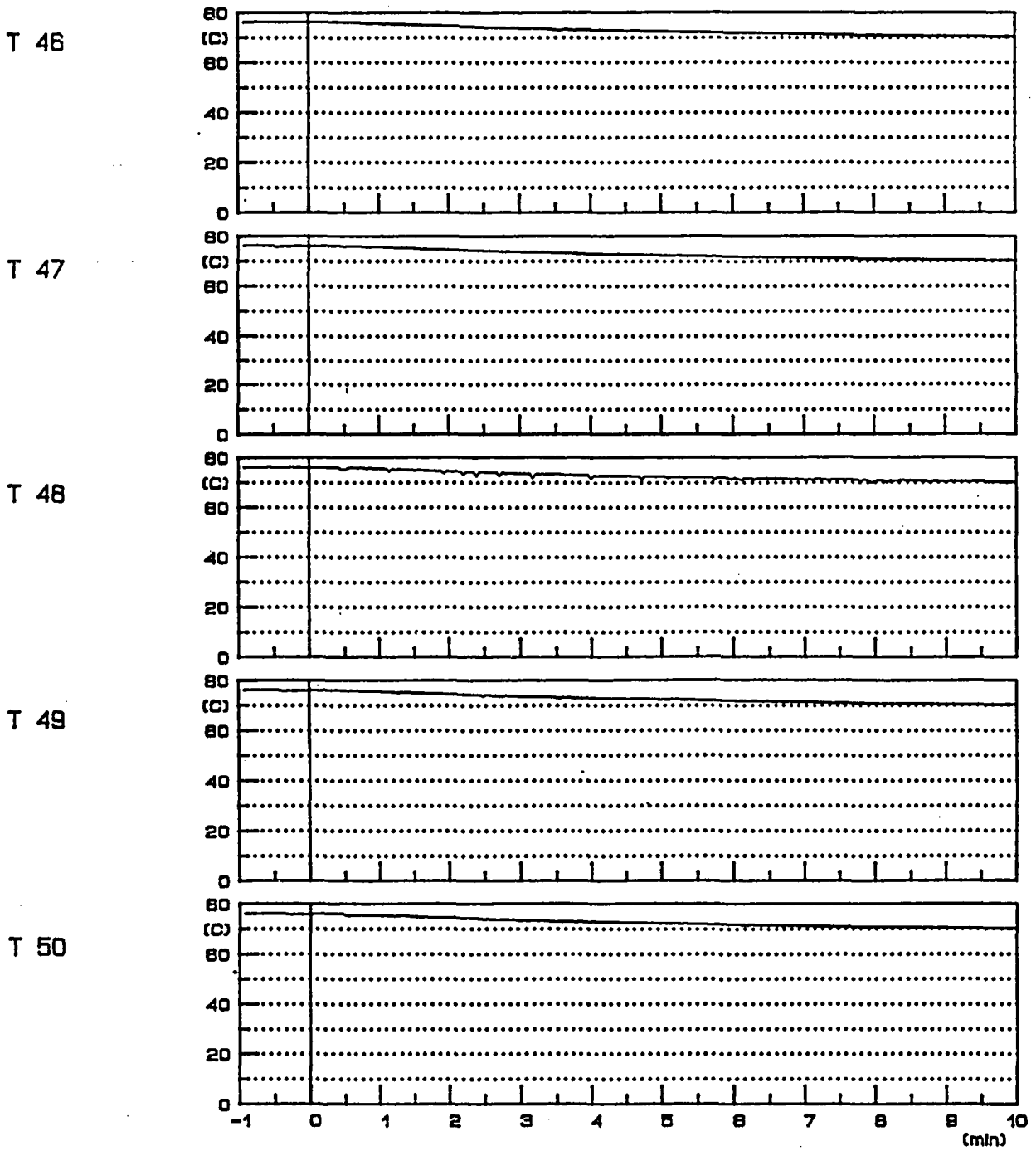


21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 110

Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1167.	kg/m^3

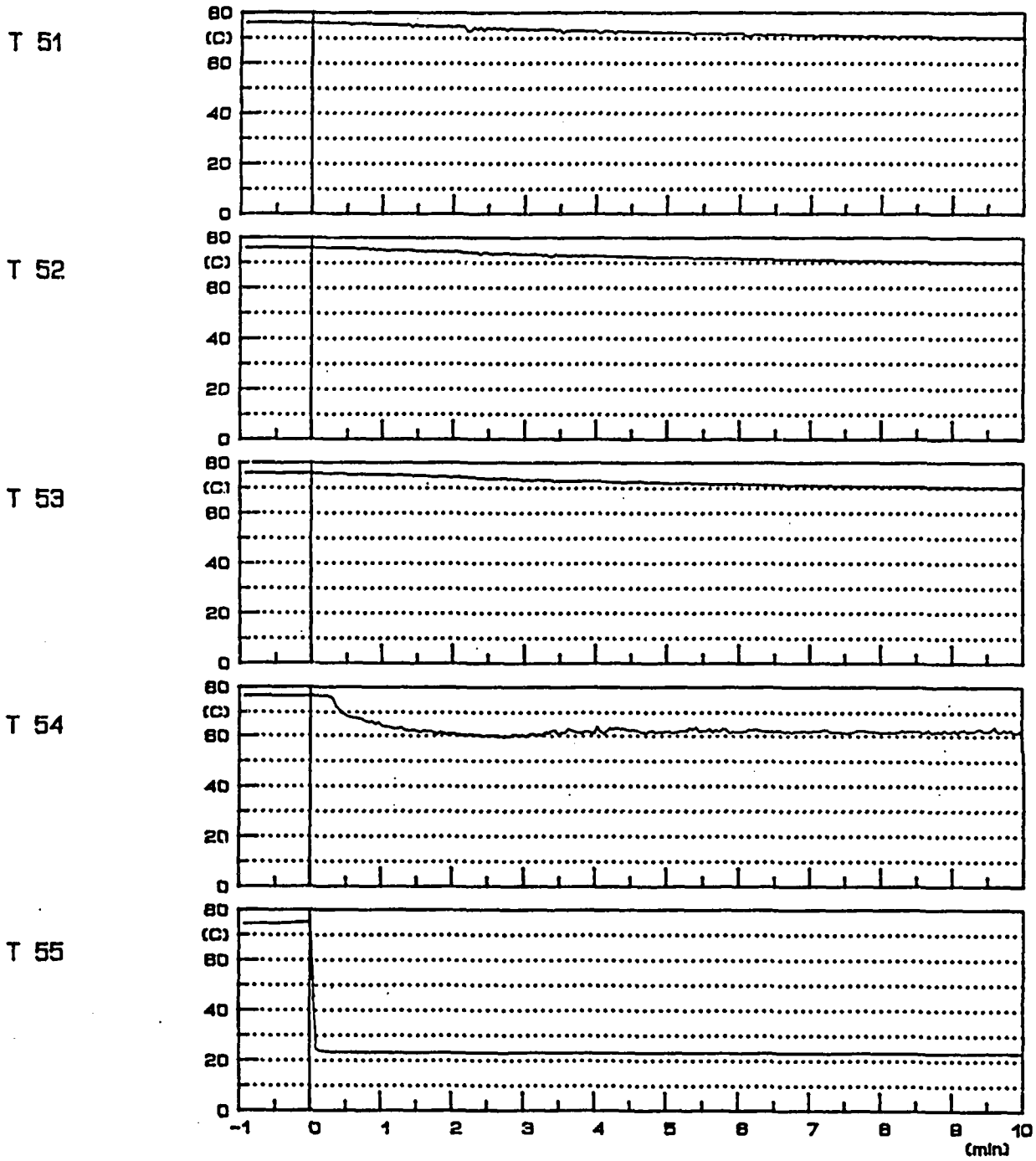


21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 110

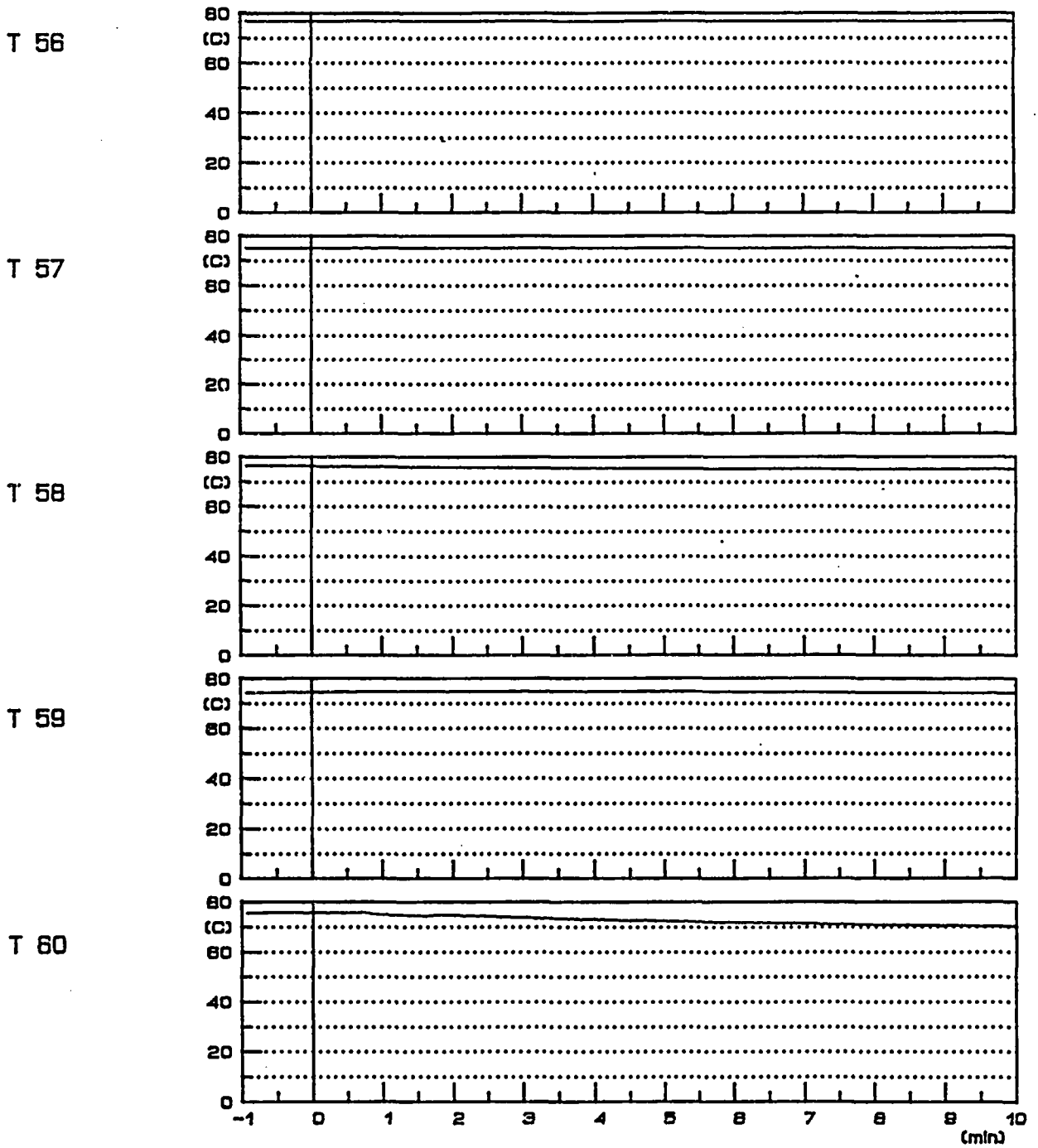
Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

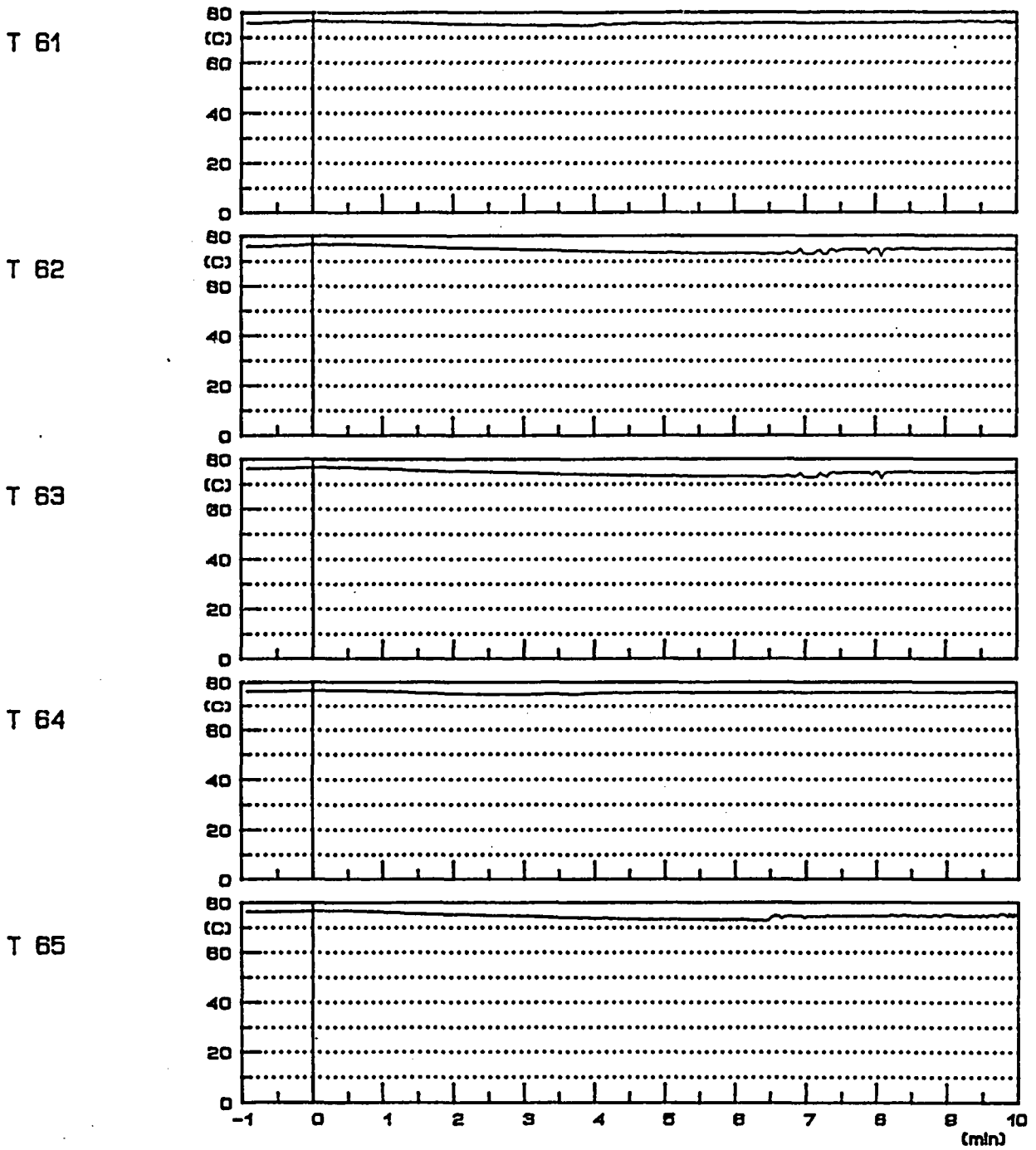
Test :	110	Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	110	Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1167.	kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 110

Q_B = 2.1 dm^3/s

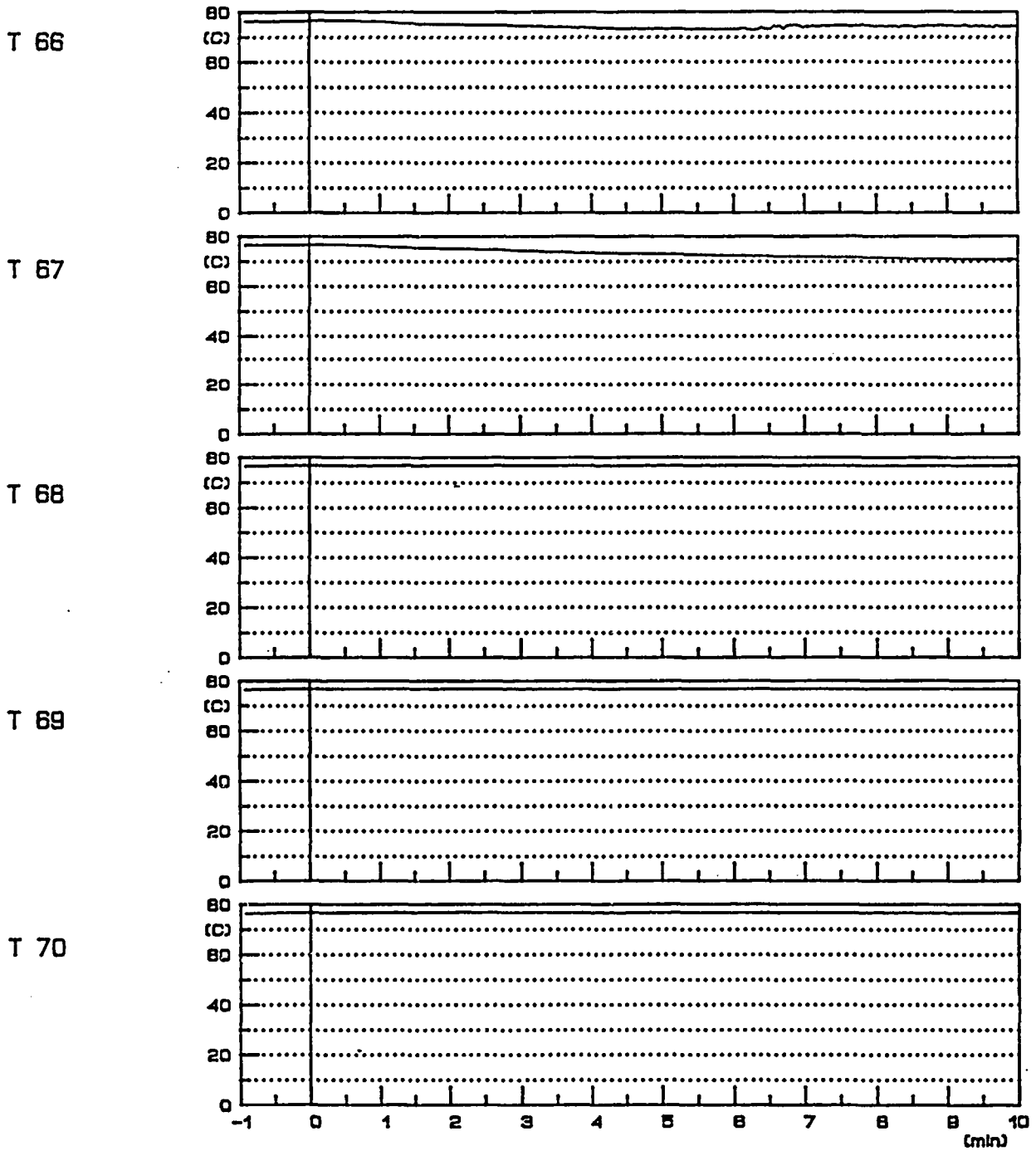
ρ = 976. kg/m^3

$Q_{HPI,A}$ = .42 dm^3/s

$Q_{HPI,B}$ = 0.00 dm^3/s

$Q_{HPI,C}$ = 0.00 dm^3/s

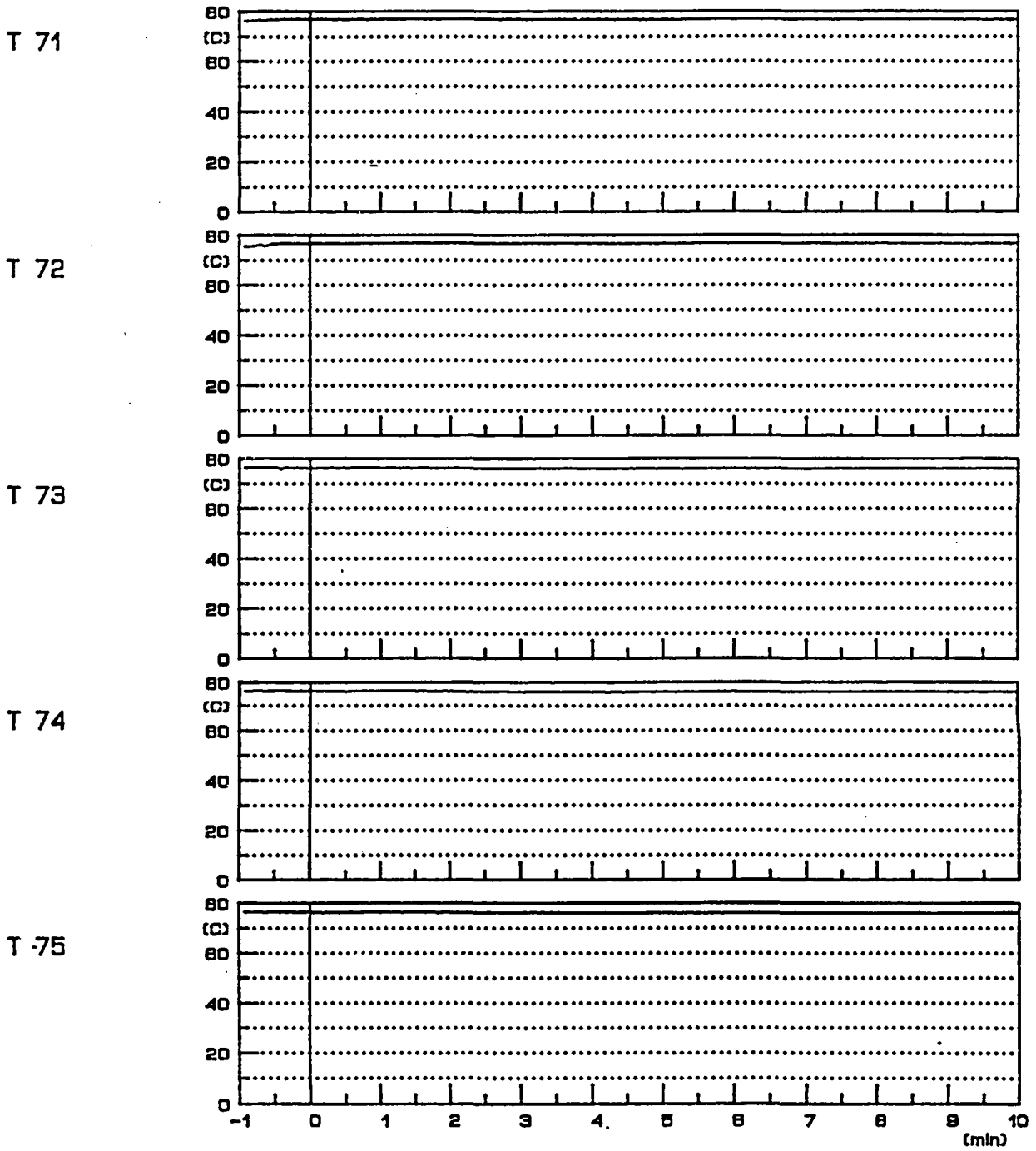
ρ = 1167. kg/m^3



21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	110	Q_B	=	2.1	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	976.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1167.	kg/m^3



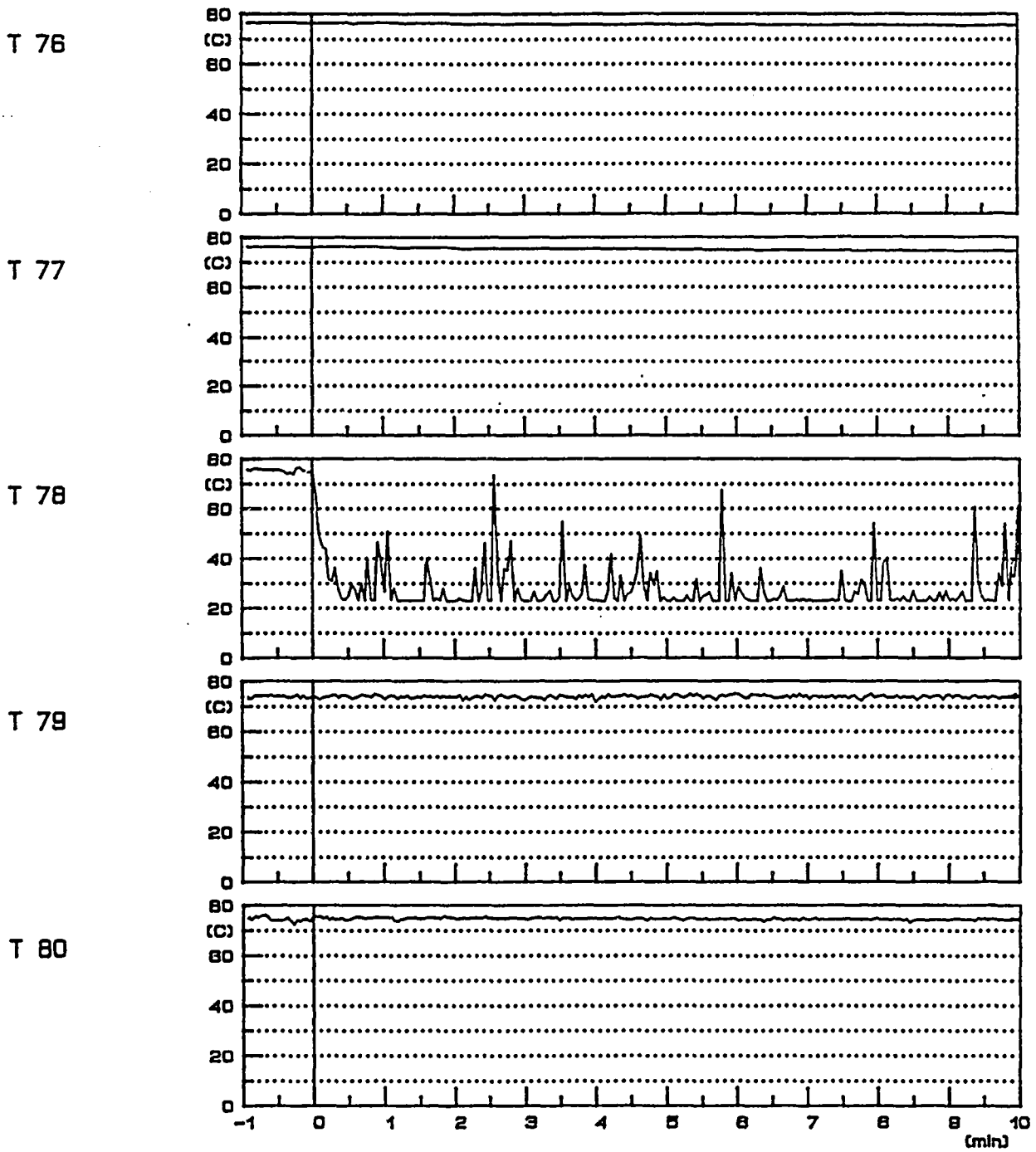
21. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 110

Q_B = 2.1 dm^3/s
ρ = 976. kg/m^3

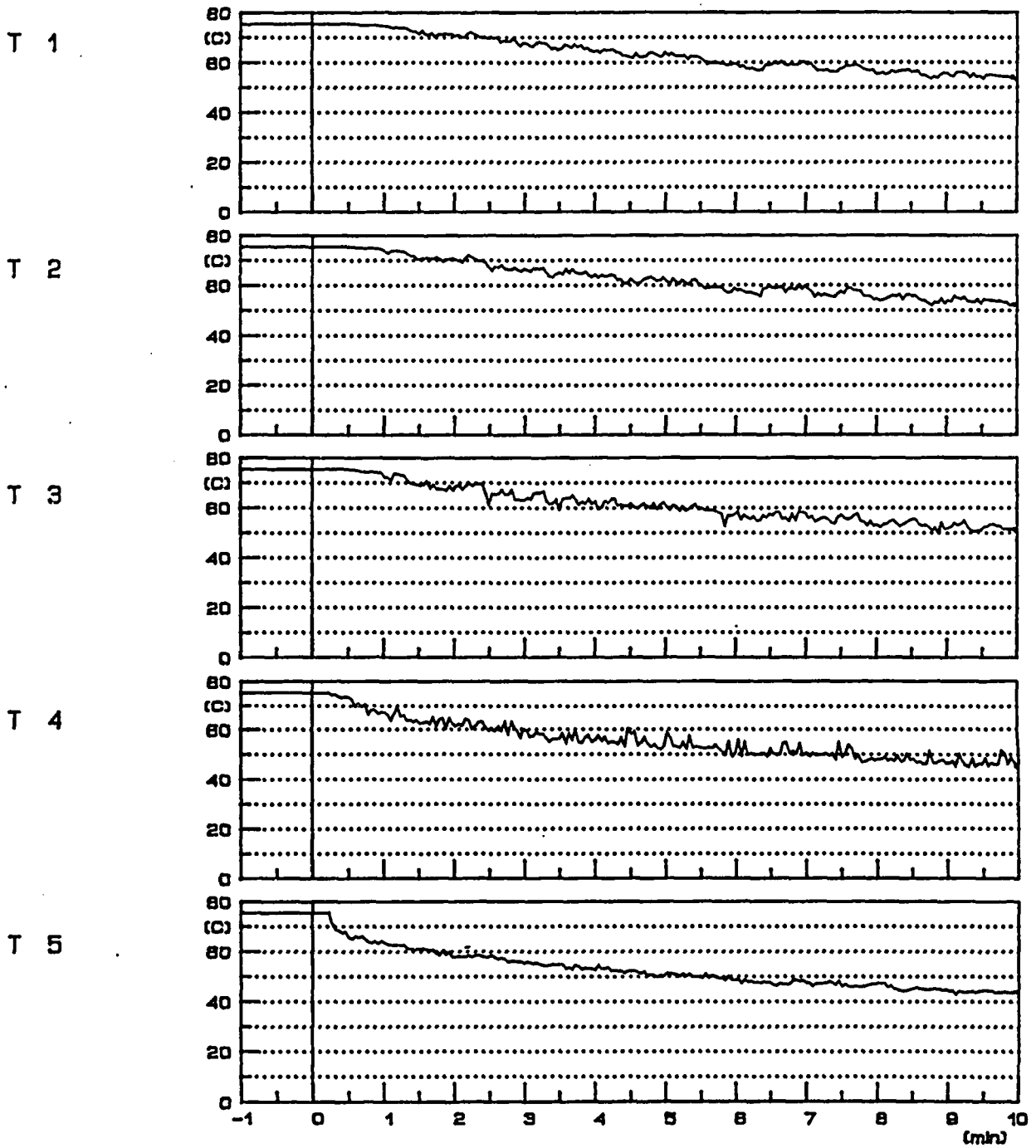
$Q_{HPI,A}$ = .42 dm^3/s
$Q_{HPI,B}$ = 0.00 dm^3/s
$Q_{HPI,C}$ = 0.00 dm^3/s
ρ = 1167. kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

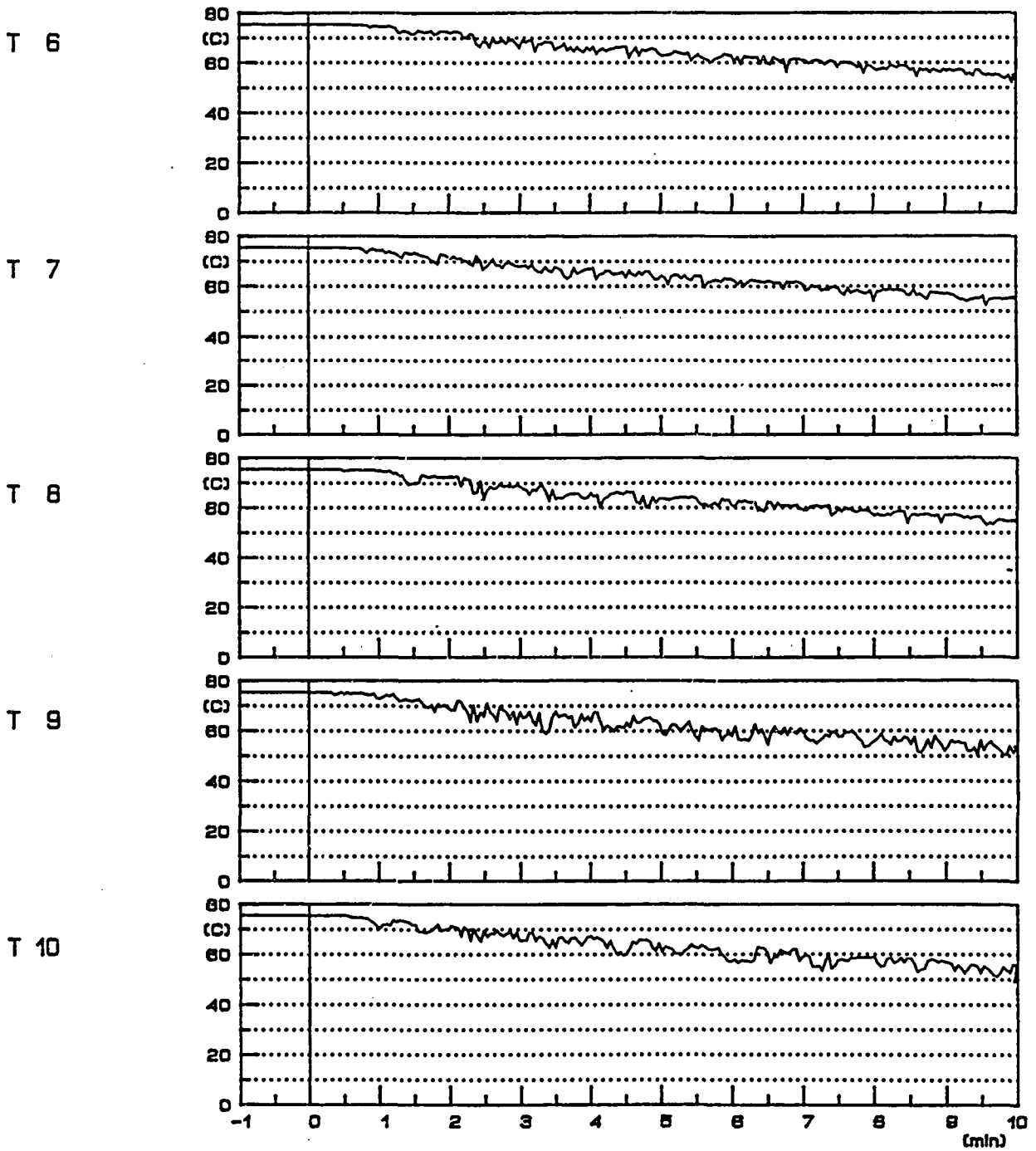
Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

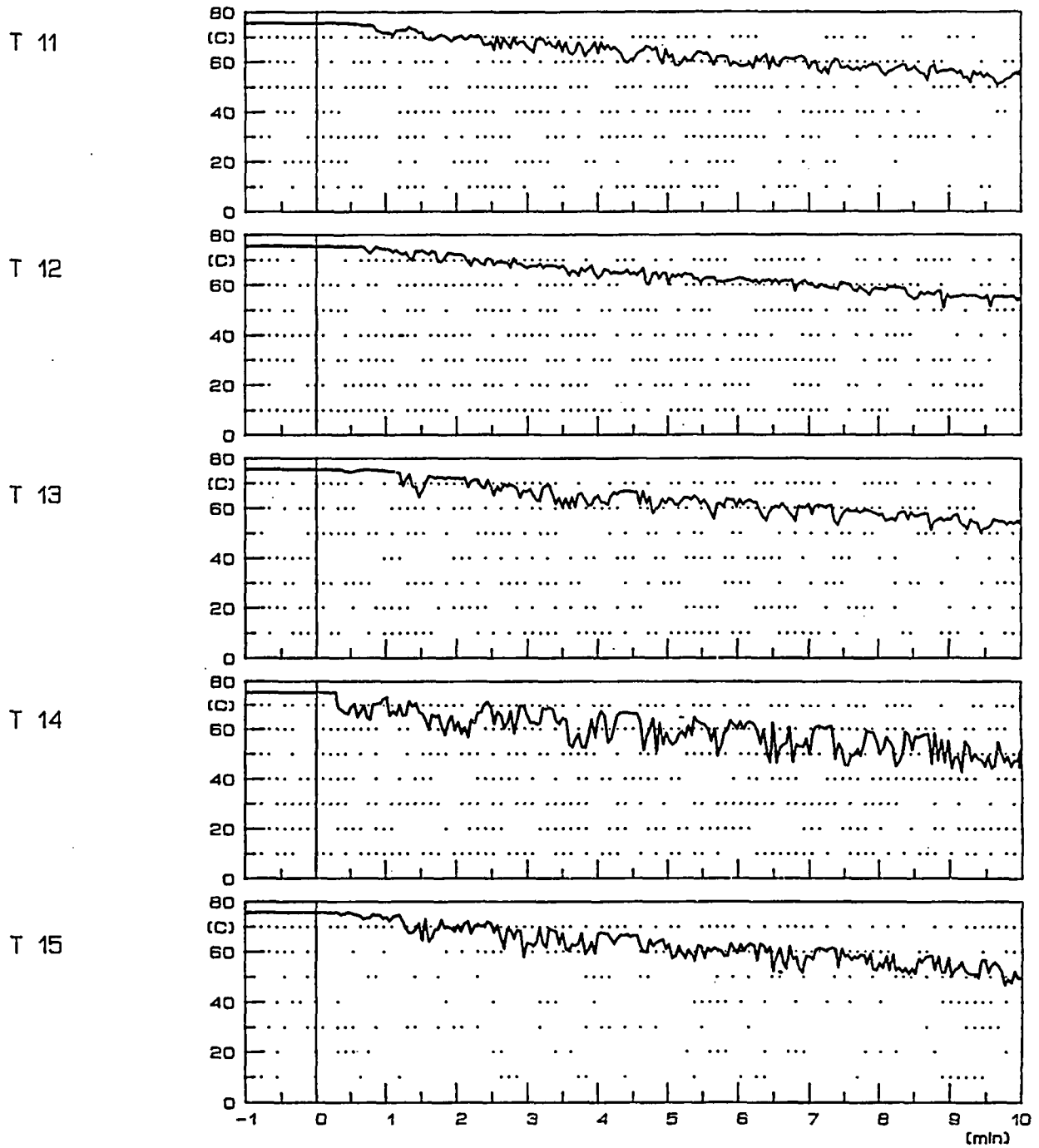
Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3

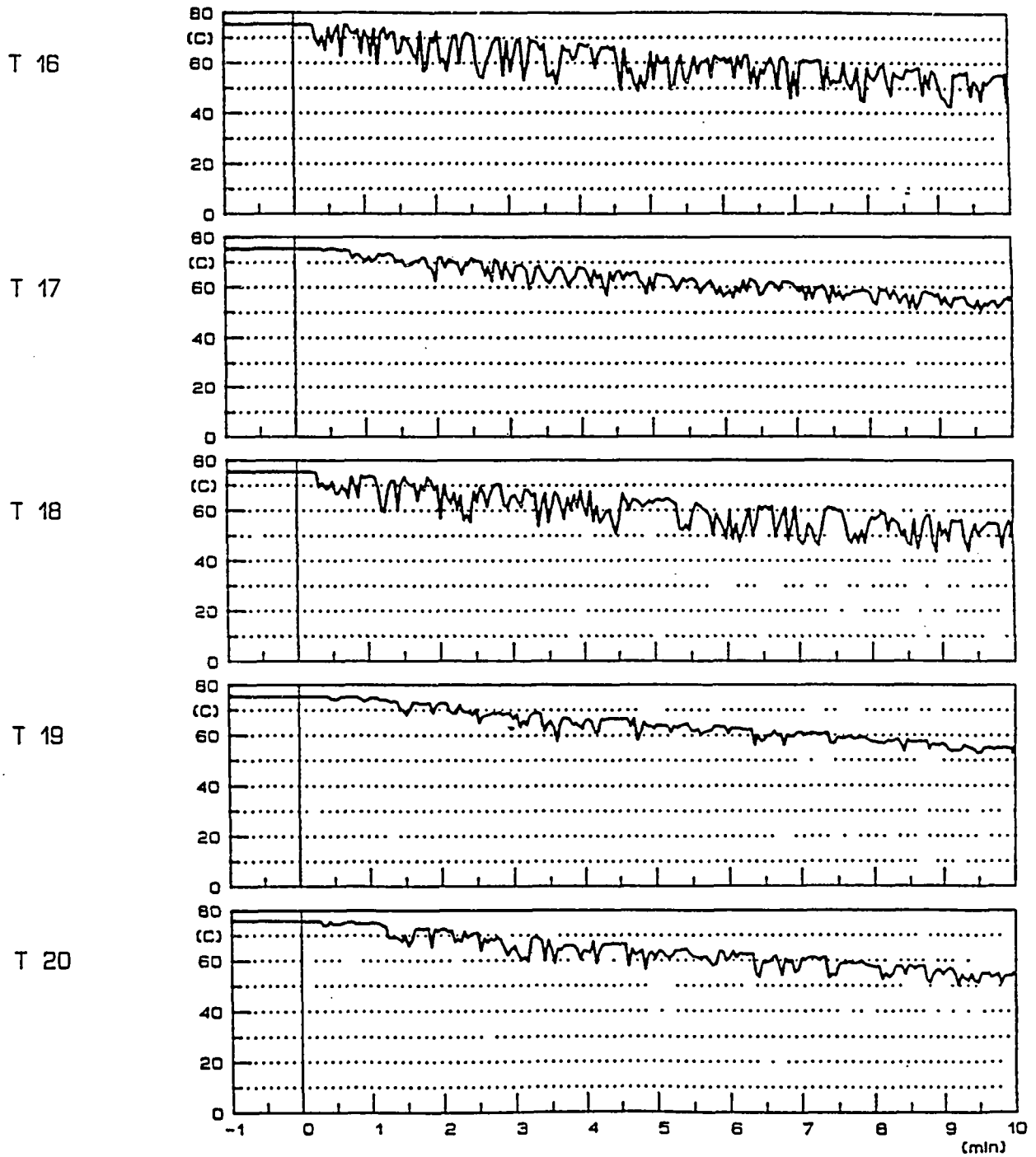


26. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 111

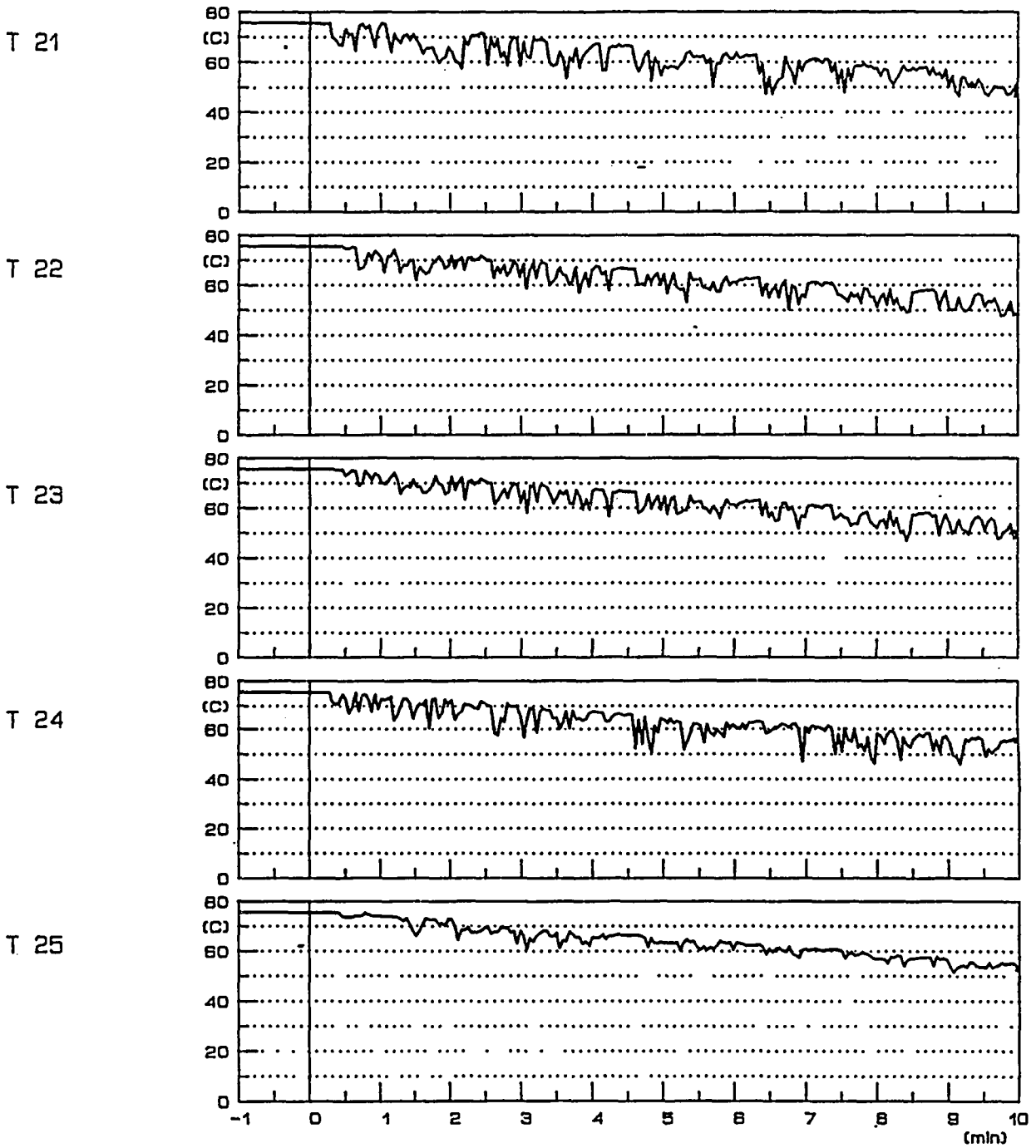
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	.42	dm^3/s
				ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3

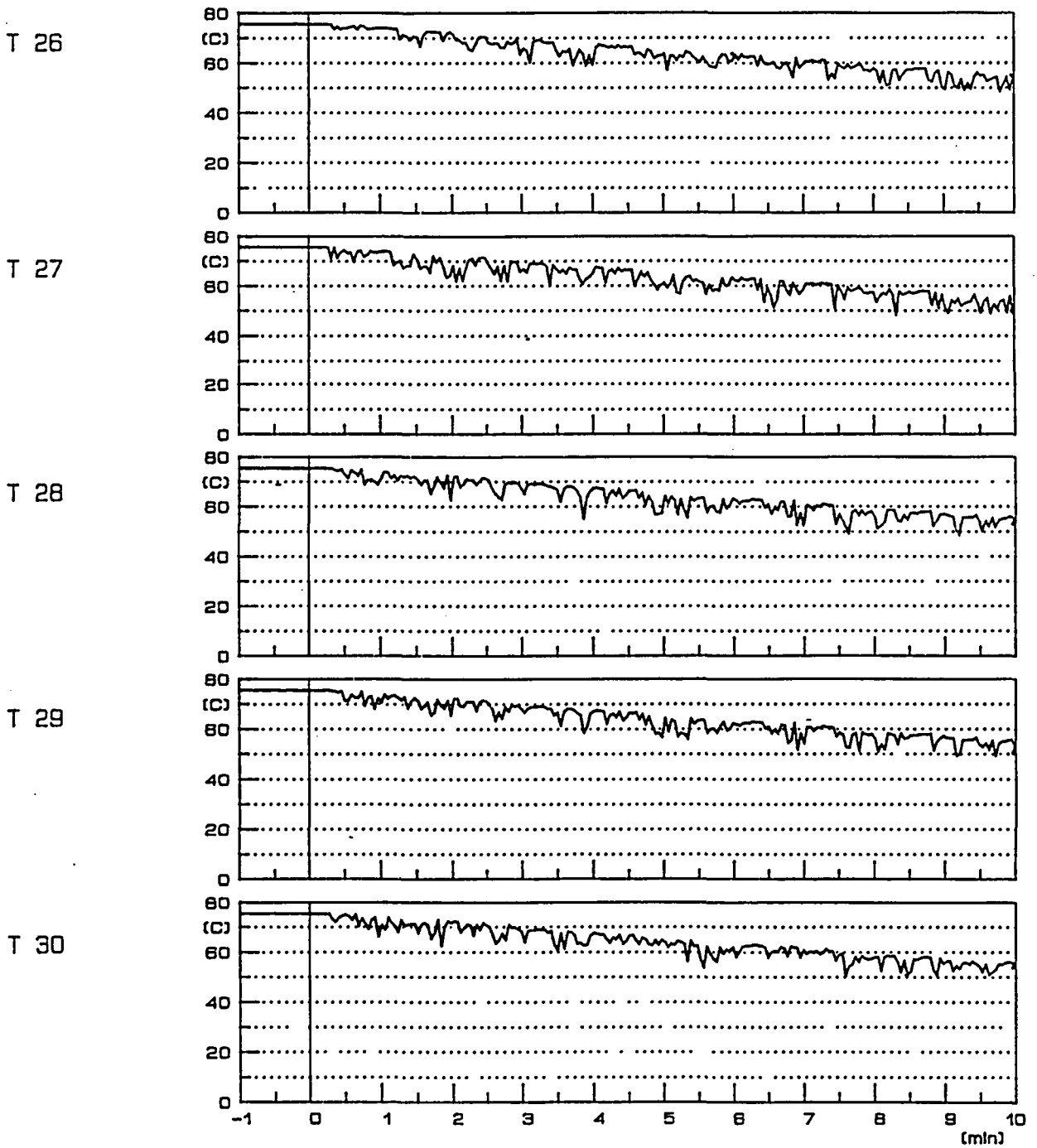


26. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 111

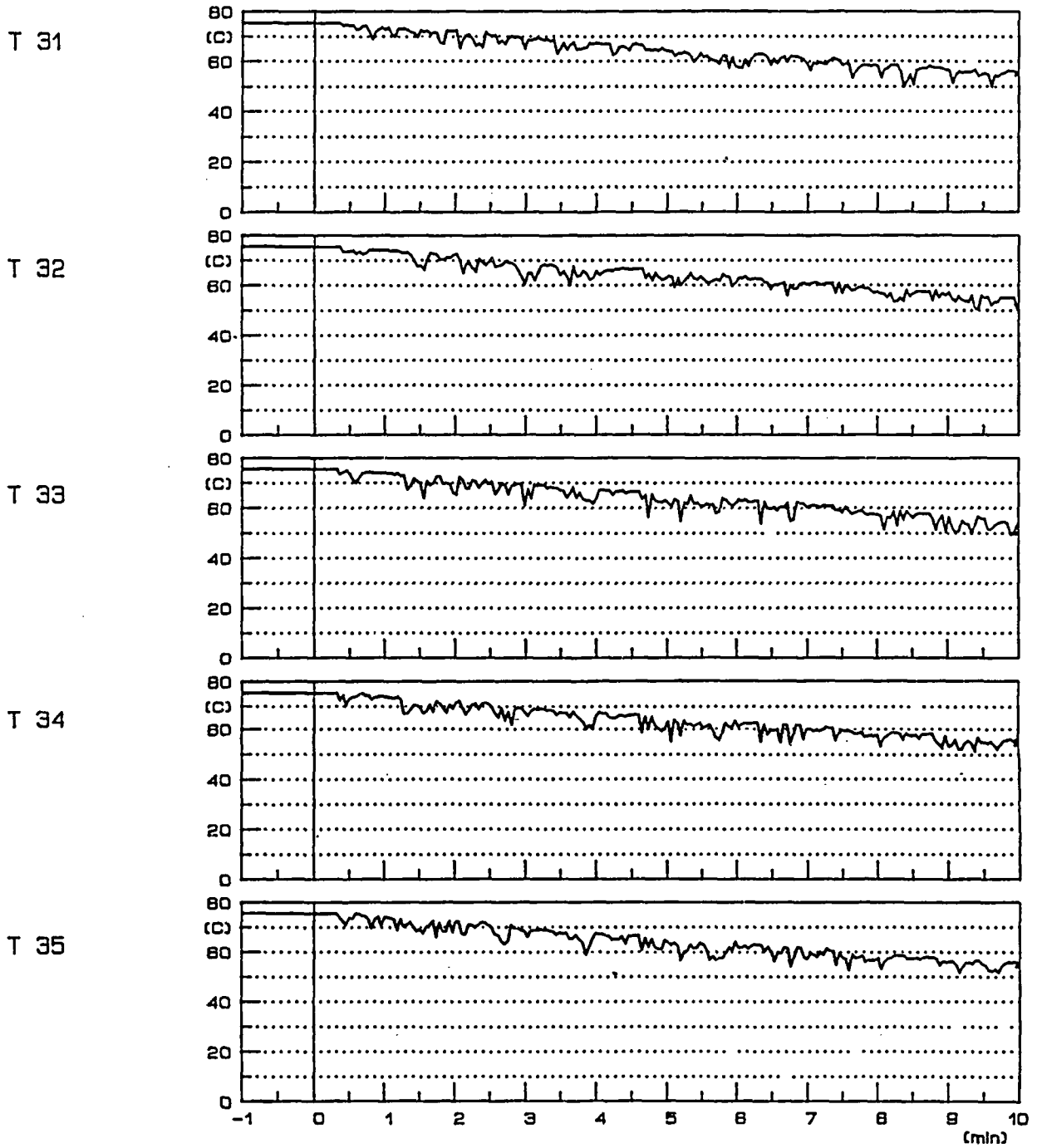
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	.42	dm^3/s
				ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

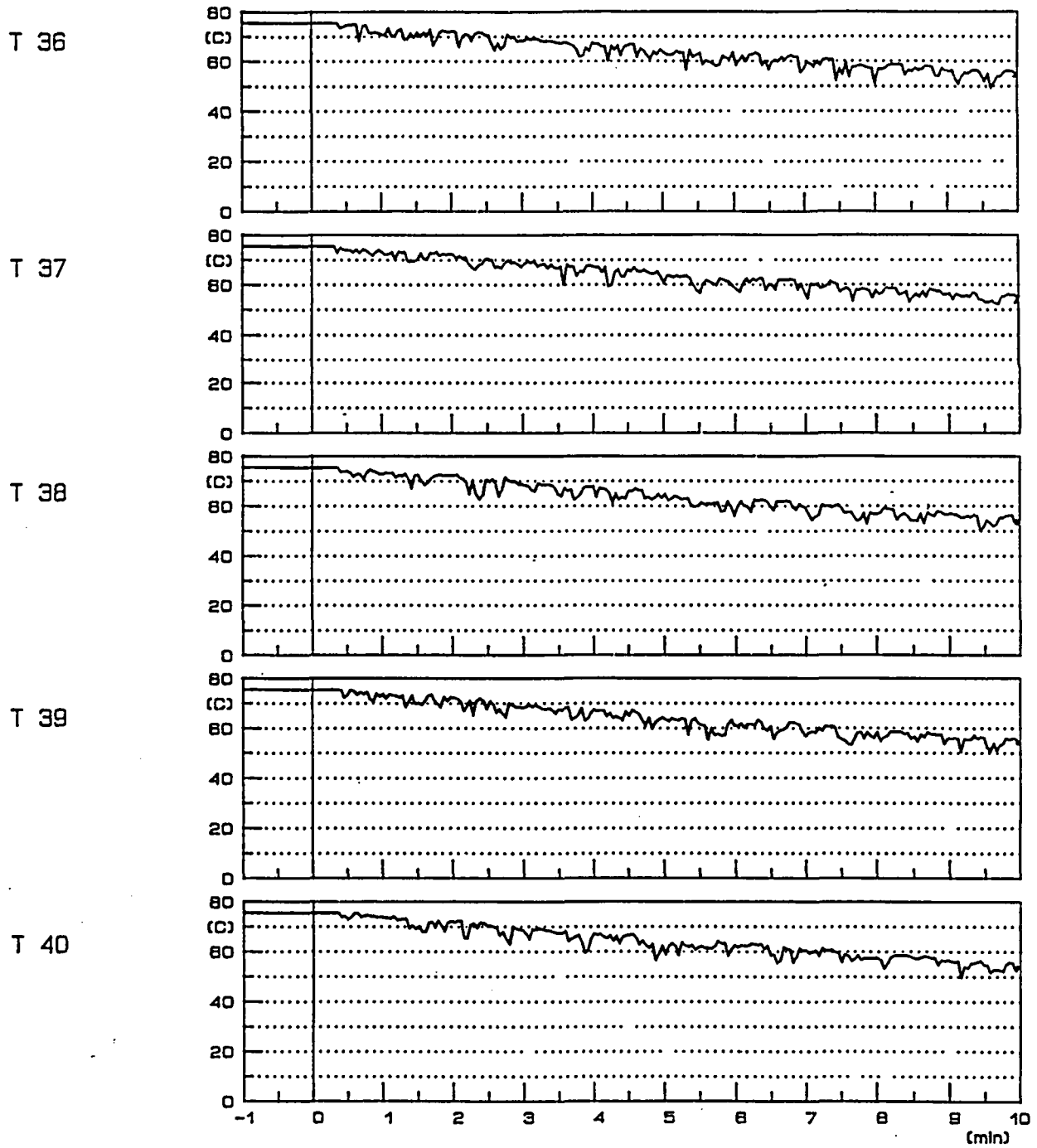
Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

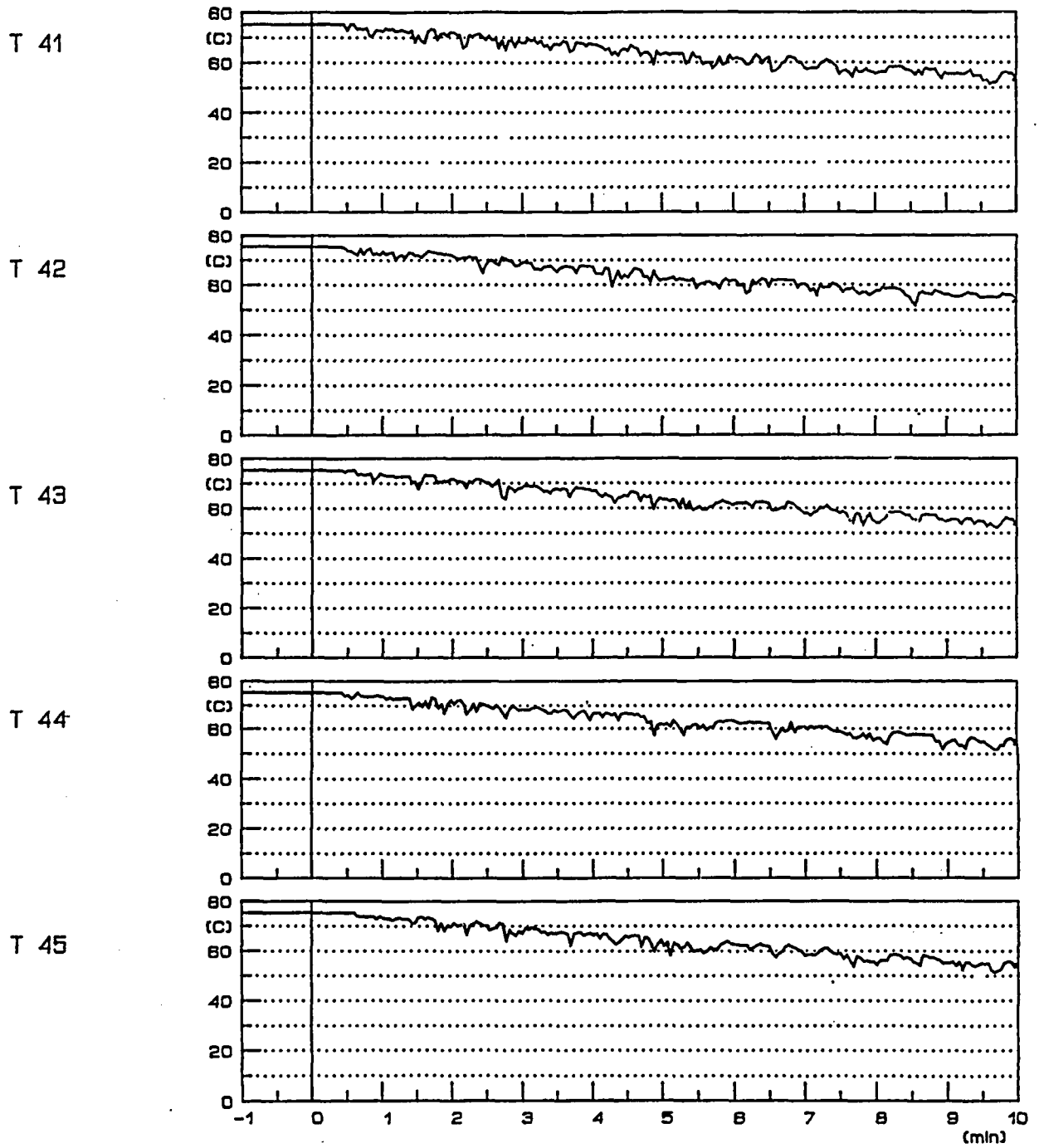
Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

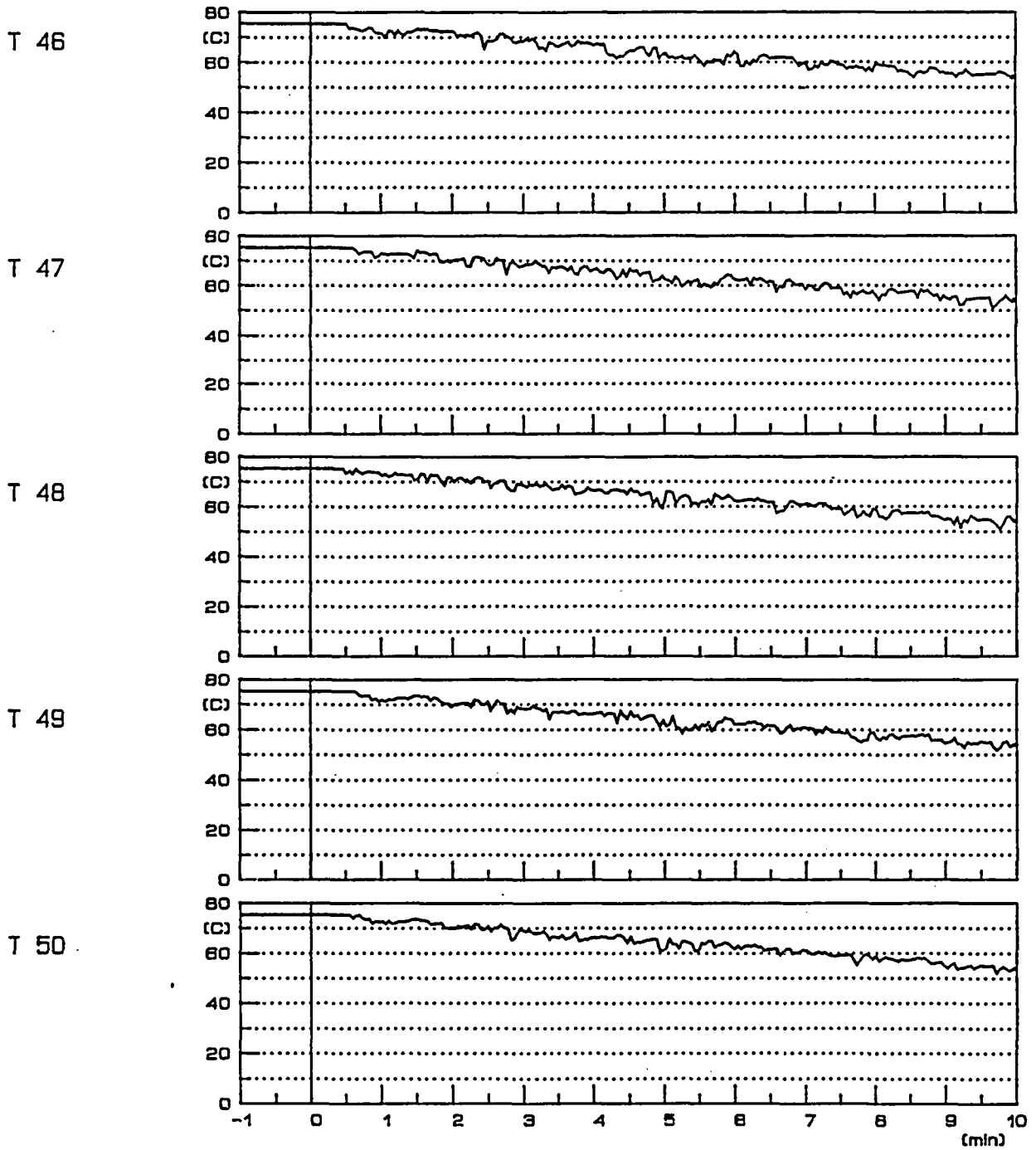
Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3

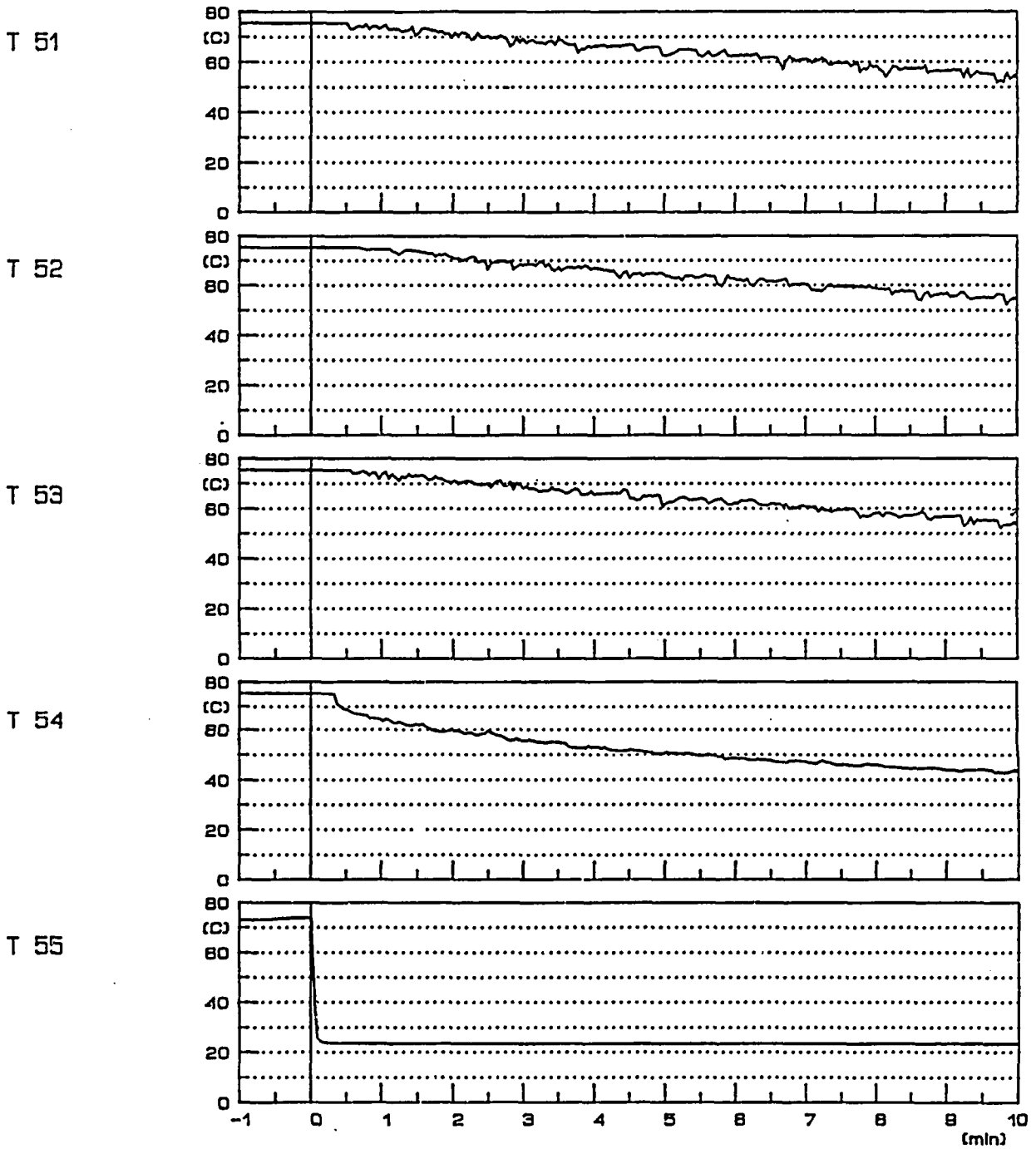


26. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 111

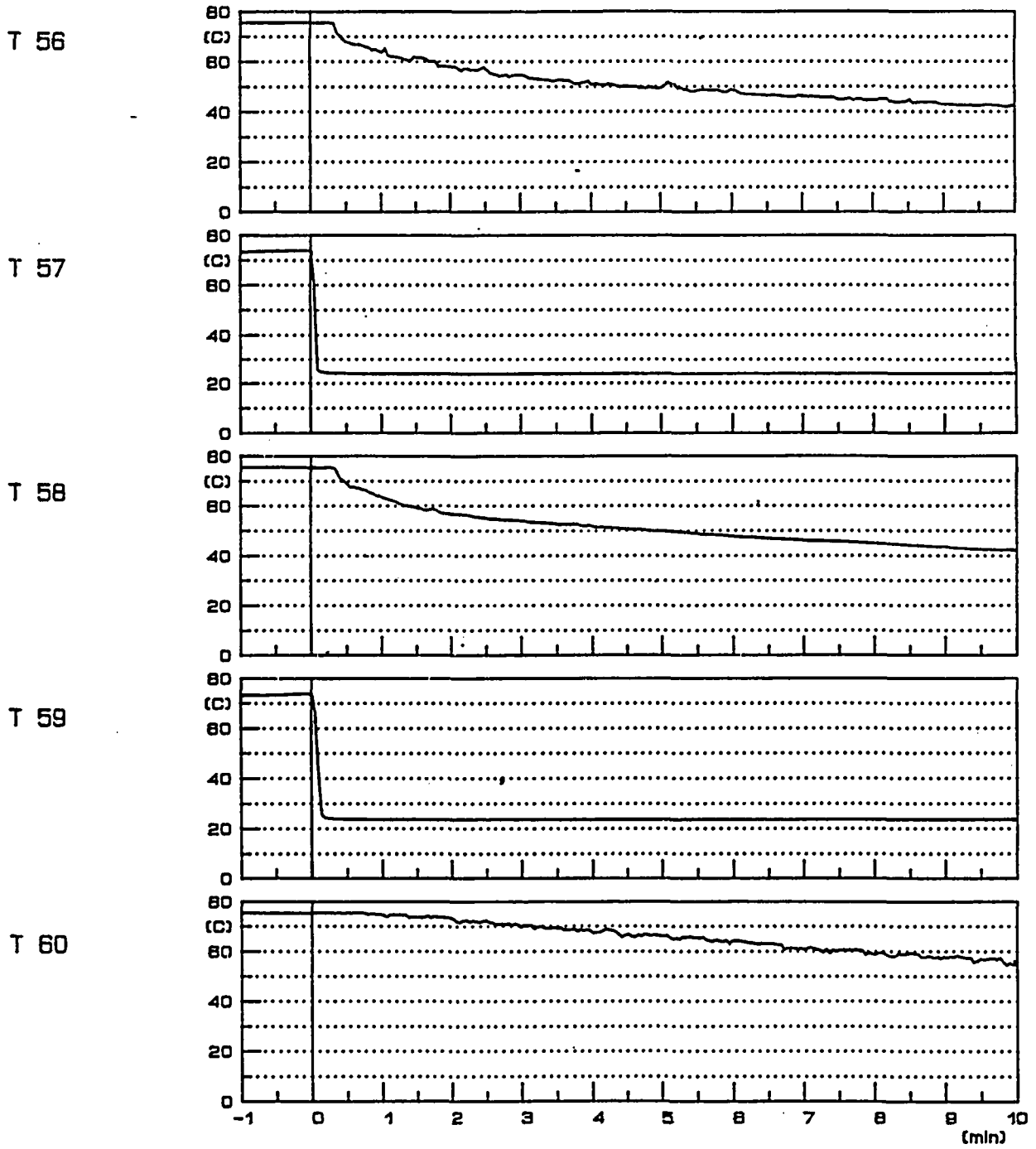
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	.42	dm^3/s
				ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

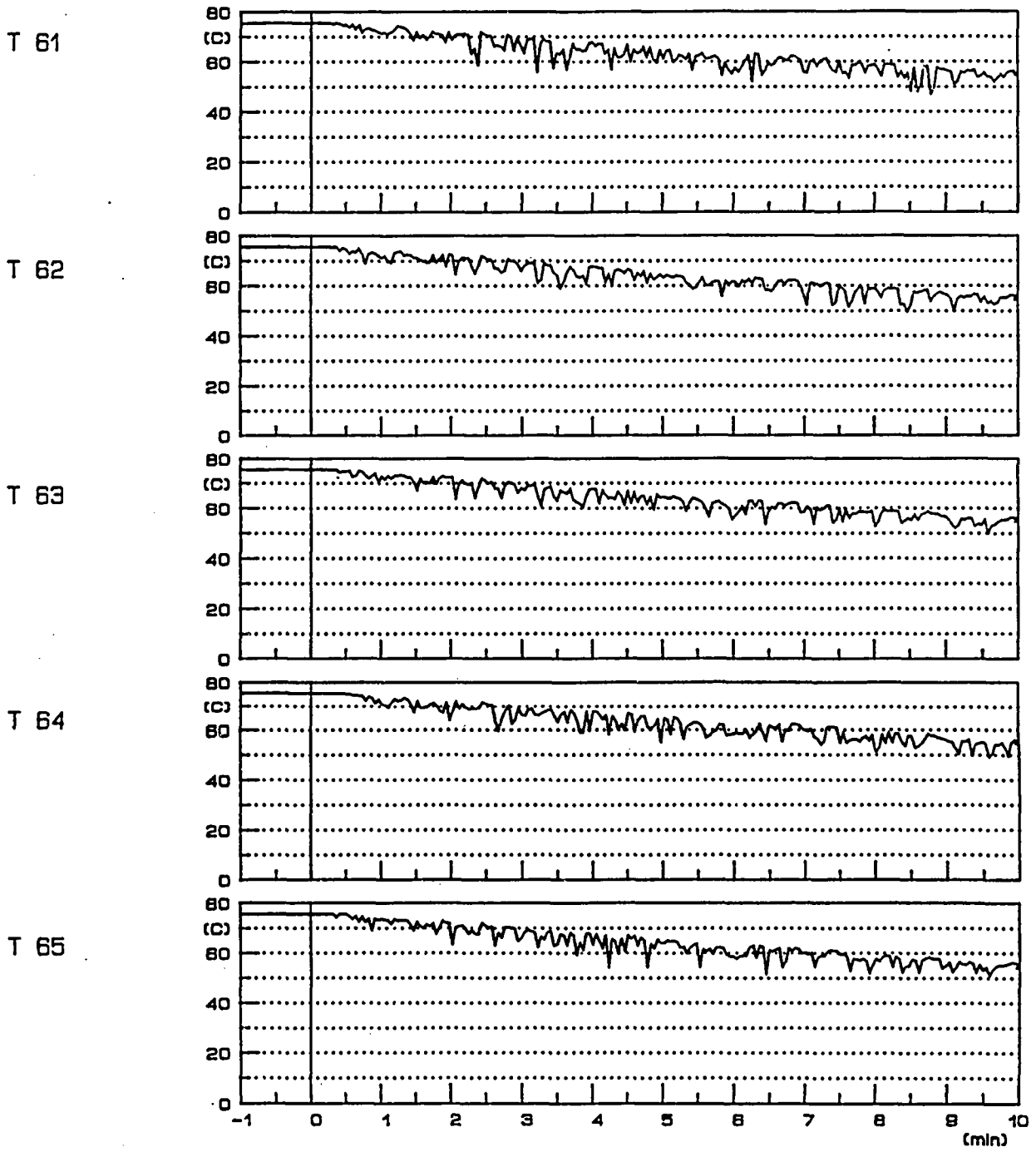
Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

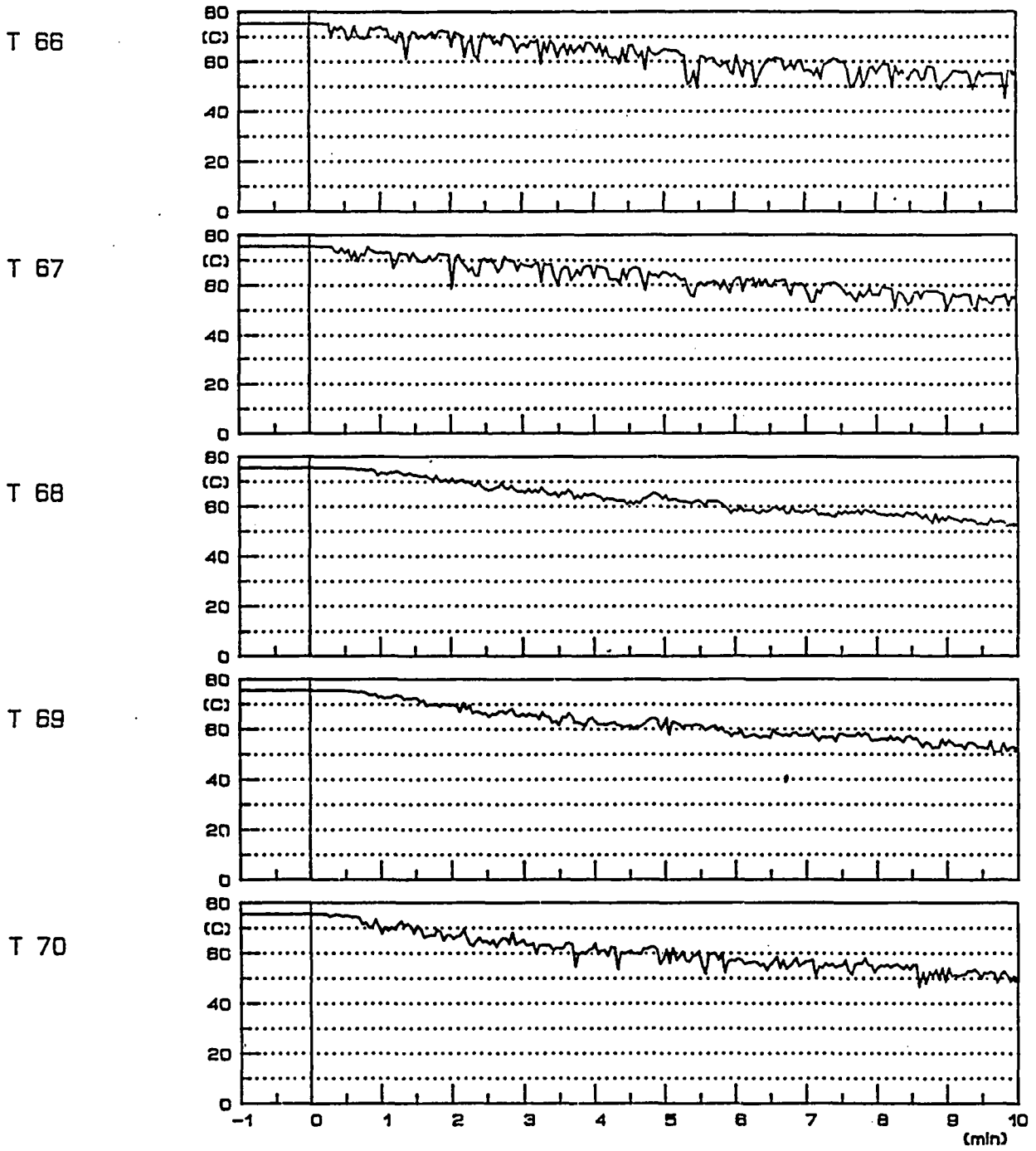
Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

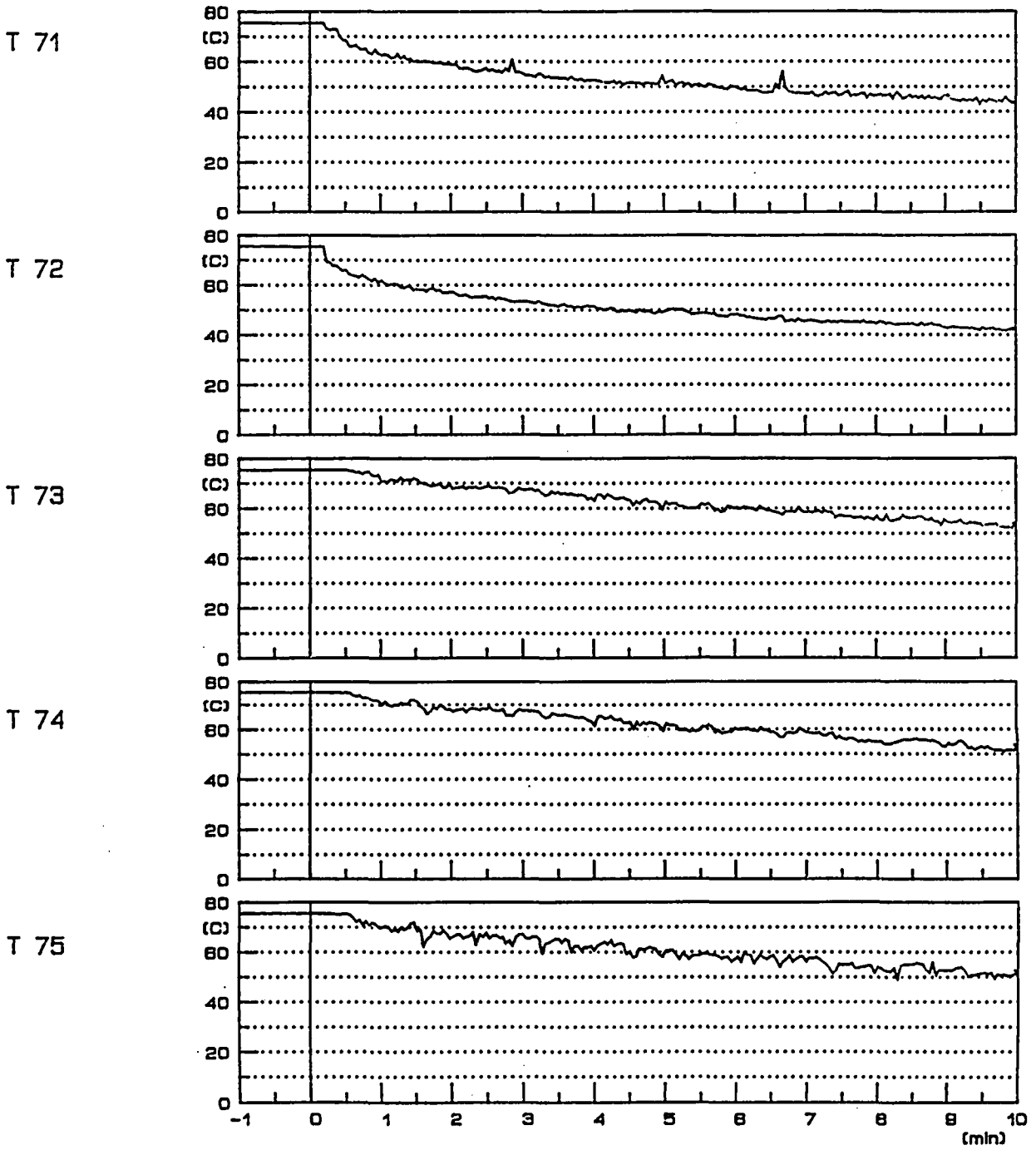
Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

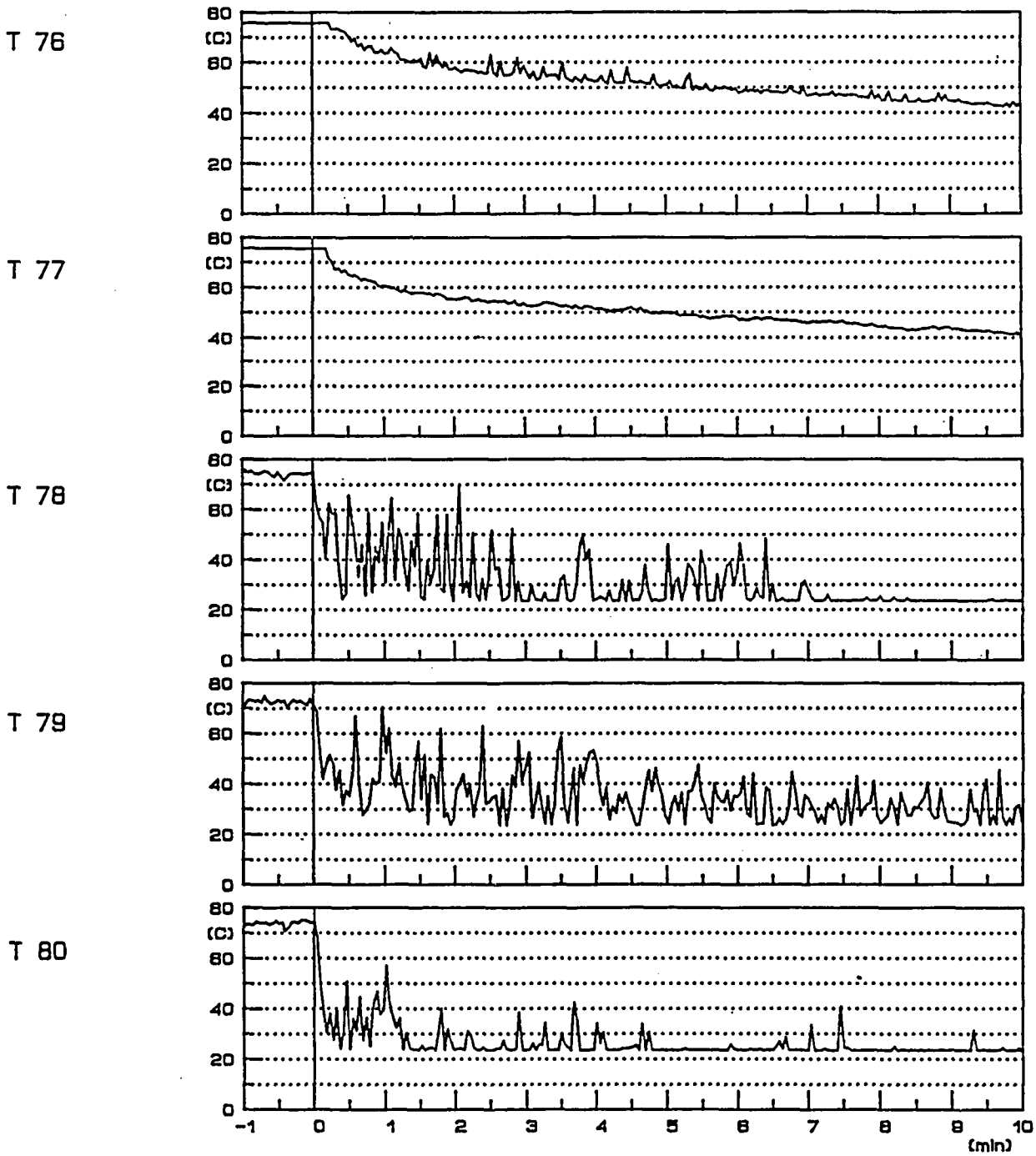
Test :	111	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	.42	dm^3/s
						ρ	=	1166.	kg/m^3



26. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	111							
		Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	.42 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42 dm^3/s
						$Q_{HPI,C}$	=	.42 dm^3/s
						ρ	=	1166. kg/m^3

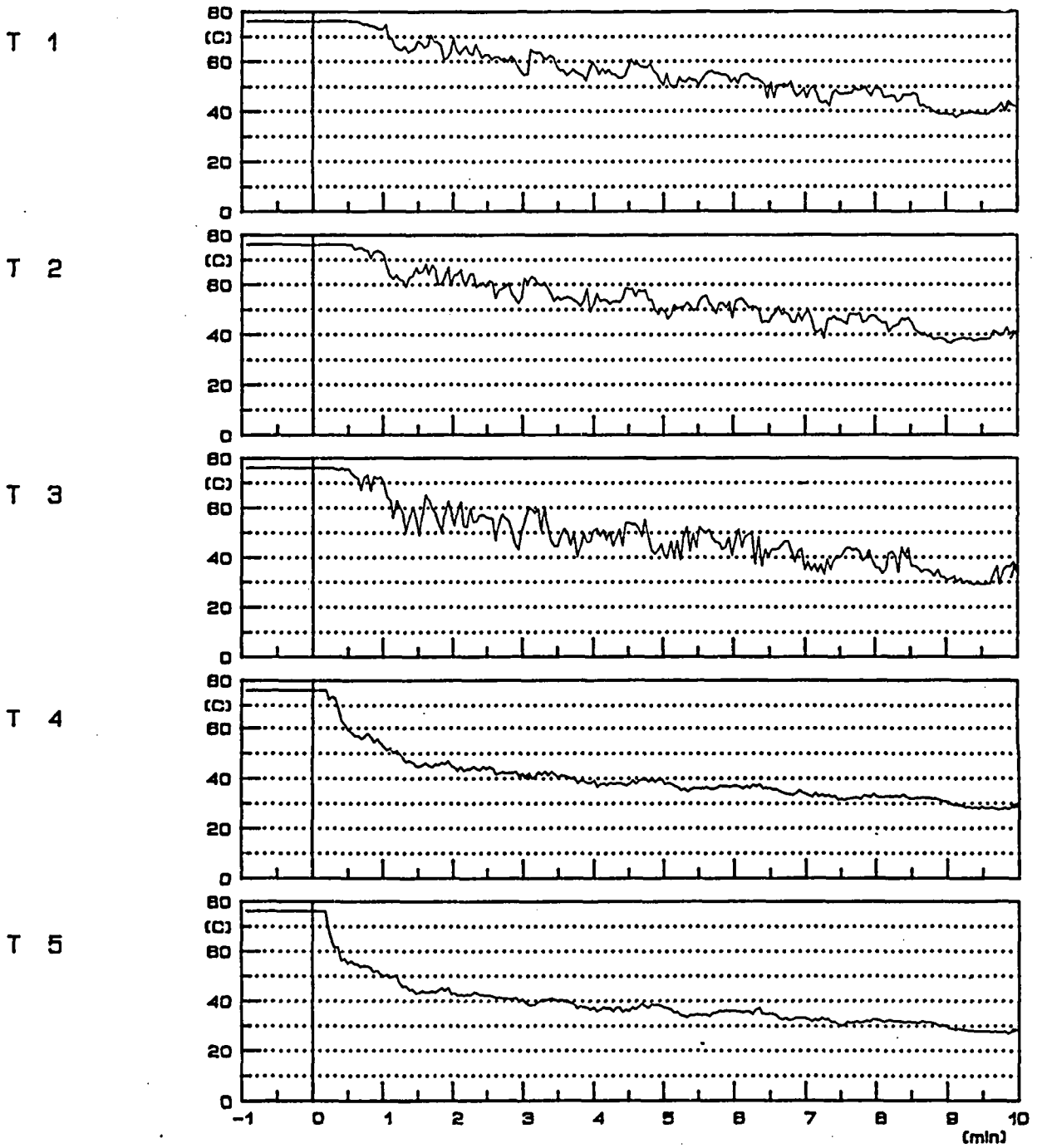


28. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 112

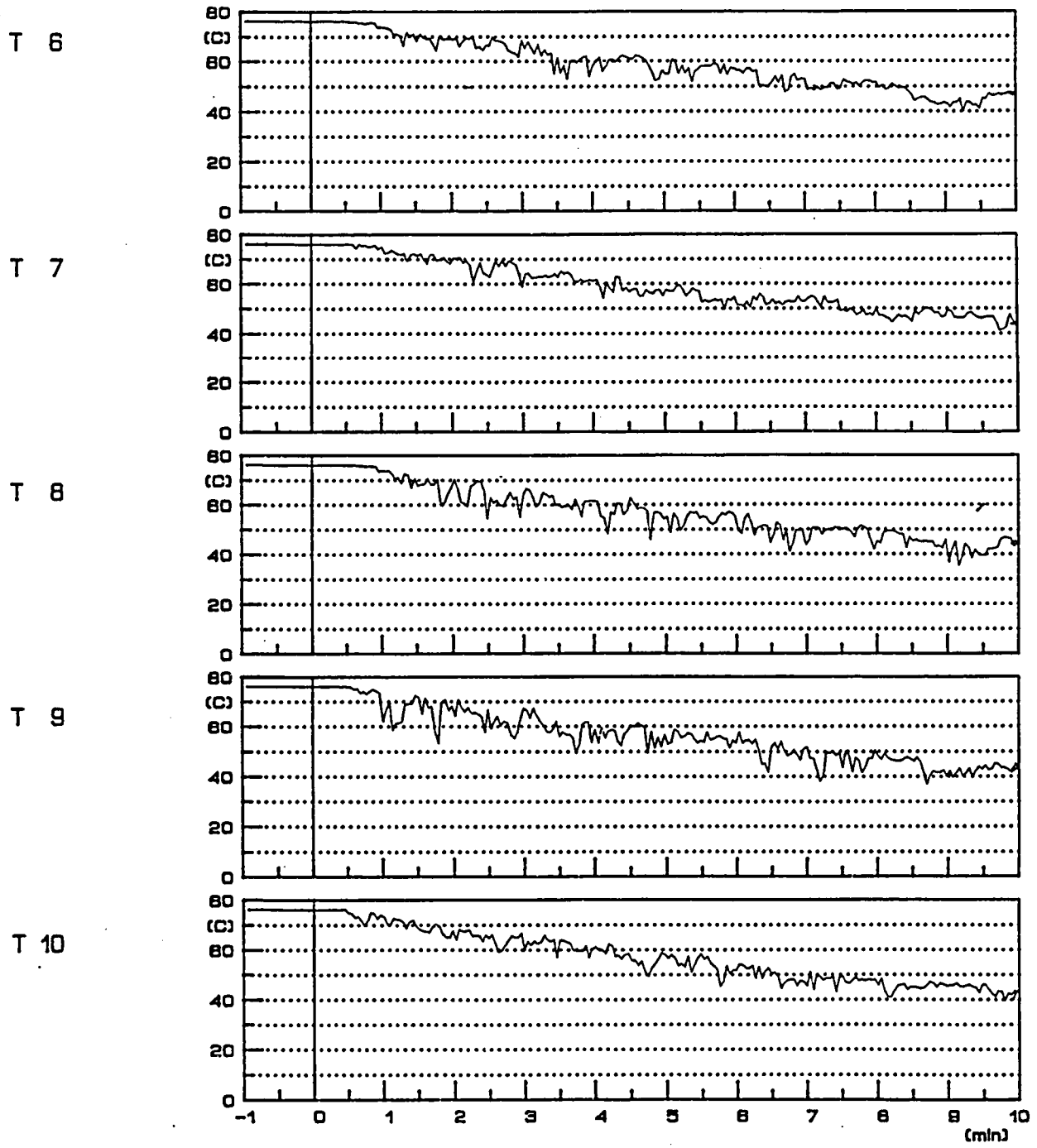
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

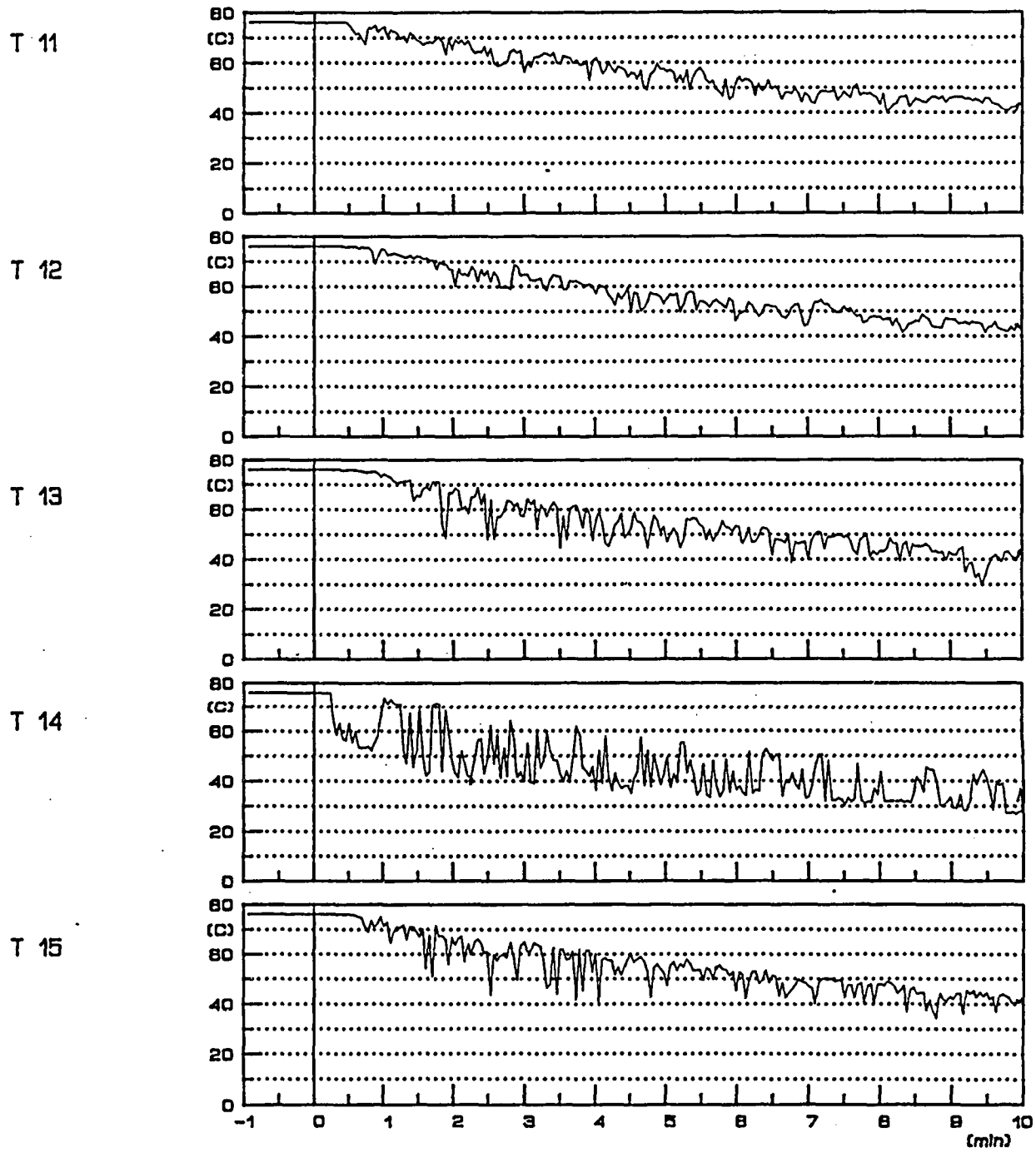
Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	112							
		Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04 dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00 dm^3/s
						$Q_{HPI,C}$	=	1.04 dm^3/s
						ρ	=	1166. kg/m^3

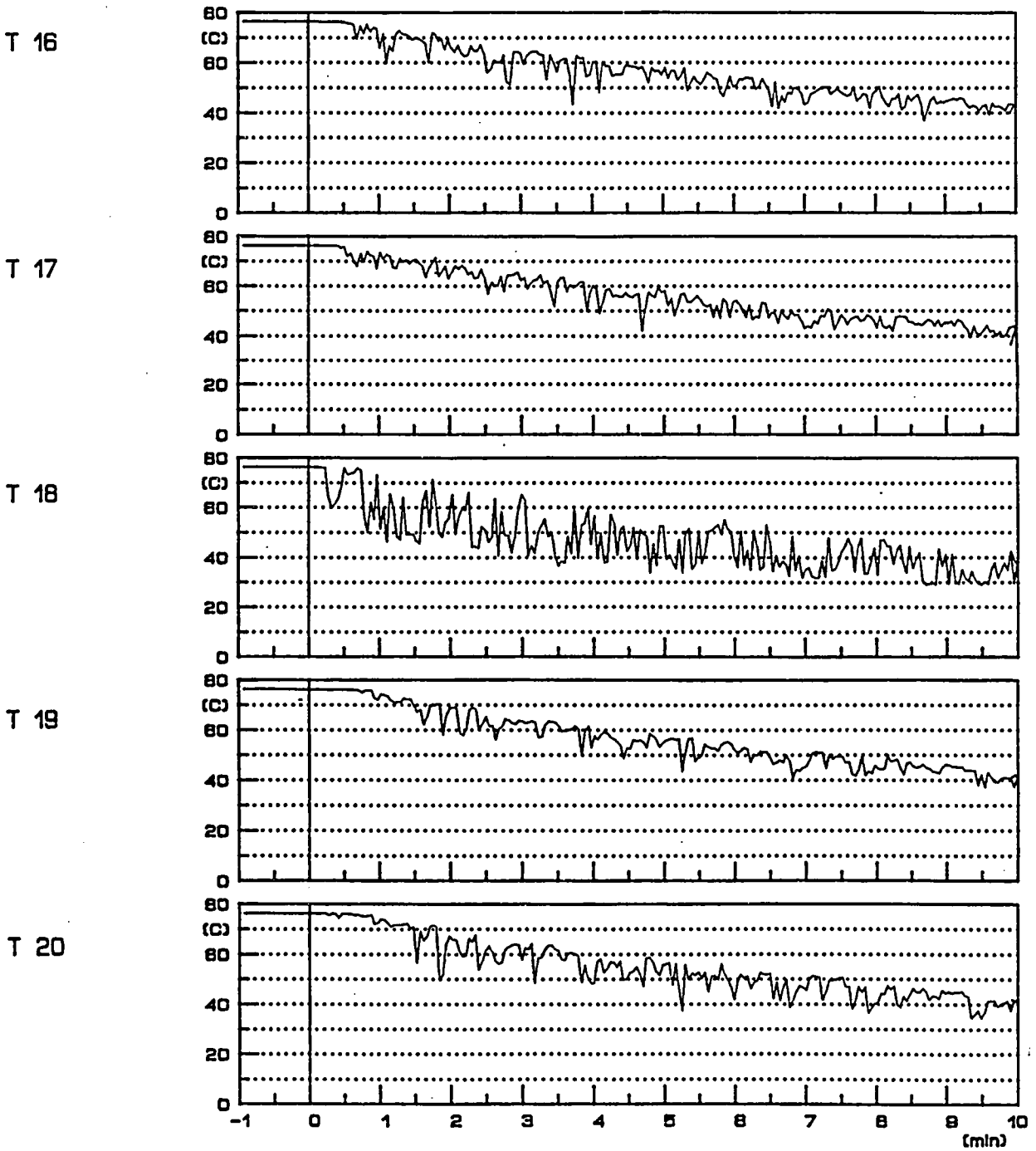


28. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 112

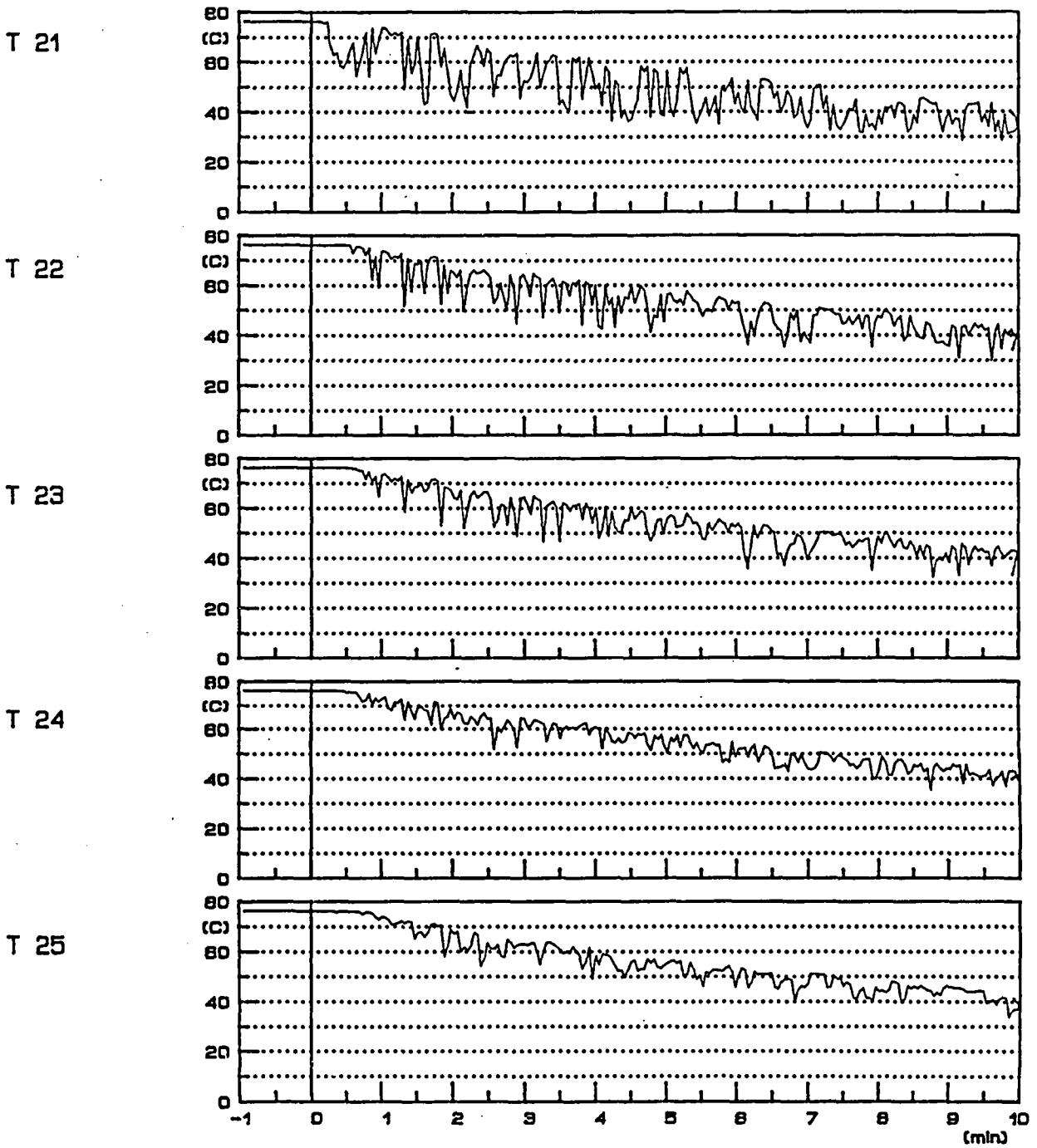
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3

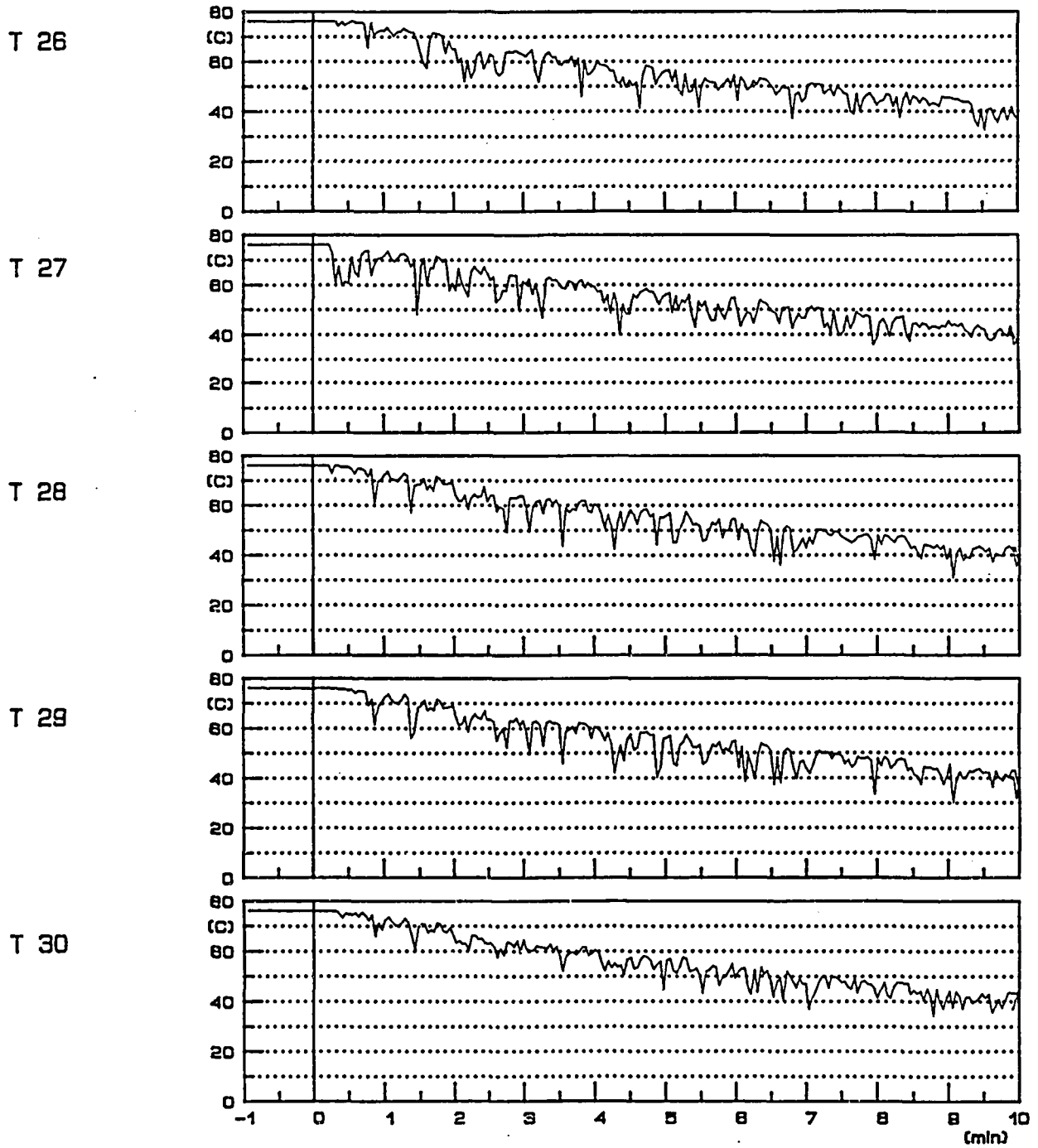


28. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 112

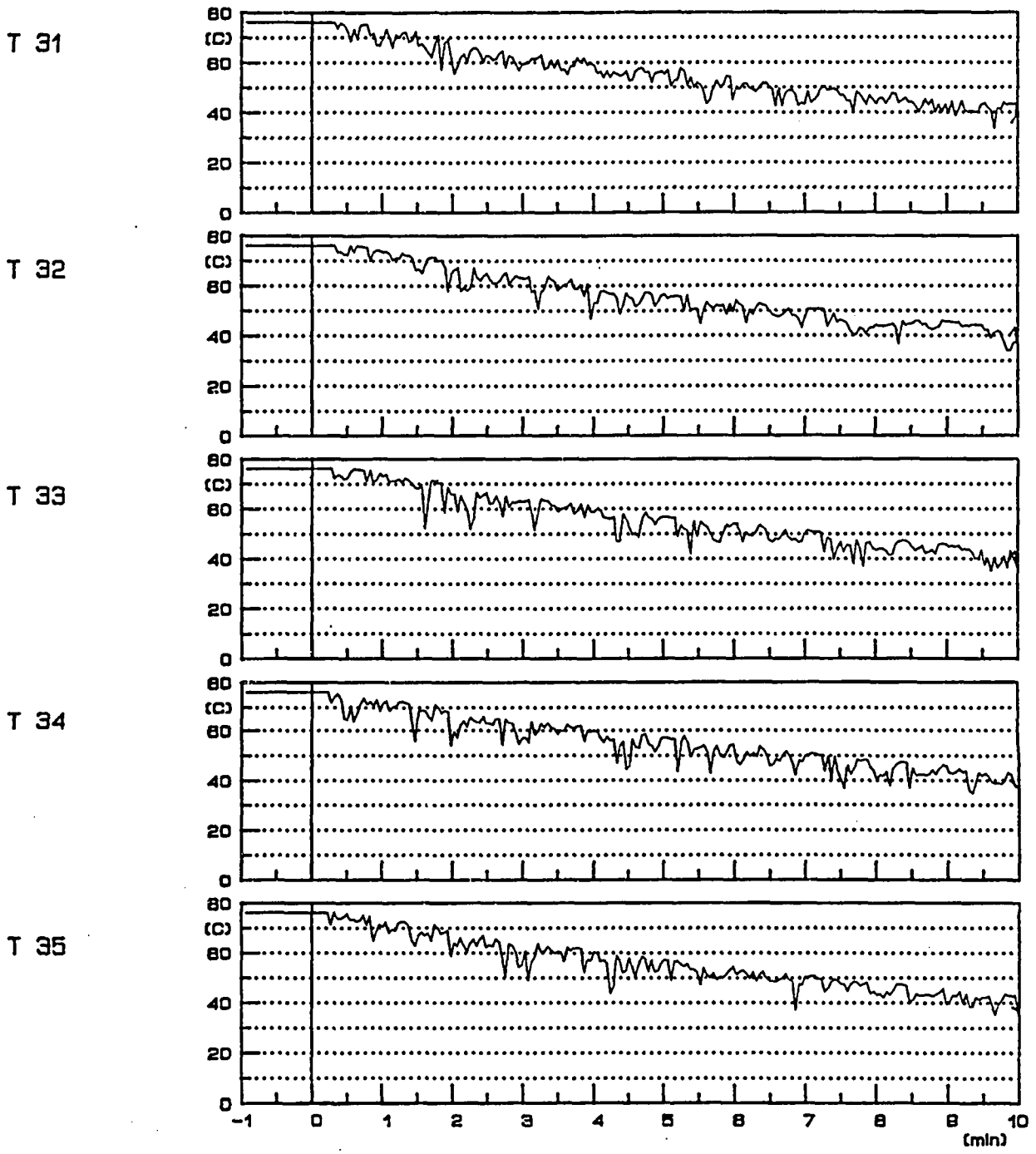
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

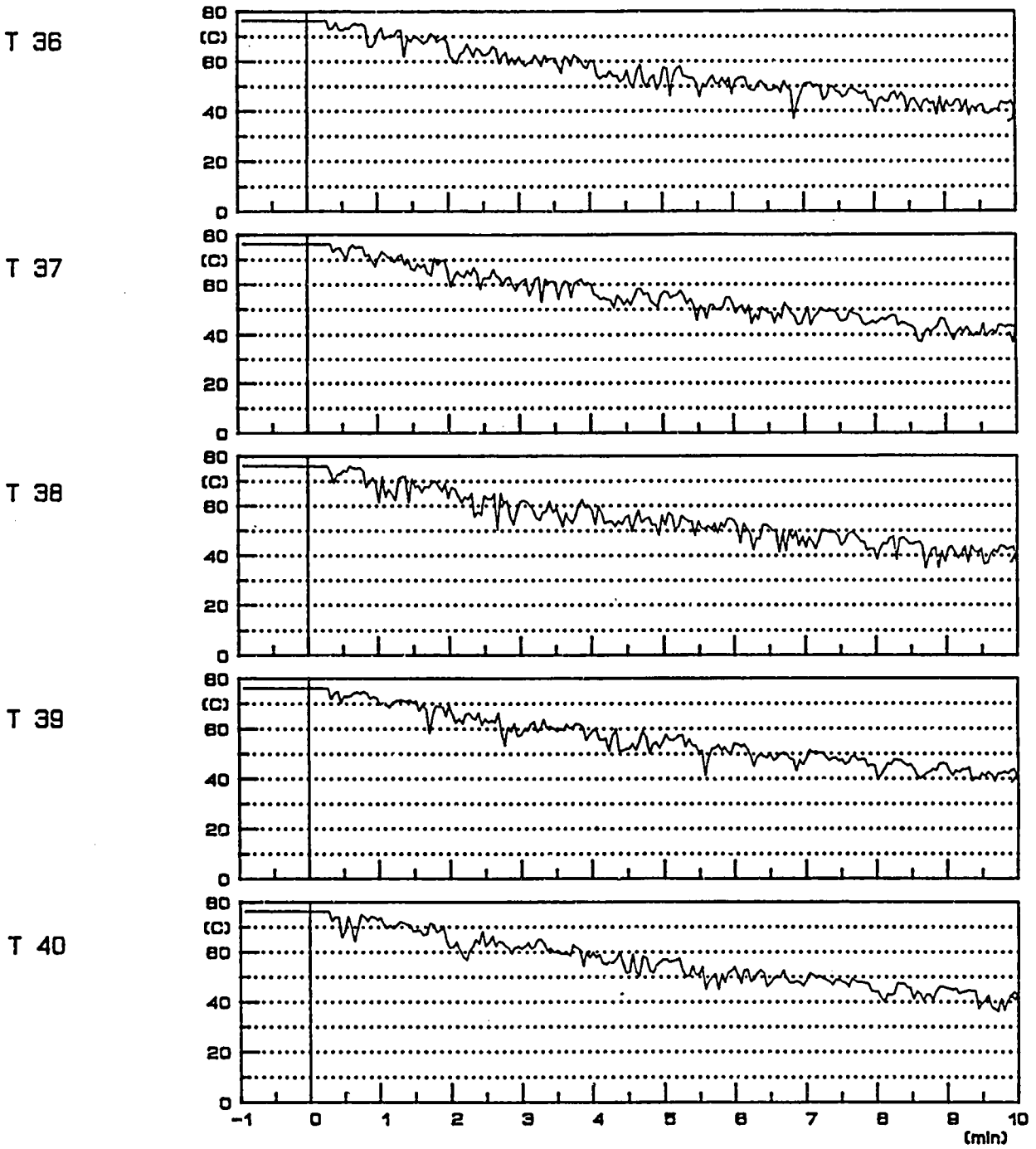
Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

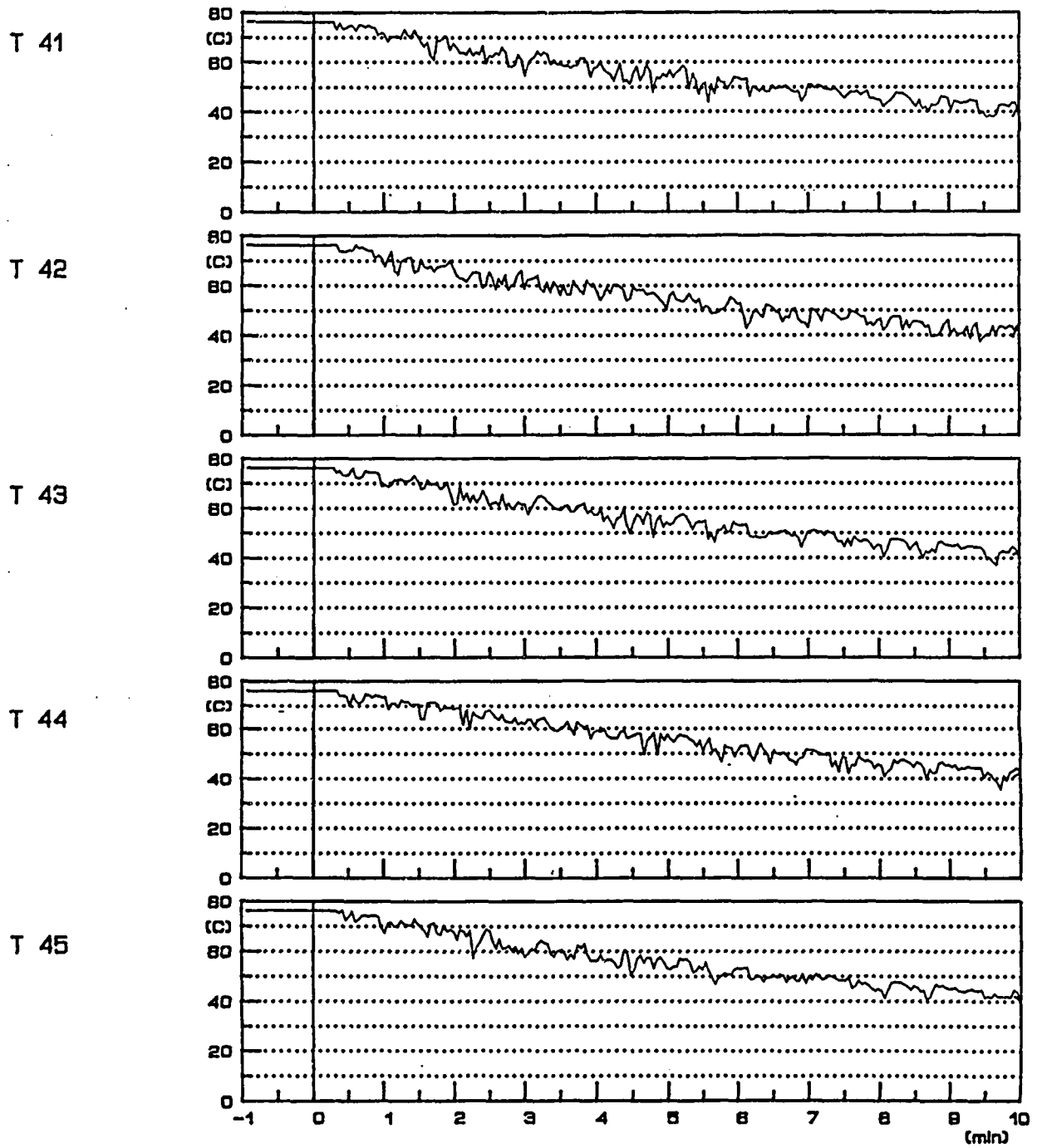
Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3

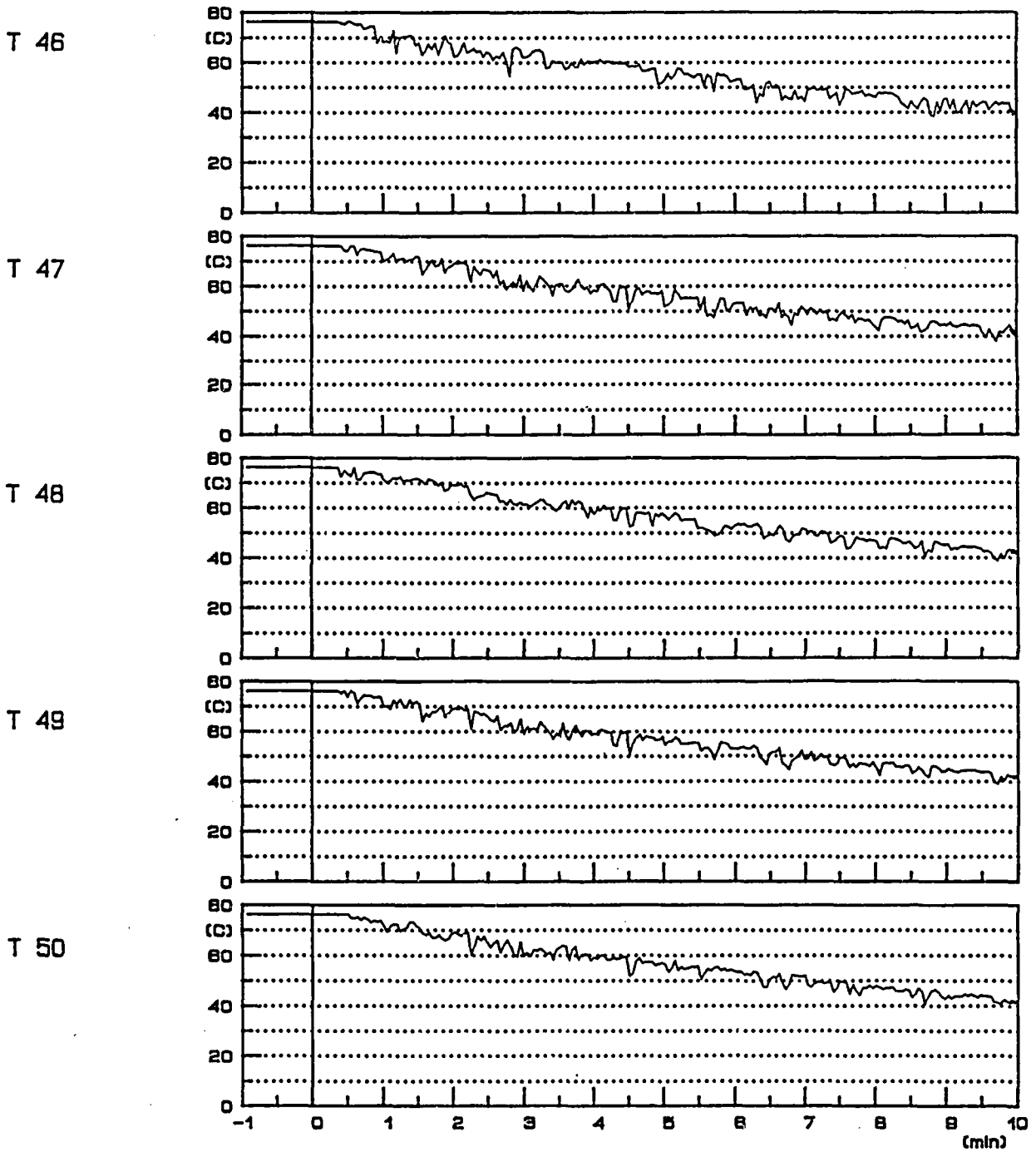


28. 8.1985

FLUID AND THERMAL MIXING TESTS

Test : 112

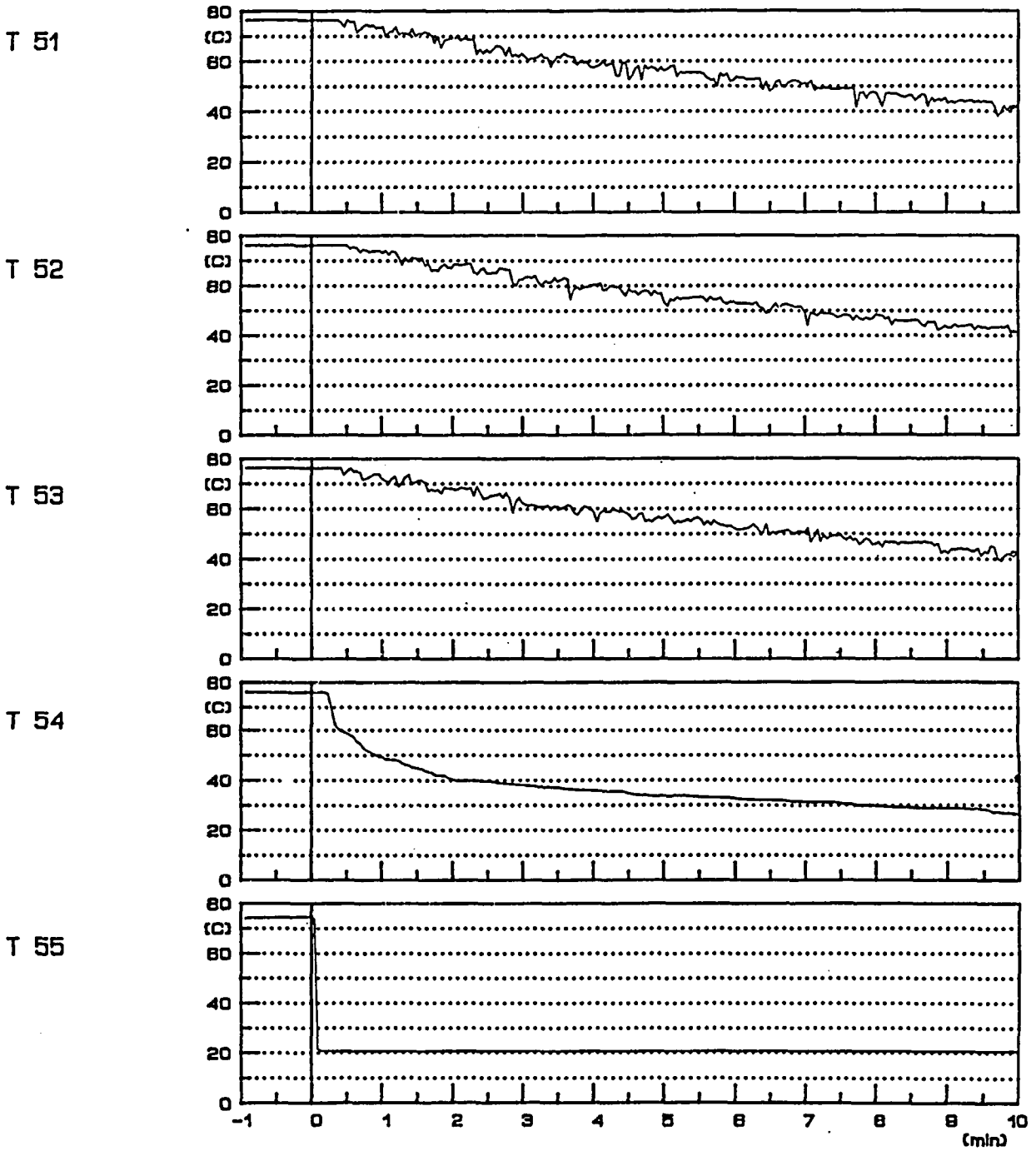
$\dot{Q}$	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

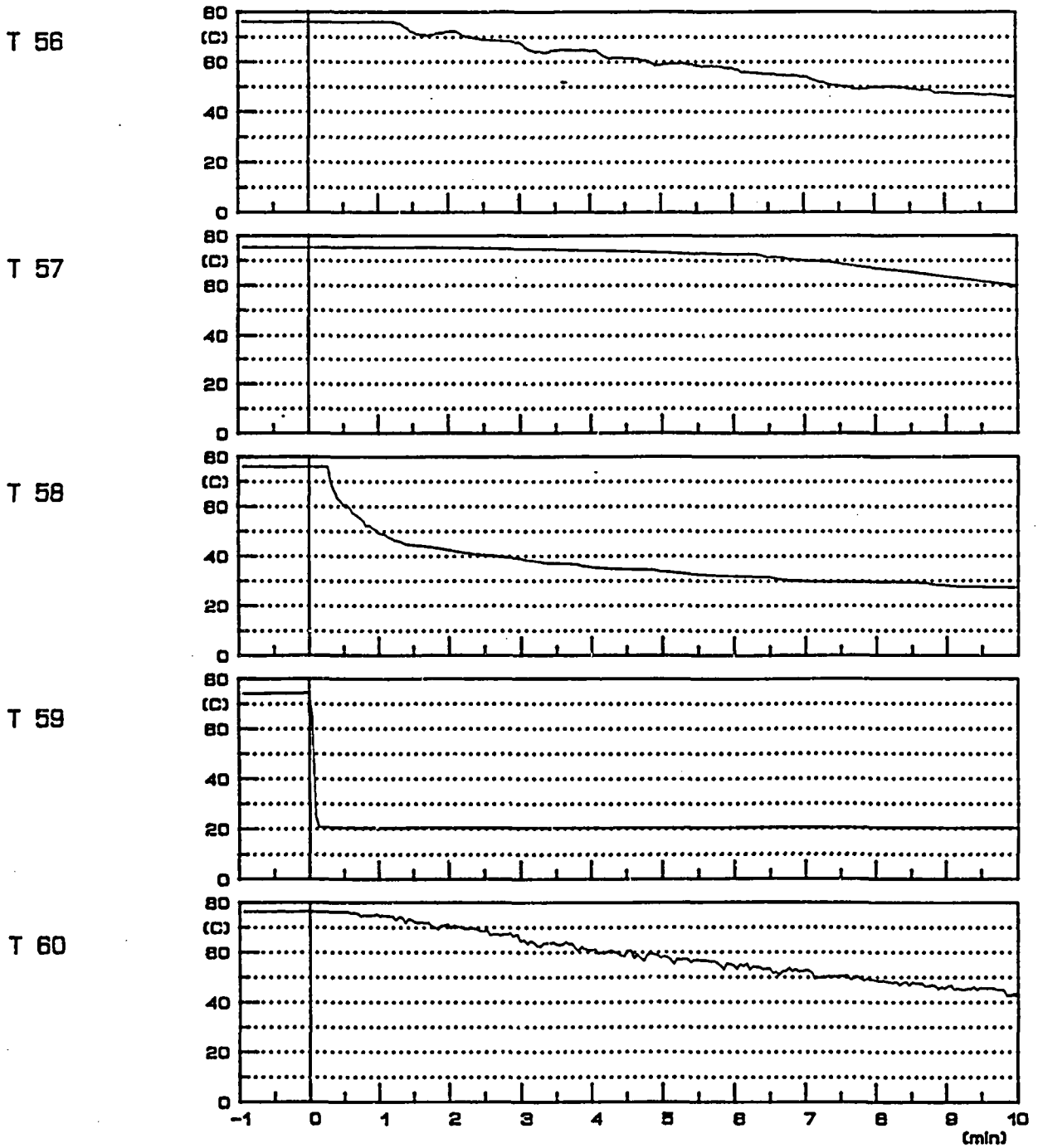
Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

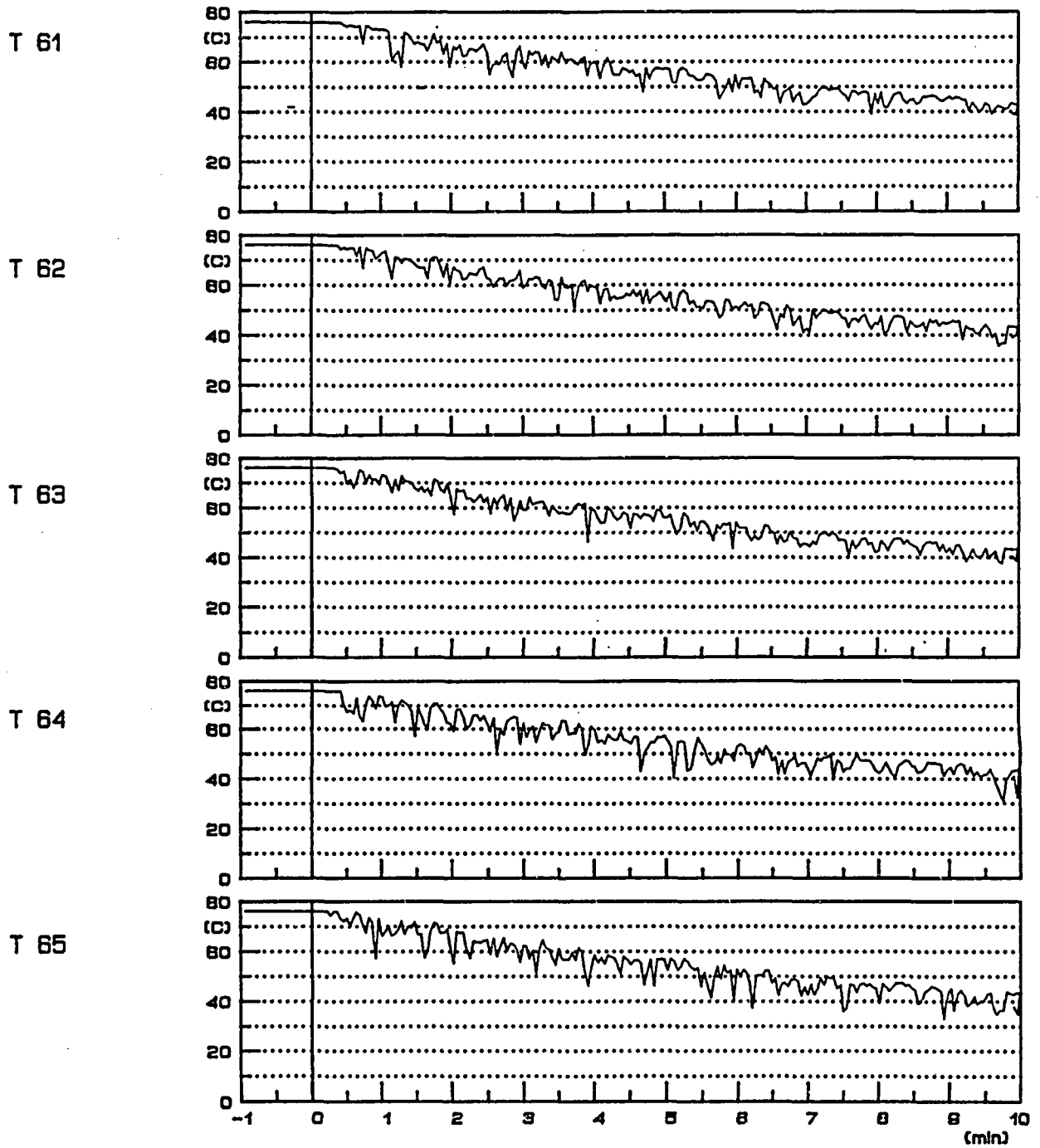
Test :	112							
		Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04 dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00 dm^3/s
						$Q_{HPI,C}$	=	1.04 dm^3/s
						ρ	=	1166. kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

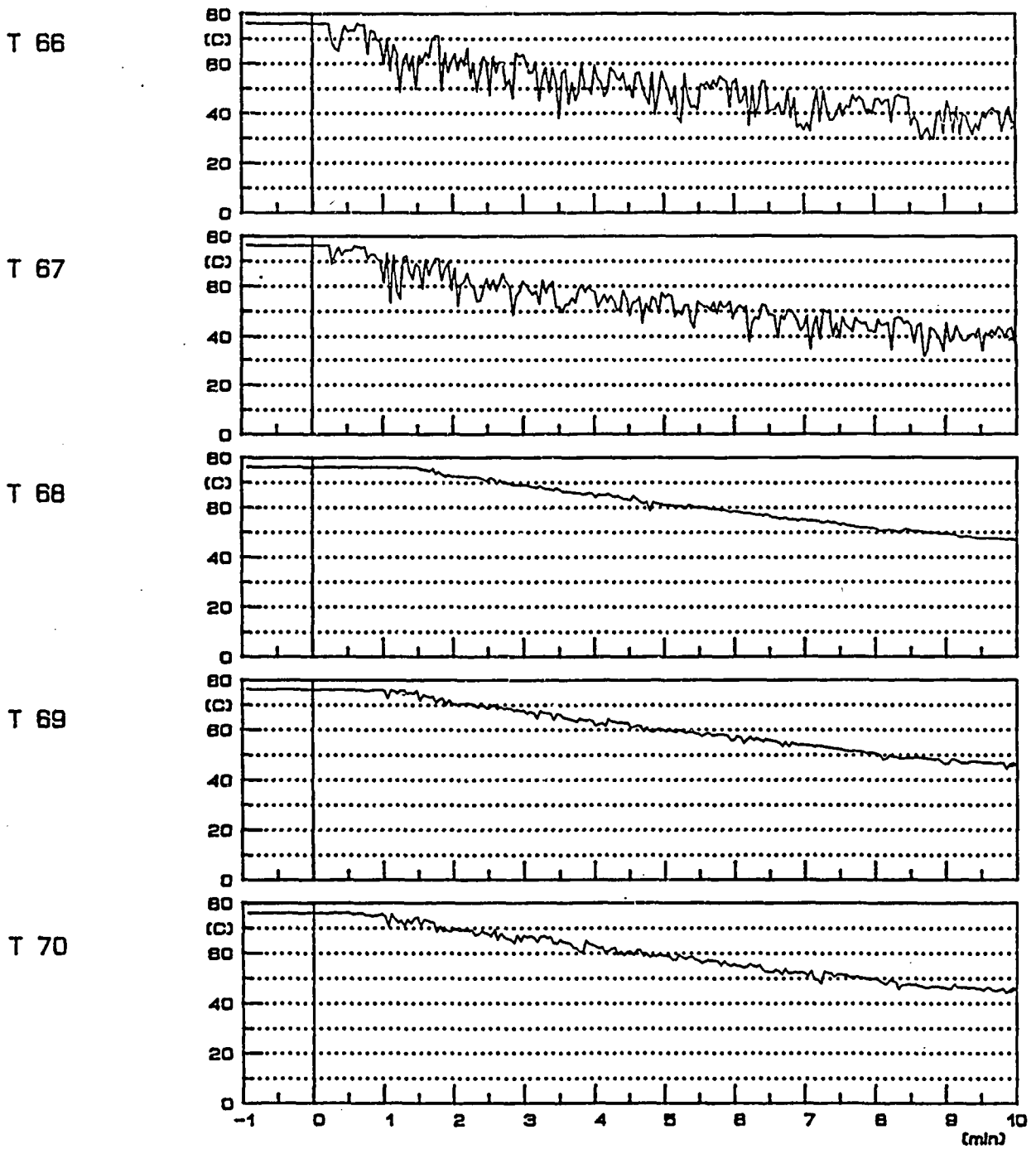
Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

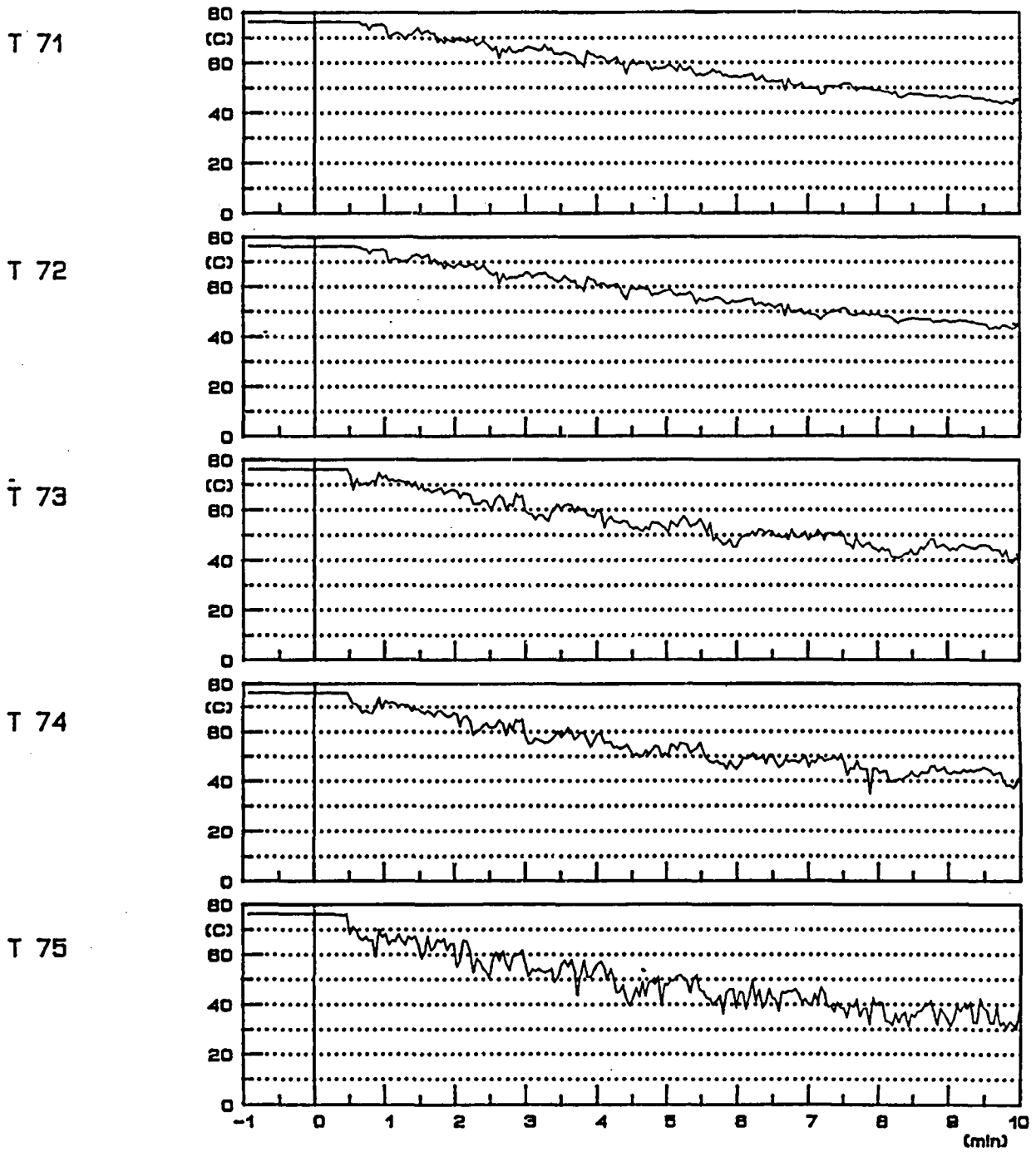
Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

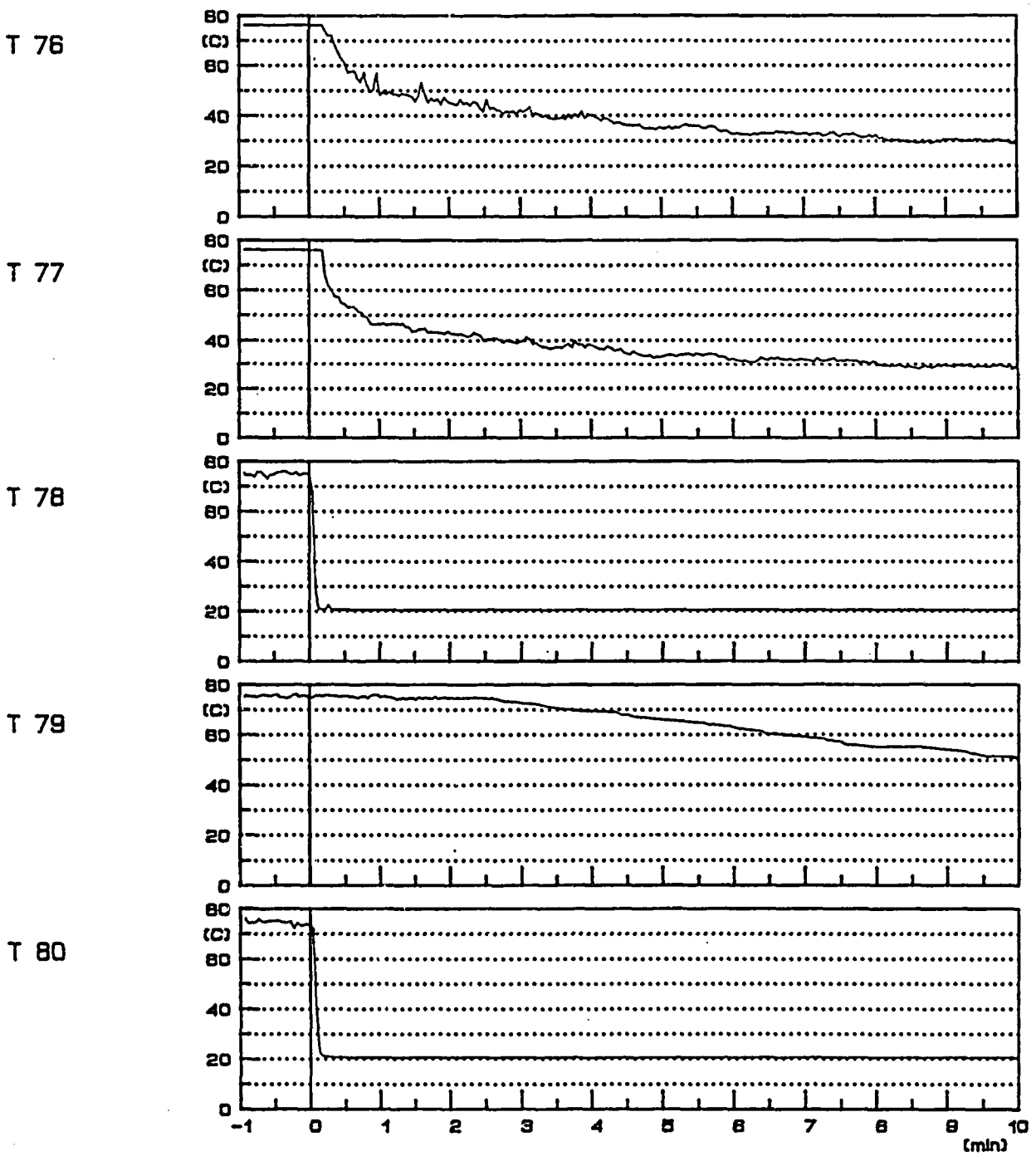
Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3



28. 8.1985

FLUID AND THERMAL MIXING TESTS

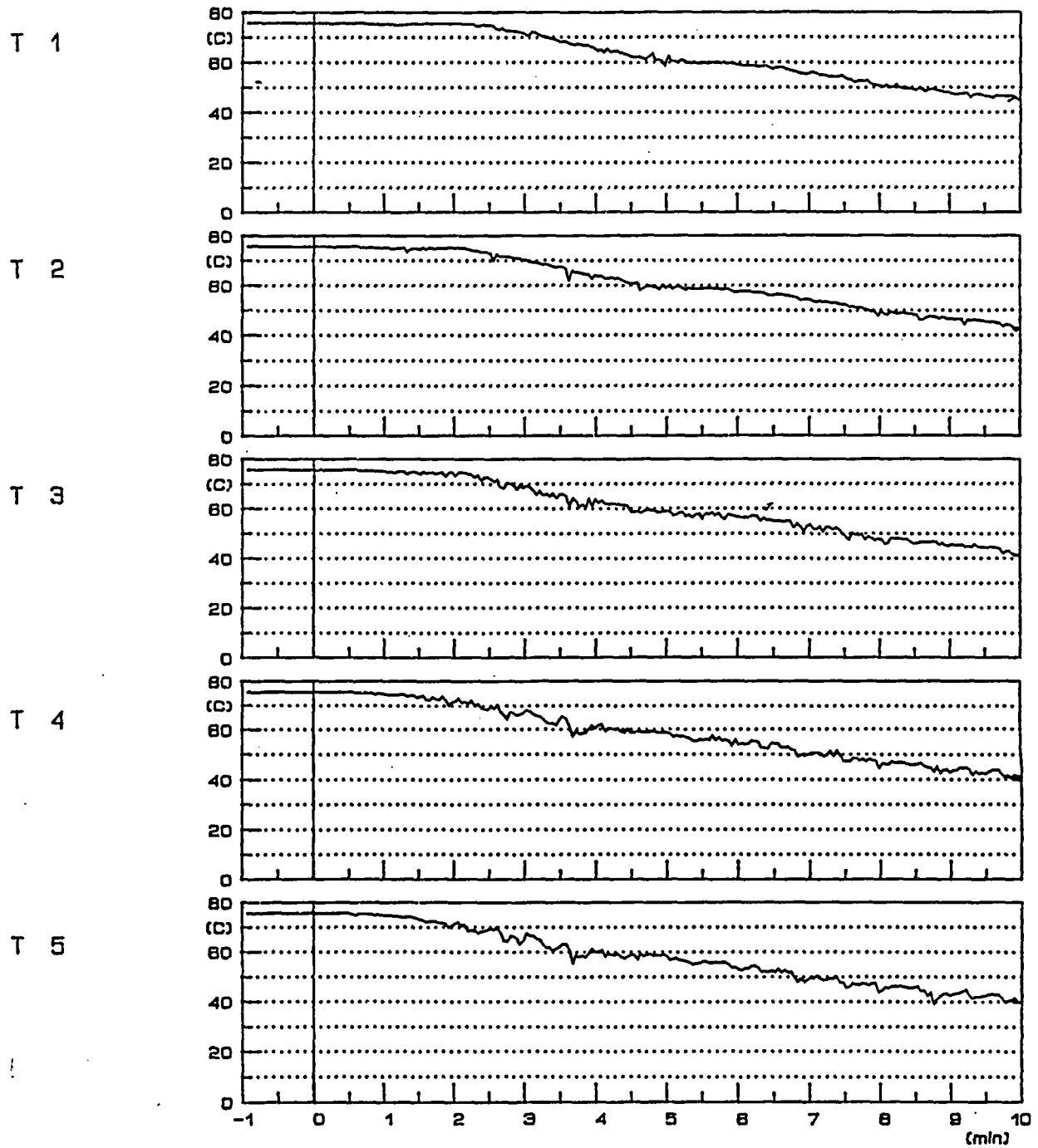
Test :	112	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	979.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	1.04	dm^3/s
						ρ	=	1166.	kg/m^3



4. 9.1985

FLUID AND THERMAL MIXING TESTS

Test :	113	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1168.	kg/m^3

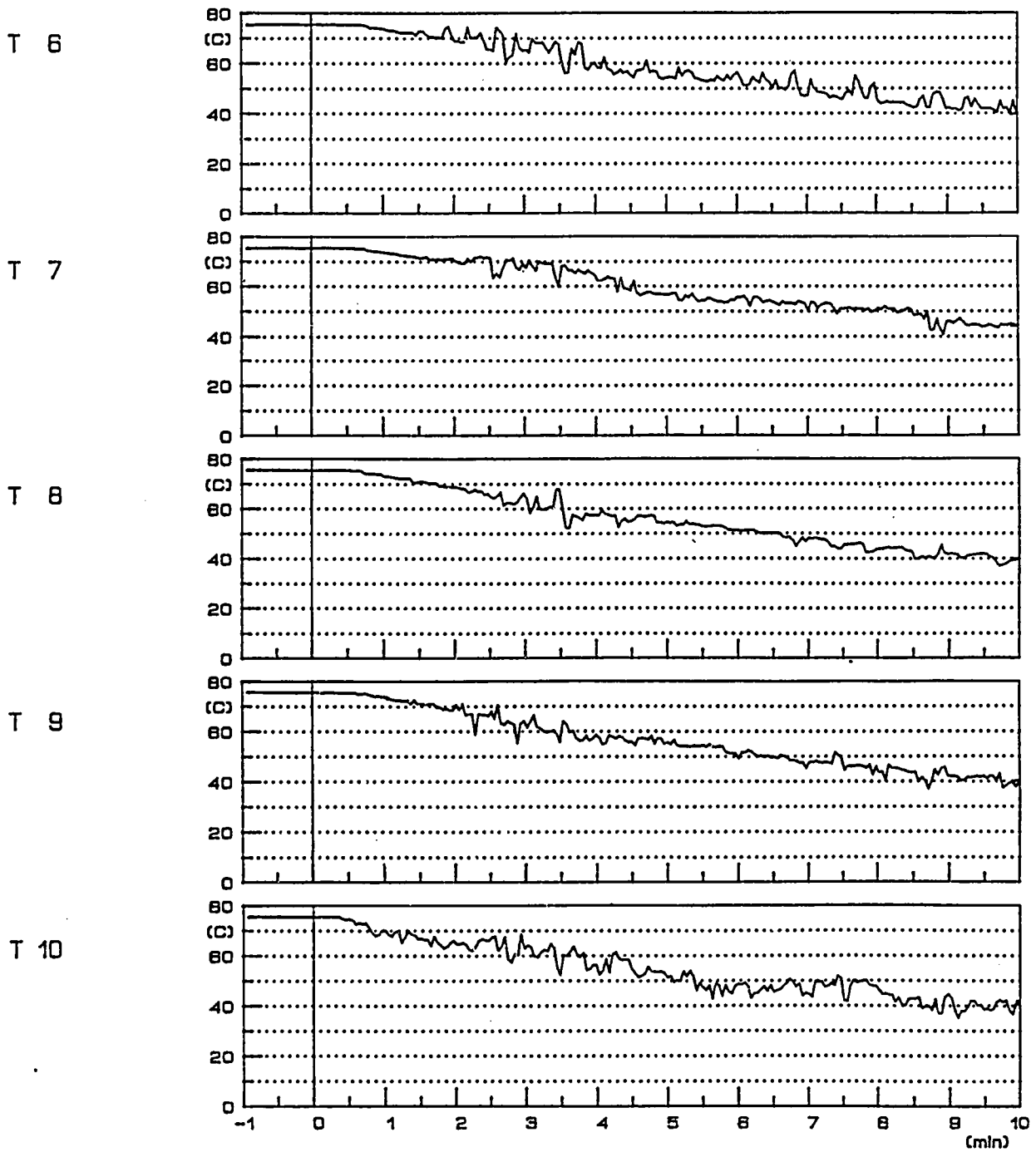


4. 9.1985

FLUID AND THERMAL MIXING TESTS

Test : 113

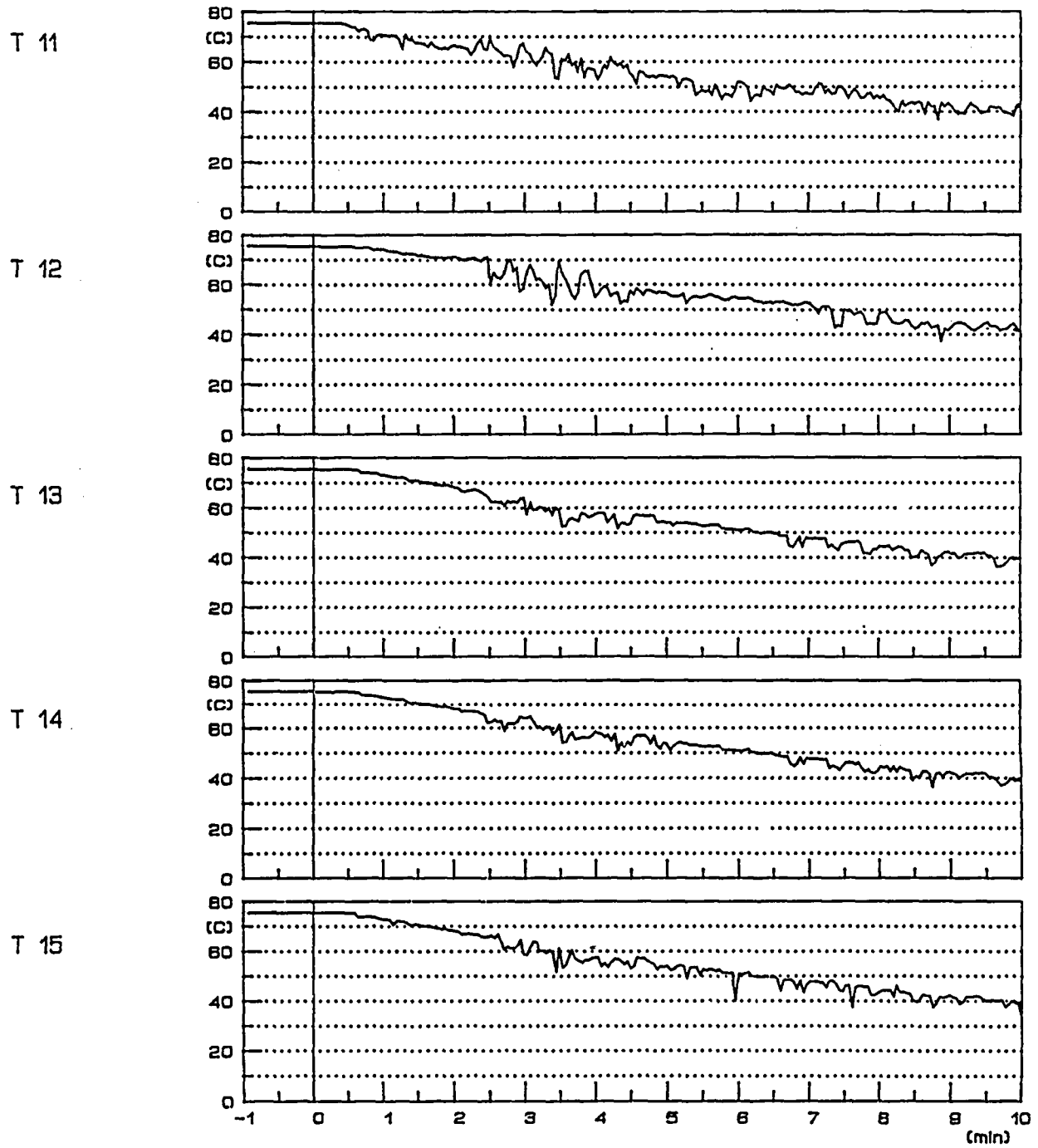
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



4. 9.1985

FLUID AND THERMAL MIXING TESTS

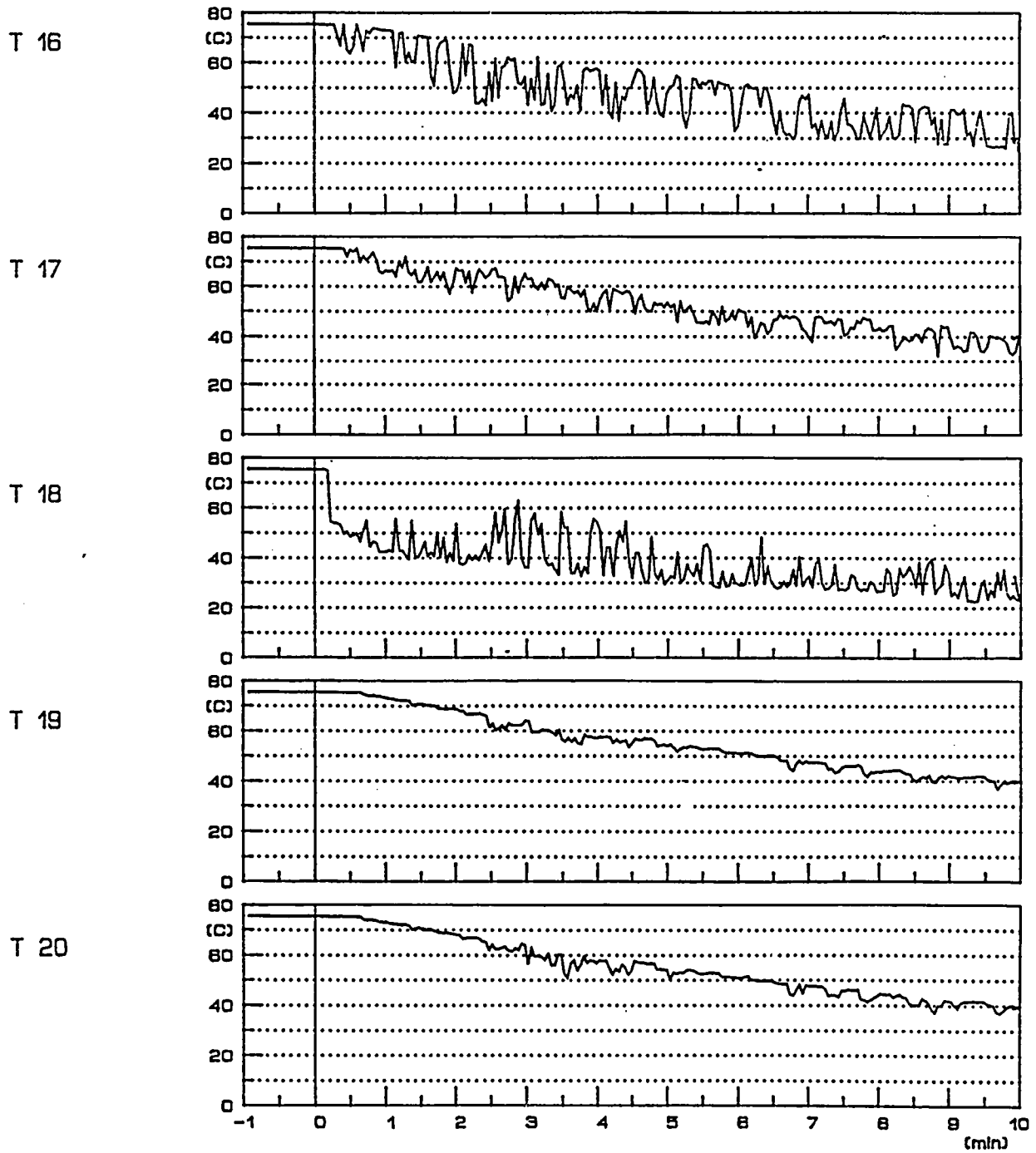
Test :	113	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1168.	kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 113

Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3

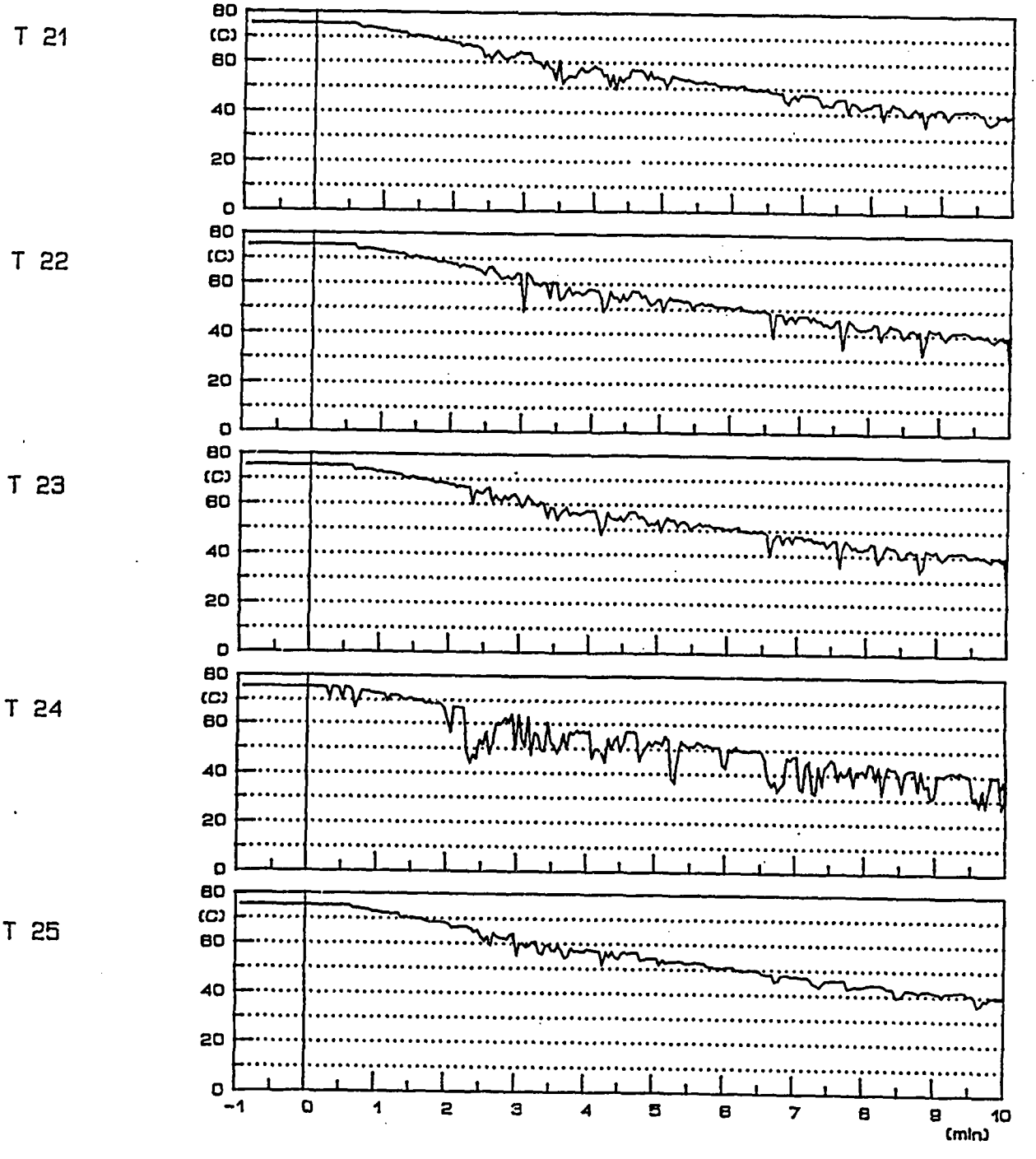


4. 9.1985

FLUID AND THERMAL MIXING TESTS

Test : 113

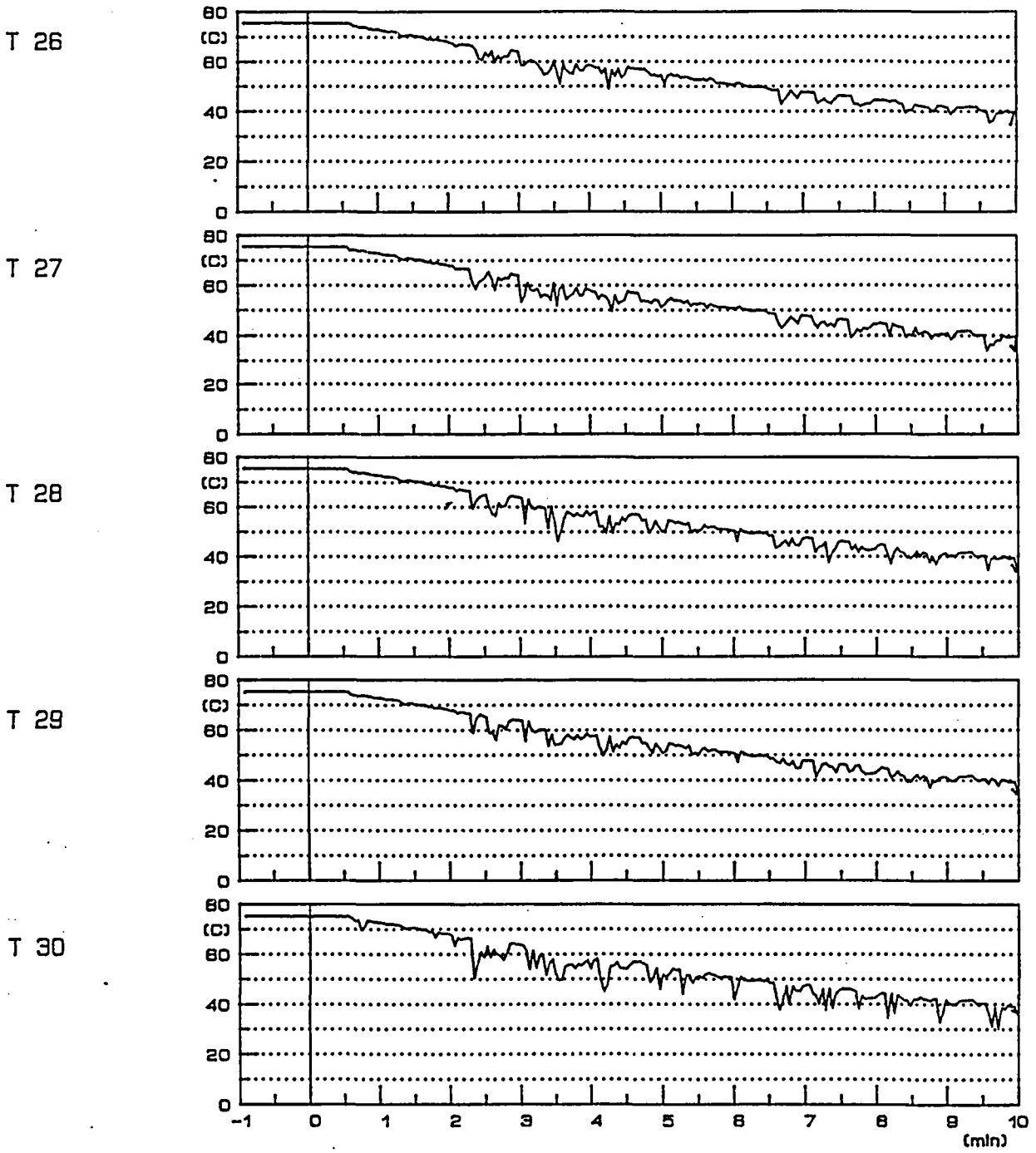
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 113

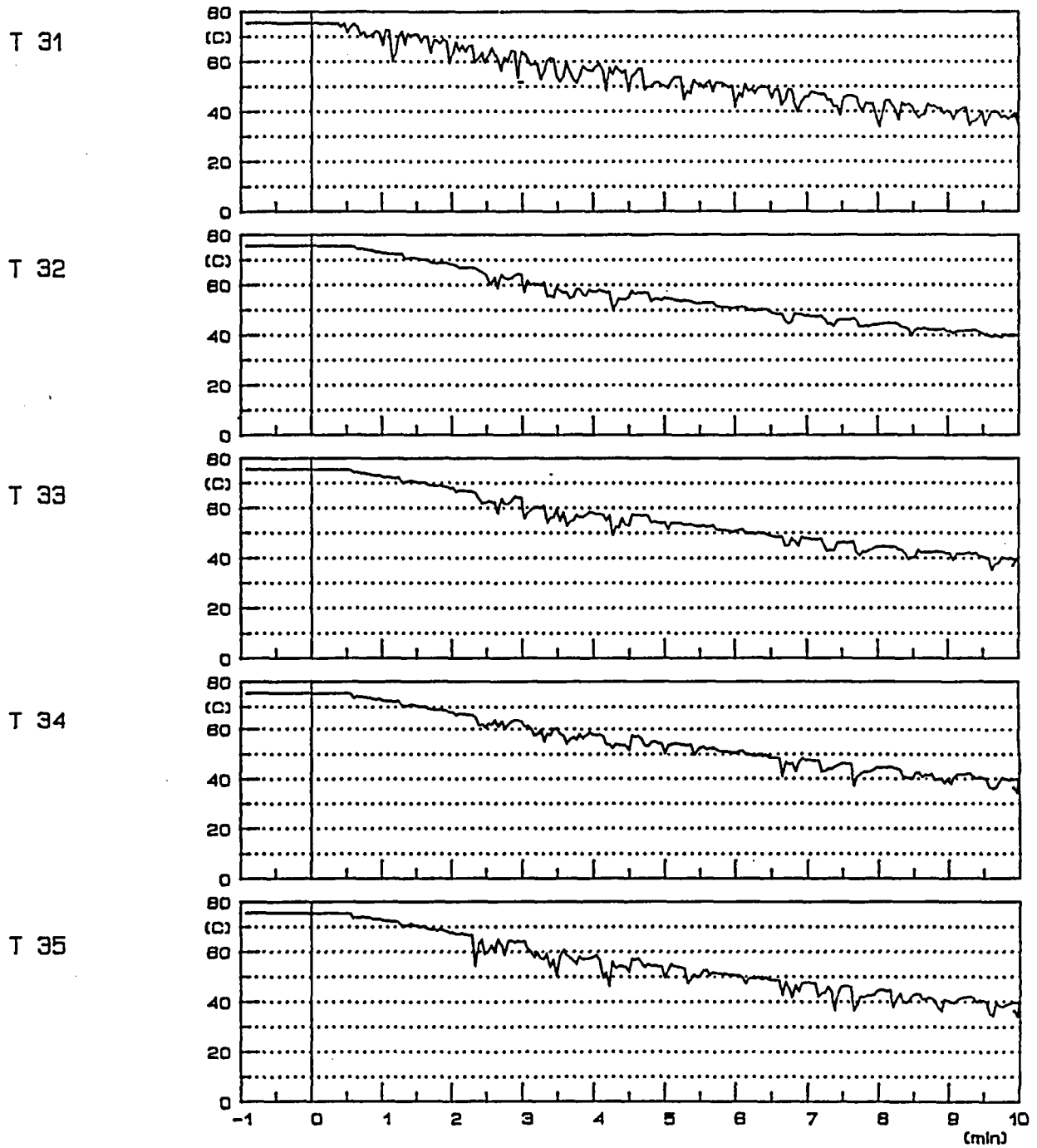
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



4. 9.1985

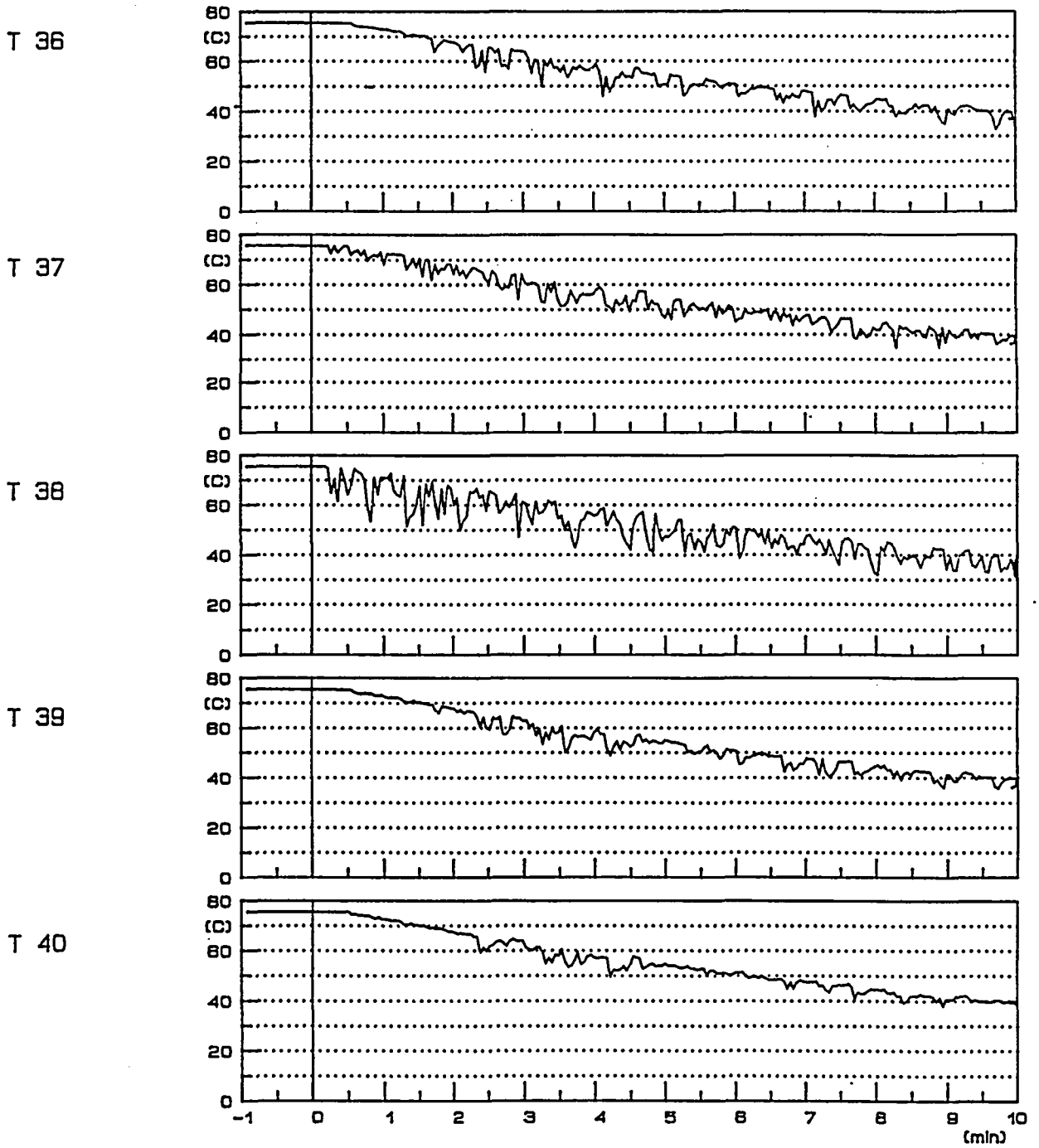
FLUID AND THERMAL MIXING TESTS

Test :	113	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1168.	kg/m^3



FLUID AND THERMAL MIXING TESTS

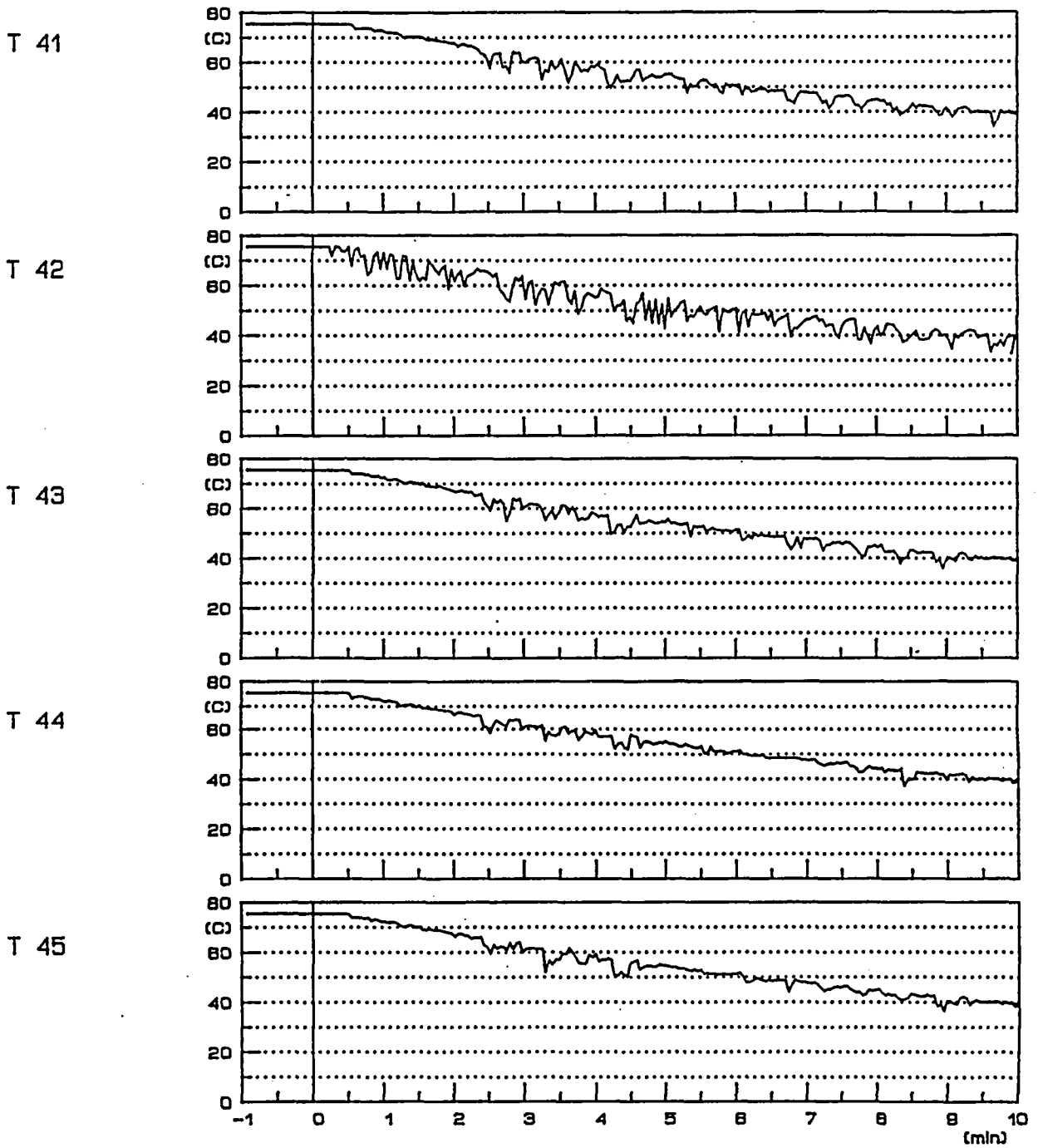
Test :	113	Q = 0.0 dm^3/s	$Q_{HPI,A}$ = 0.00 dm^3/s
		ρ = 978. kg/m^3	$Q_{HPI,B}$ = 1.48 dm^3/s
			$Q_{HPI,C}$ = 1.48 dm^3/s
			ρ = 1168. kg/m^3



4. 9.1985

FLUID AND THERMAL MIXING TESTS

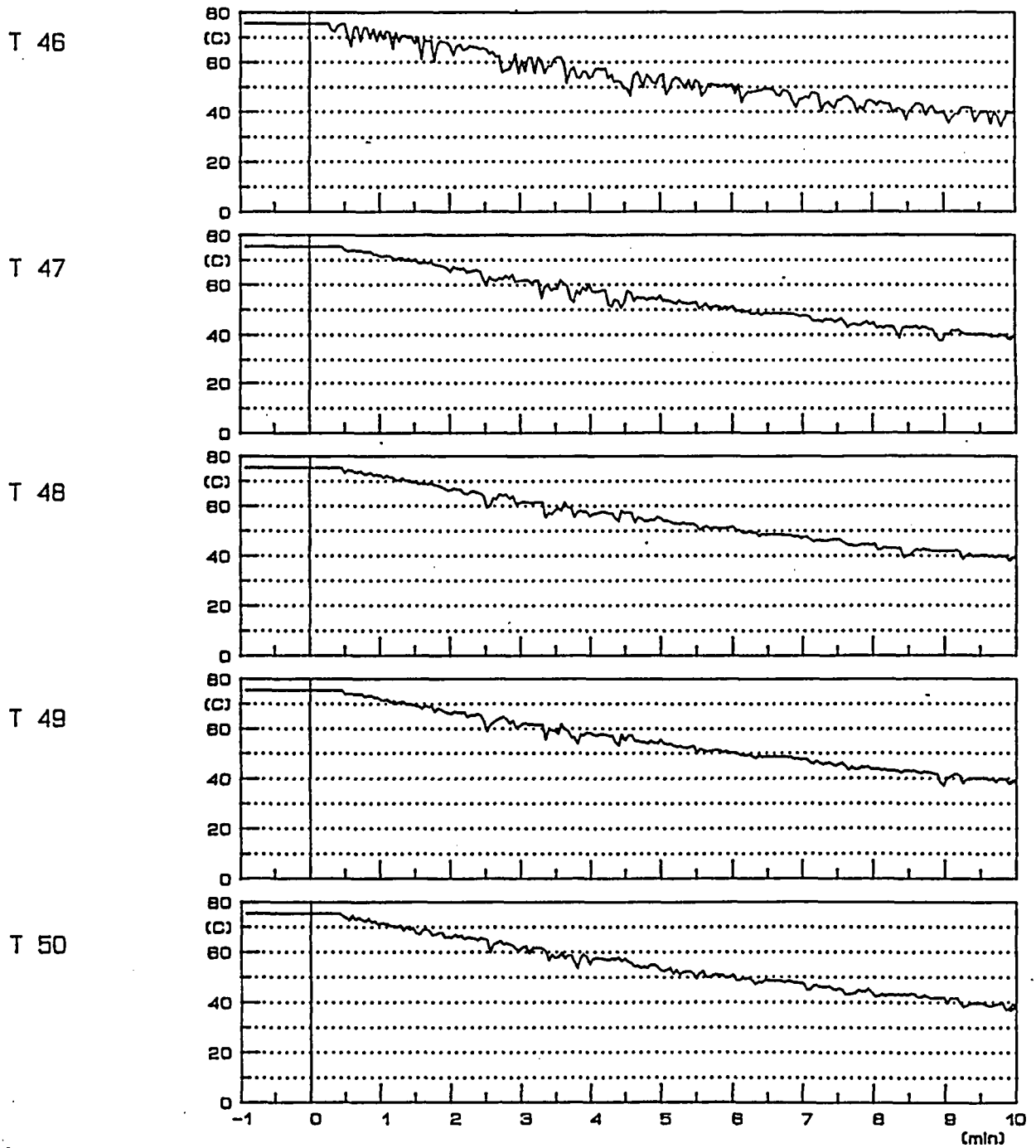
Test :	113								
		Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1168.	kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 113

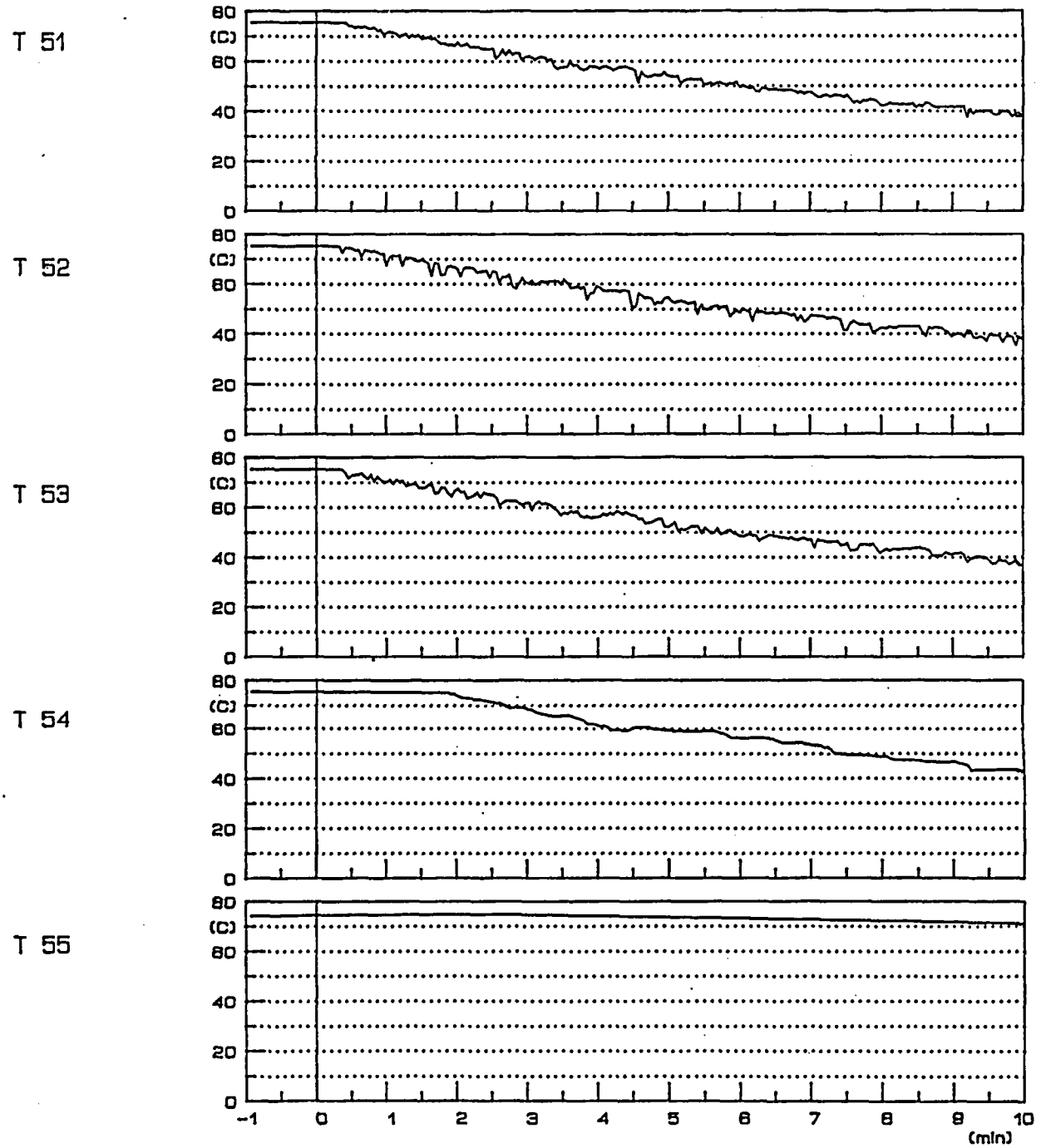
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



4. 9.1985

FLUID AND THERMAL MIXING TESTS

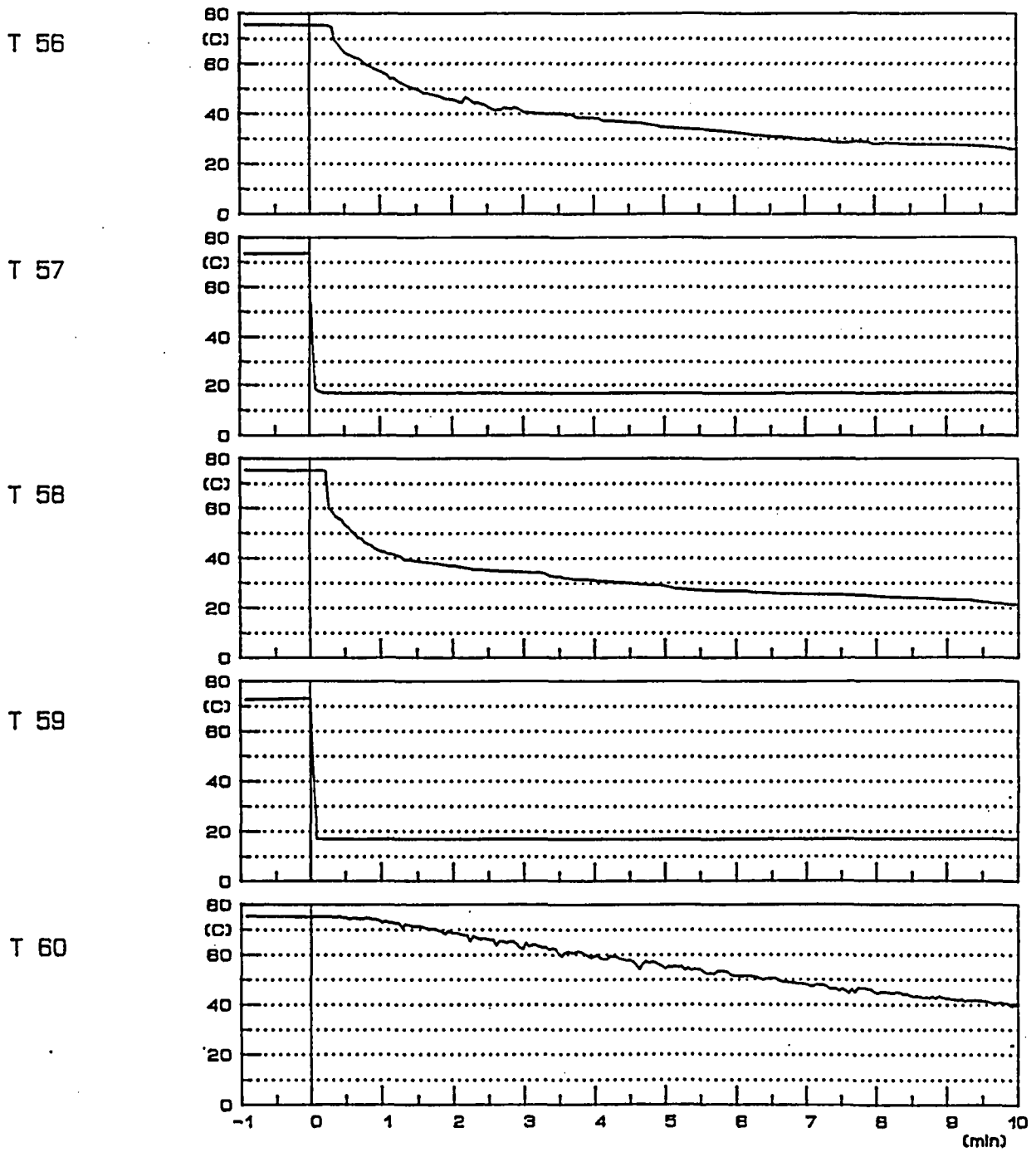
Test :	113	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1168.	kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 113

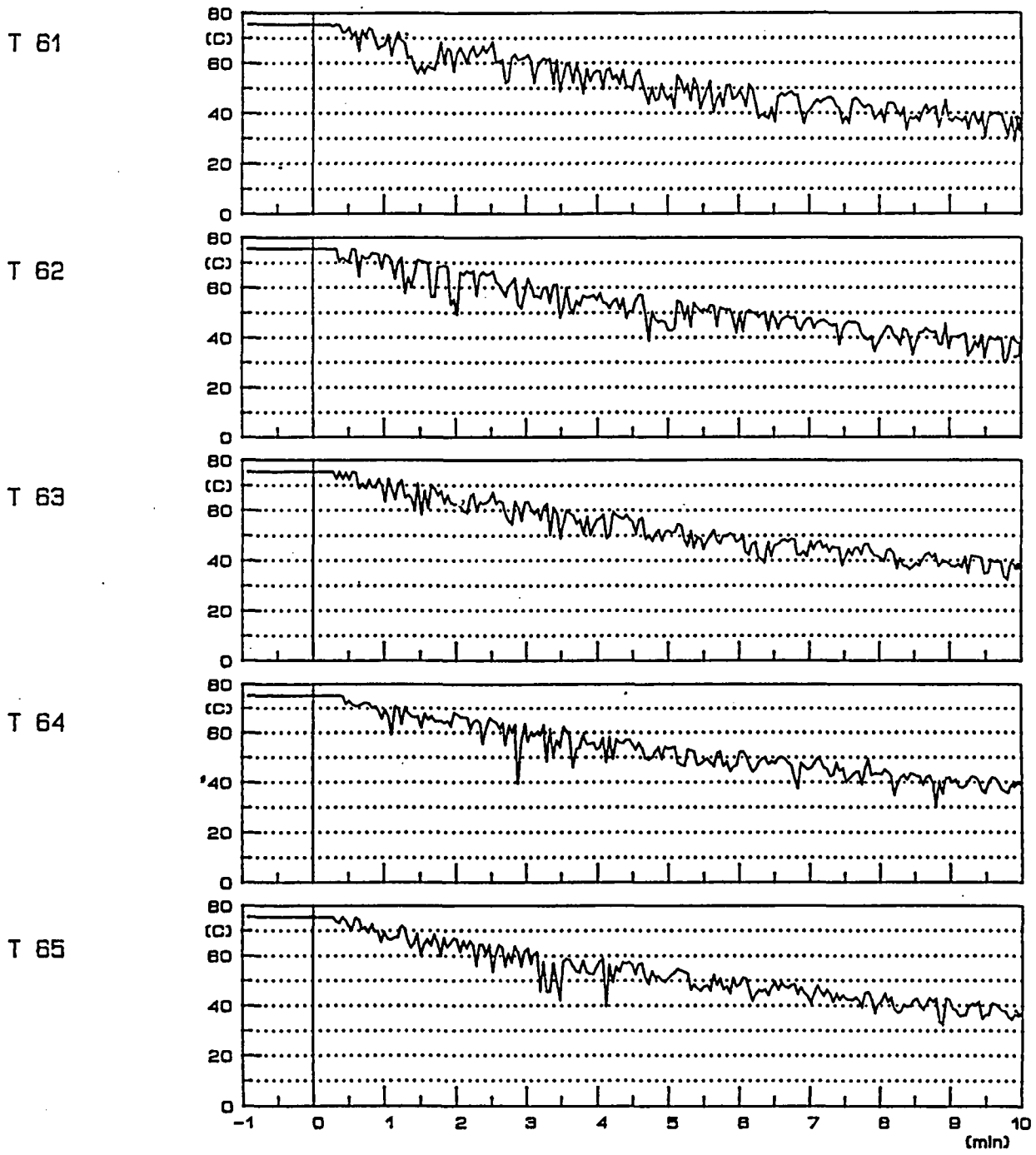
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



4. 9.1985

FLUID AND THERMAL MIXING TESTS

Test :	113	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1168.	kg/m^3

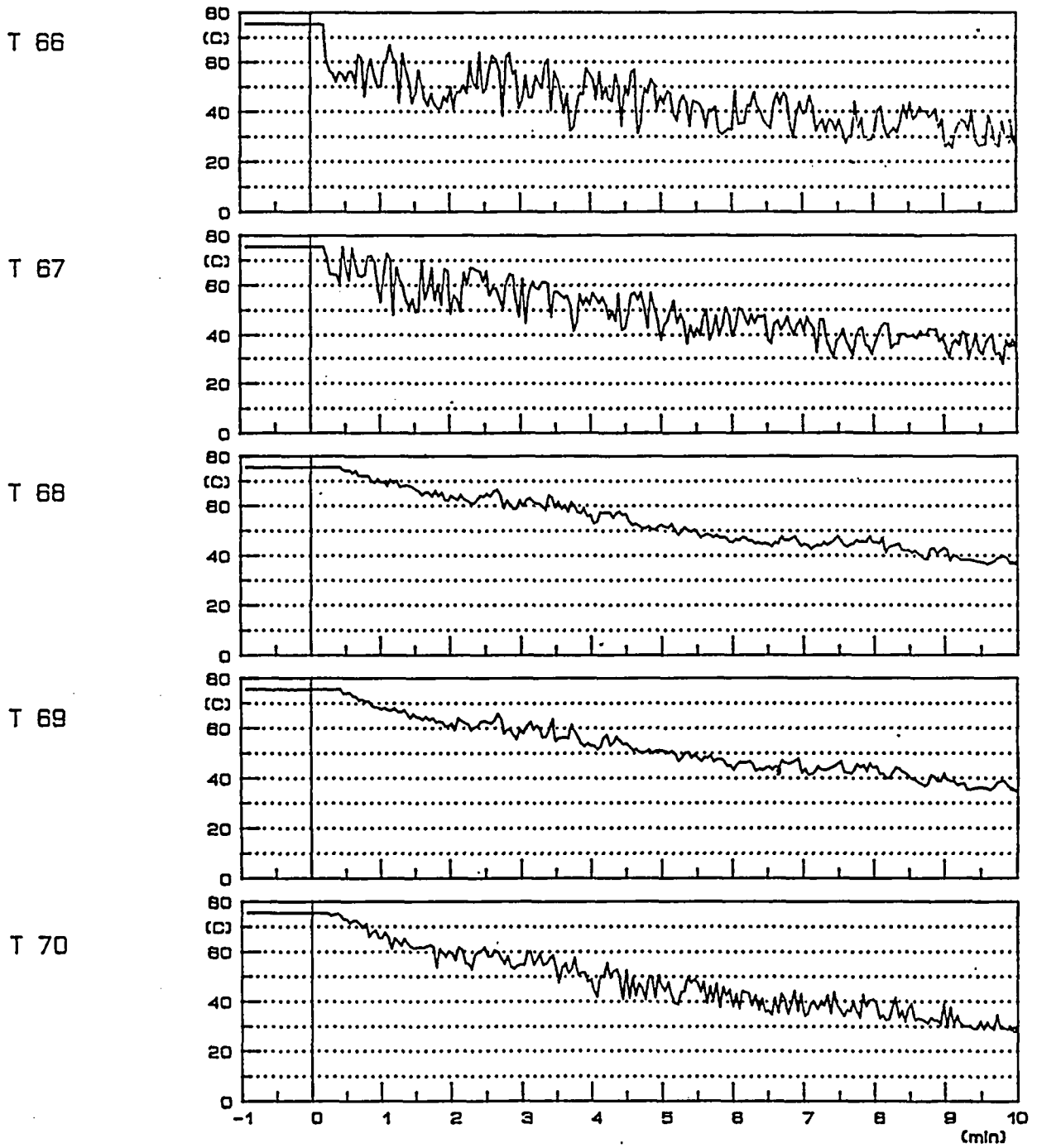


4. 9.1985

FLUID AND THERMAL MIXING TESTS

Test : 113

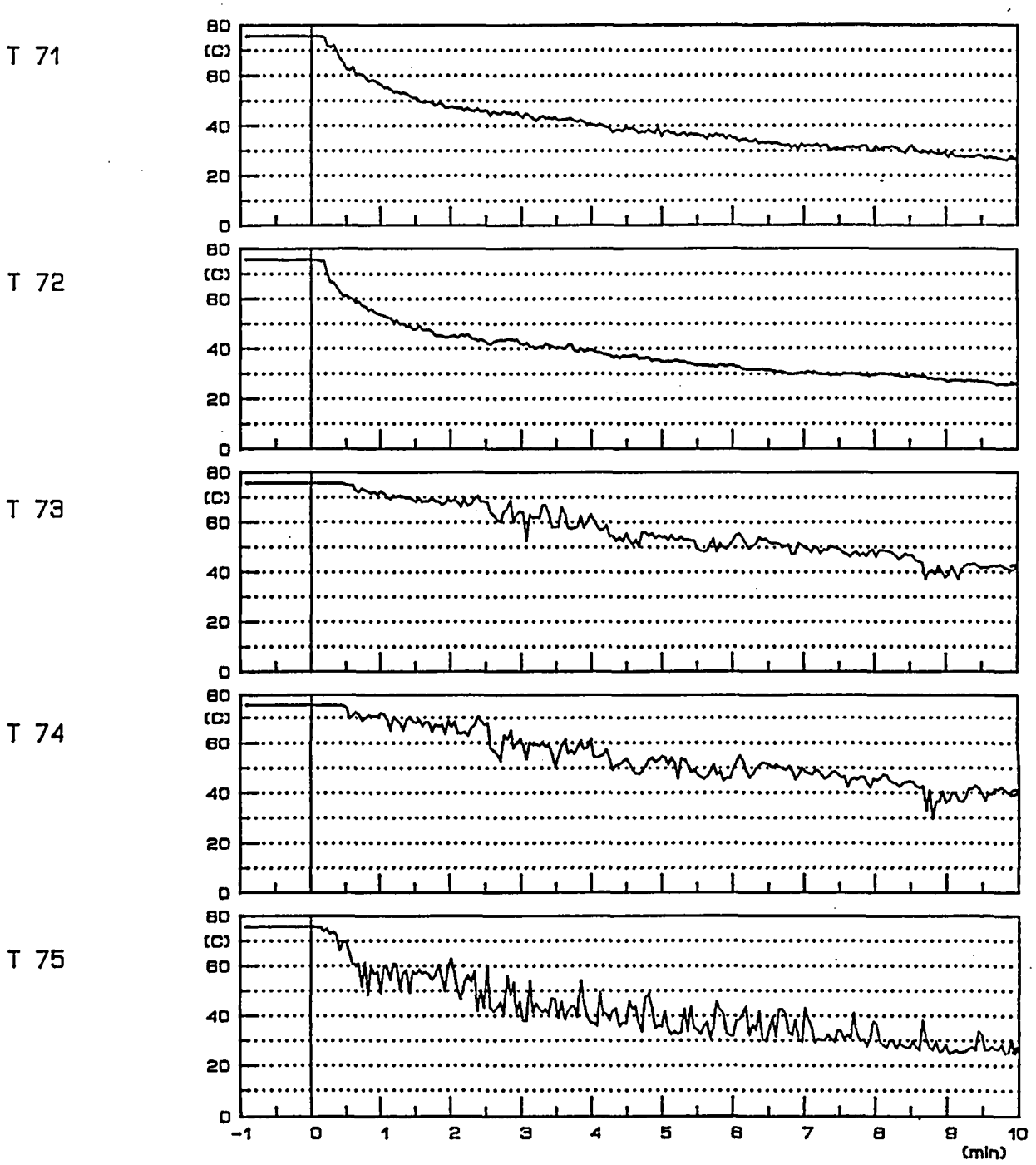
Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



4. 9.1985

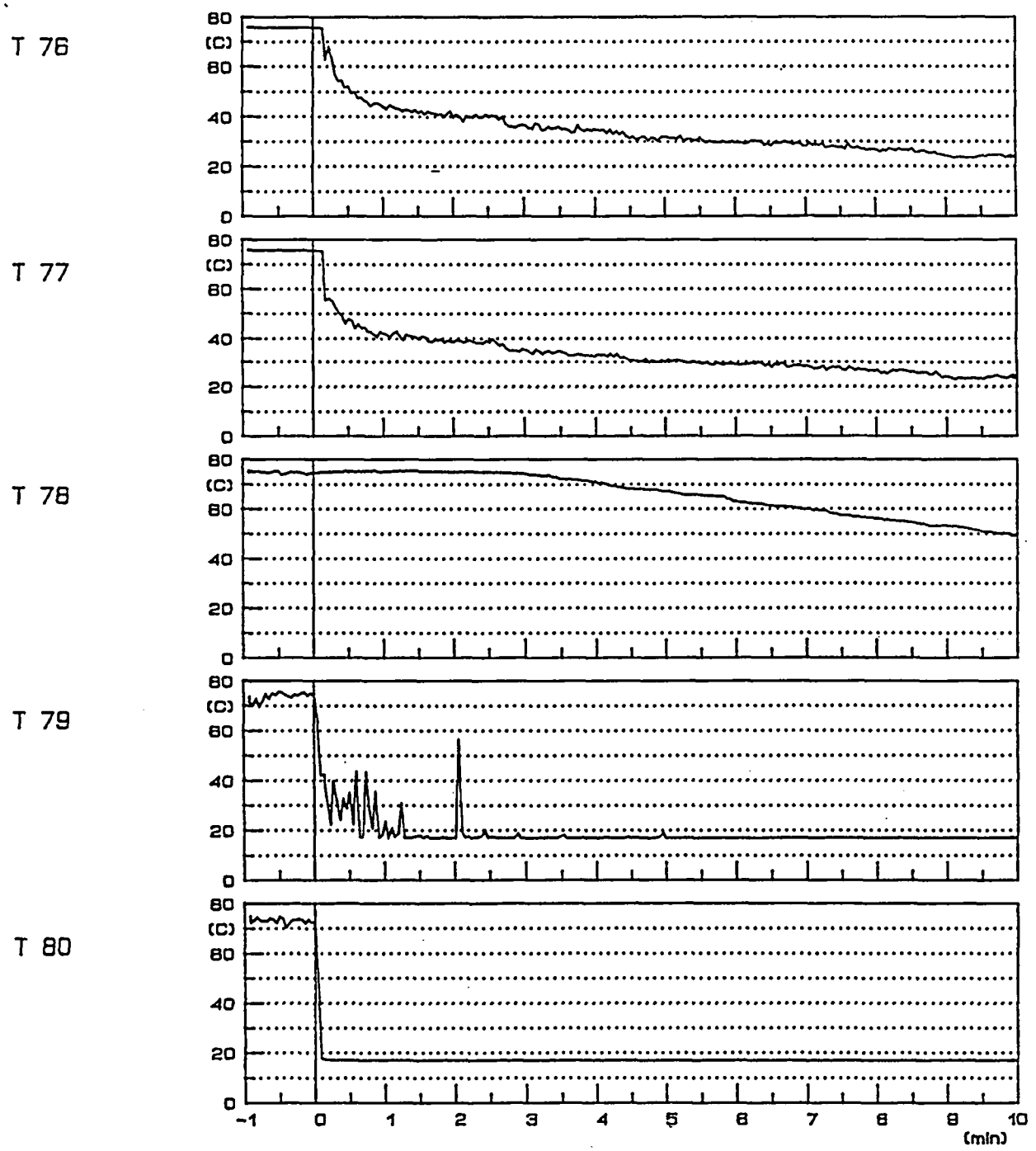
FLUID AND THERMAL MIXING TESTS

Test :	113	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1168.	kg/m^3



FLUID AND THERMAL MIXING TESTS

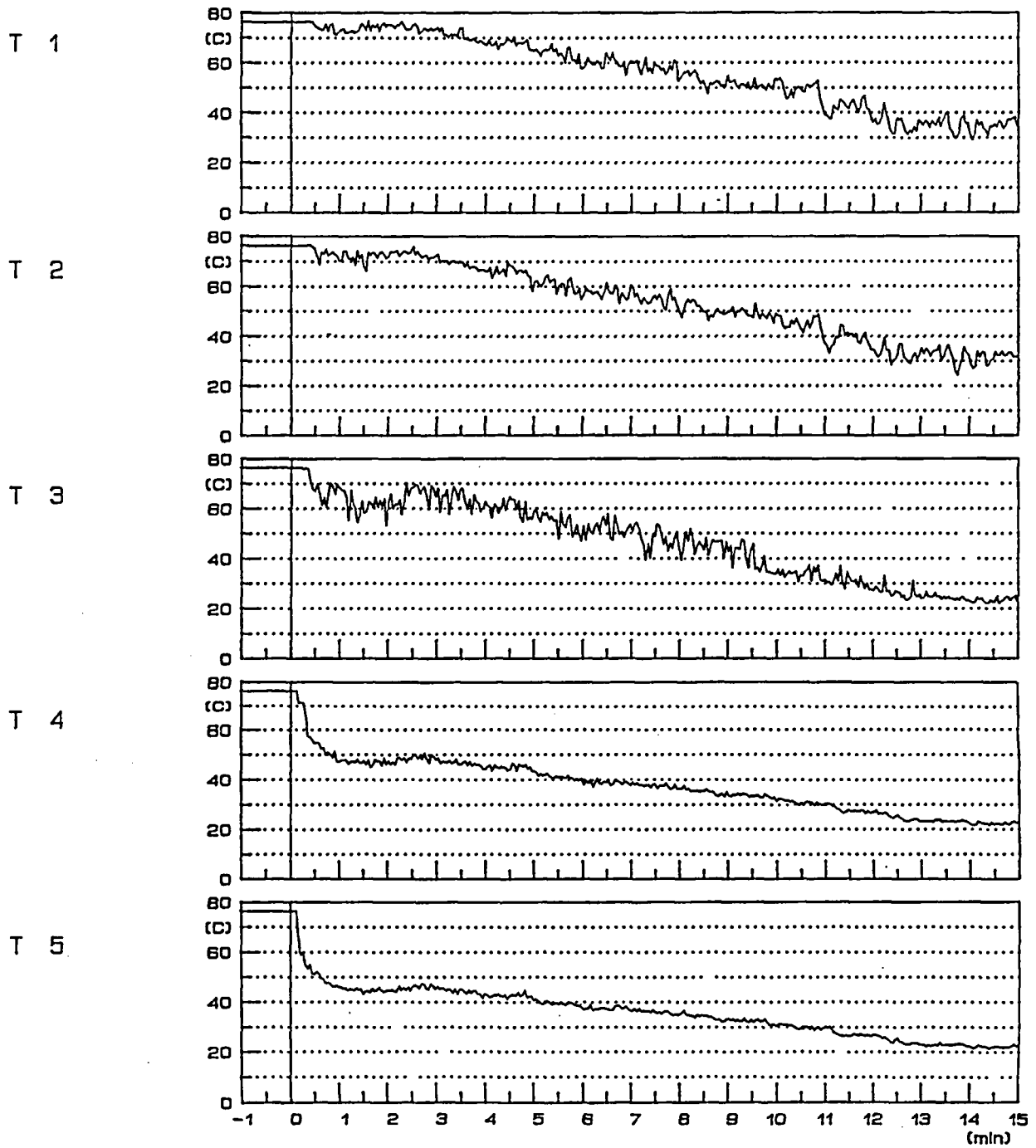
Test :	113	Q	=	0.0	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						ρ	=	1168.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

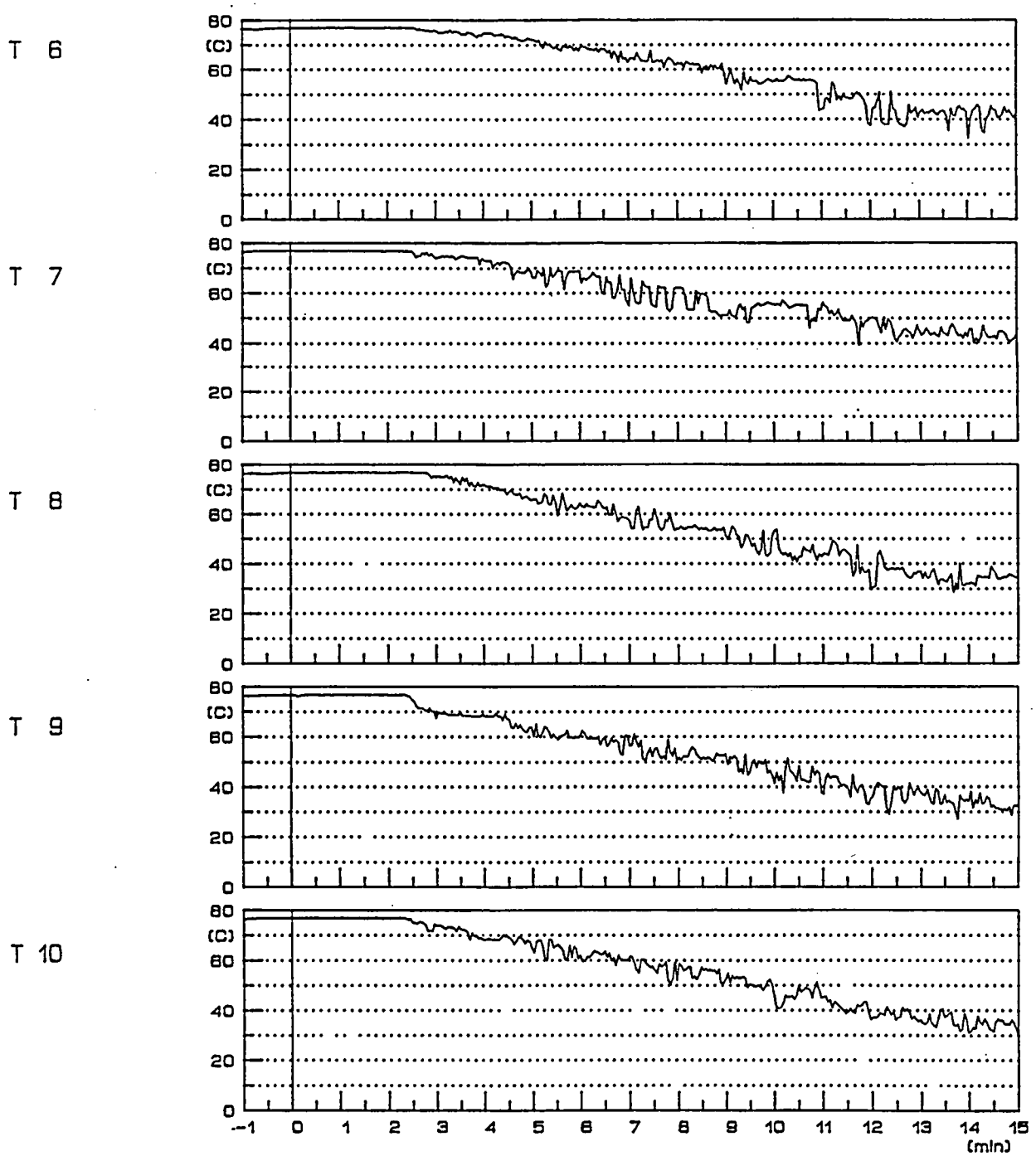
Test :	114	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

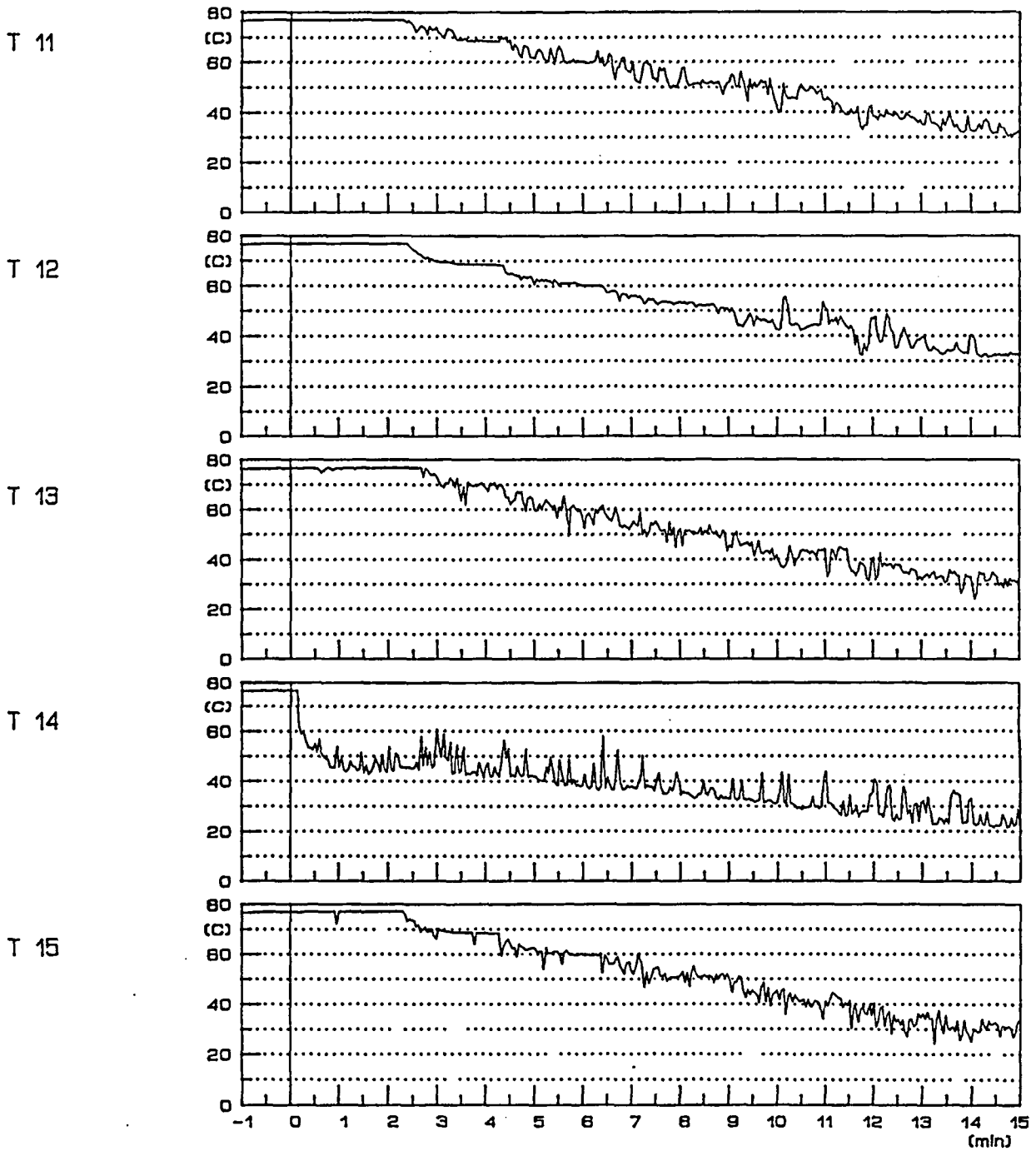
Test :	114	Q_c = 4.2 dm³/s	$Q_{HPI,A}$ = 1.04 dm³/s
		ρ = 978. kg/m³	$Q_{HPI,B}$ = 0.00 dm³/s
			$Q_{HPI,C}$ = 0.00 dm³/s
			ρ = 1170. kg/m³



19. 9.1985

FLUID AND THERMAL MIXING TESTS

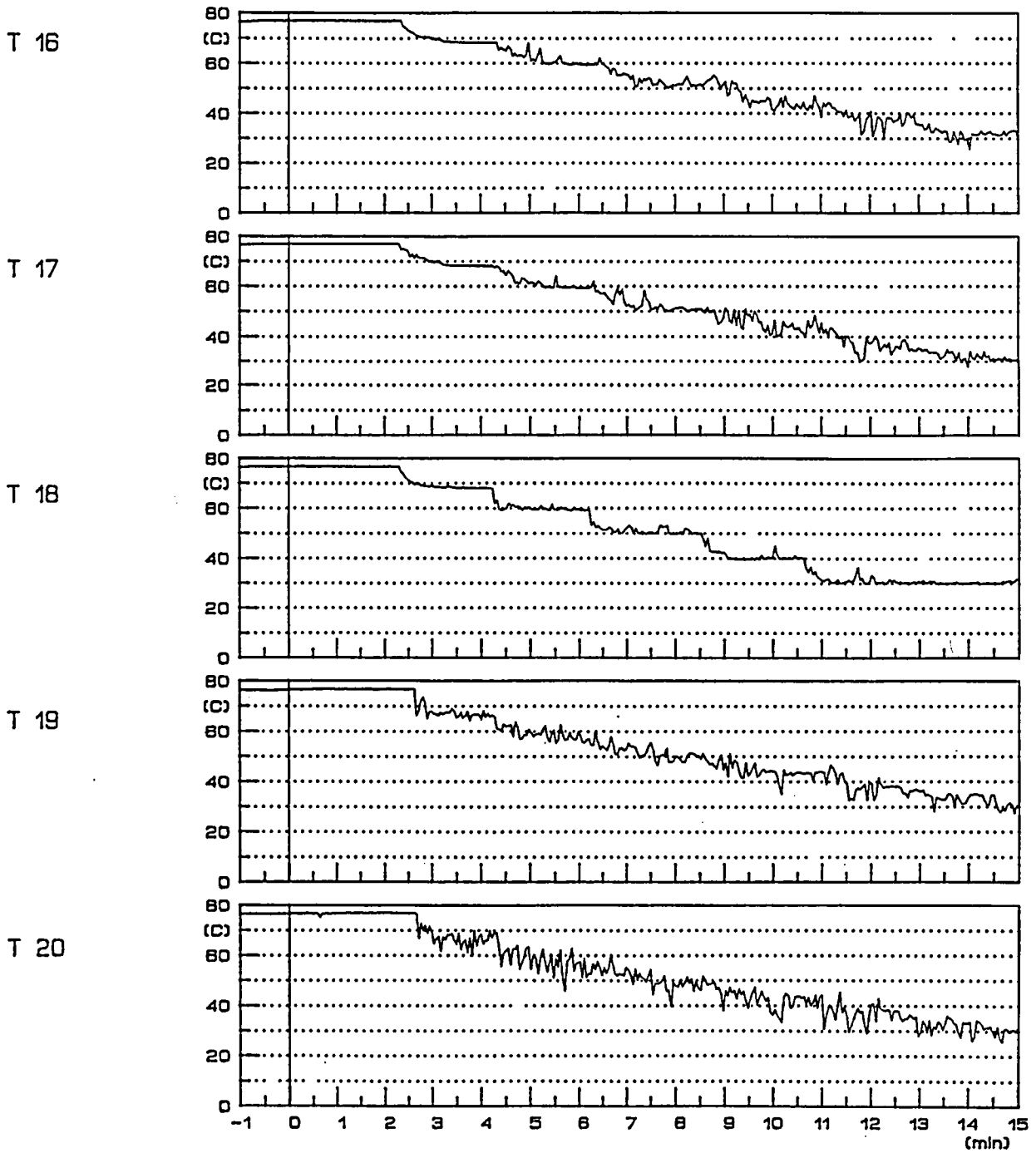
Test :	114	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1170. kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

Test :	114	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3

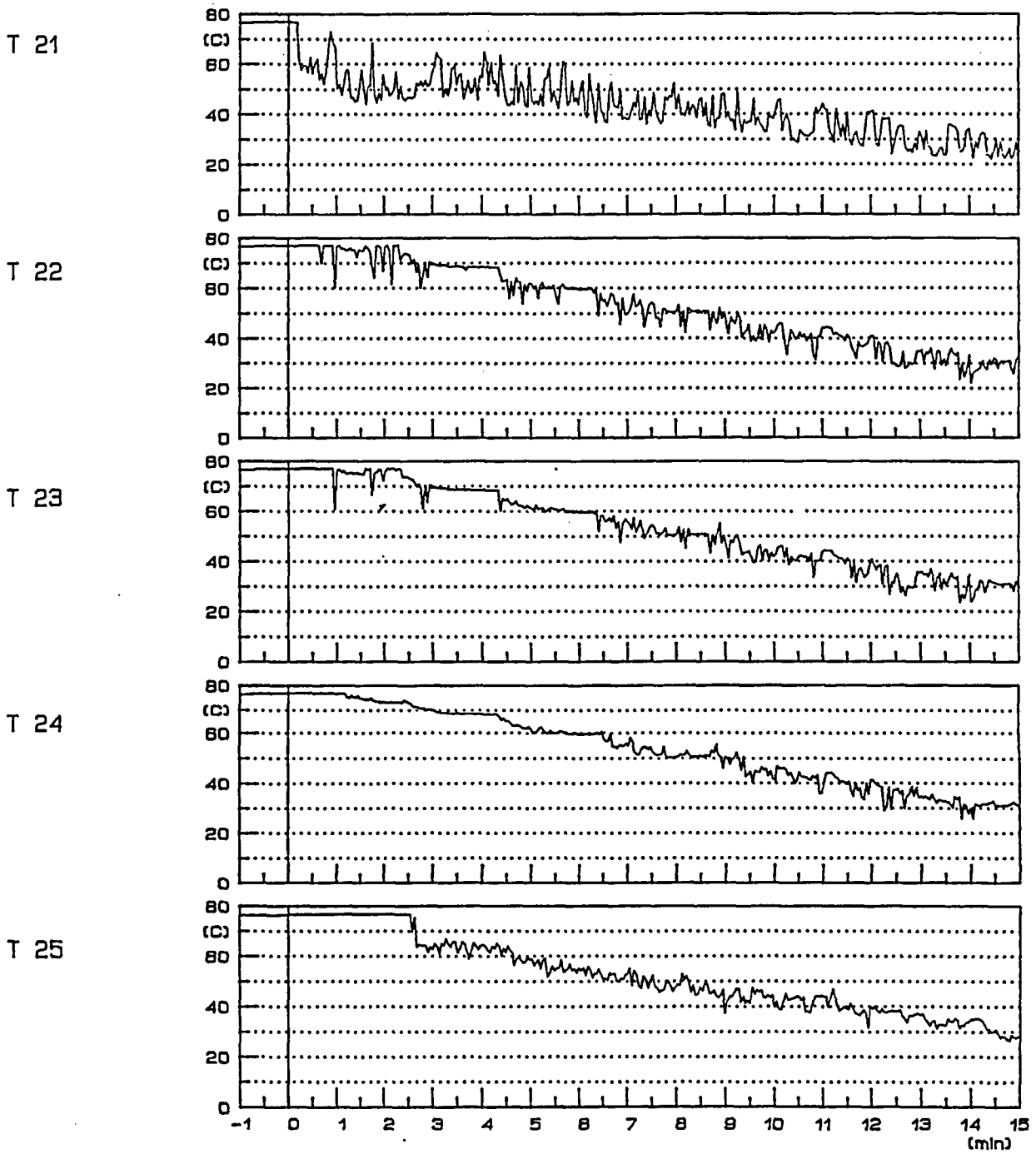


19. 9.1985

FLUID AND THERMAL MIXING TESTS

Test : 114

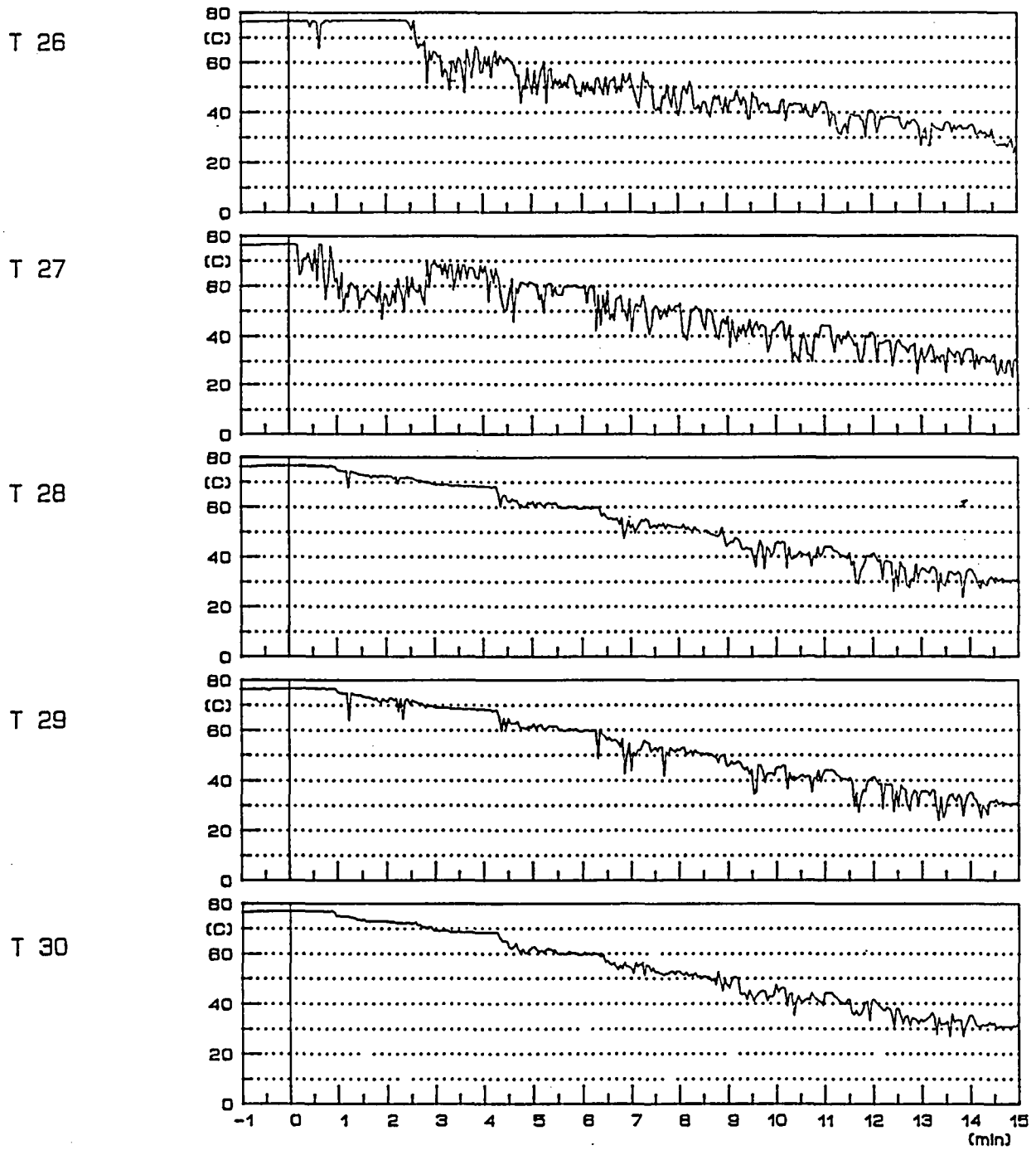
Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

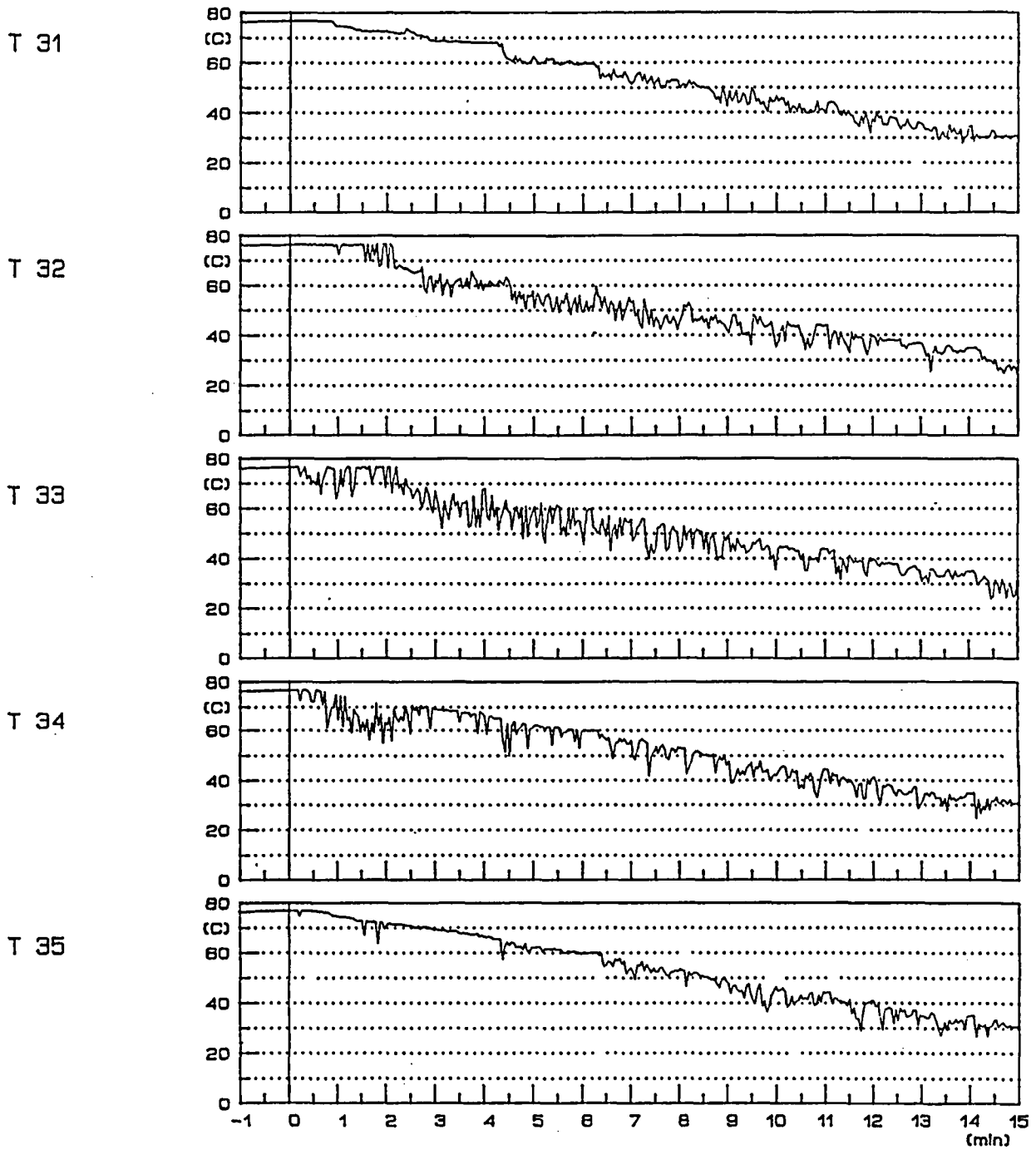
Test :	114	Q_C =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

Test :	114	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1170. kg/m^3

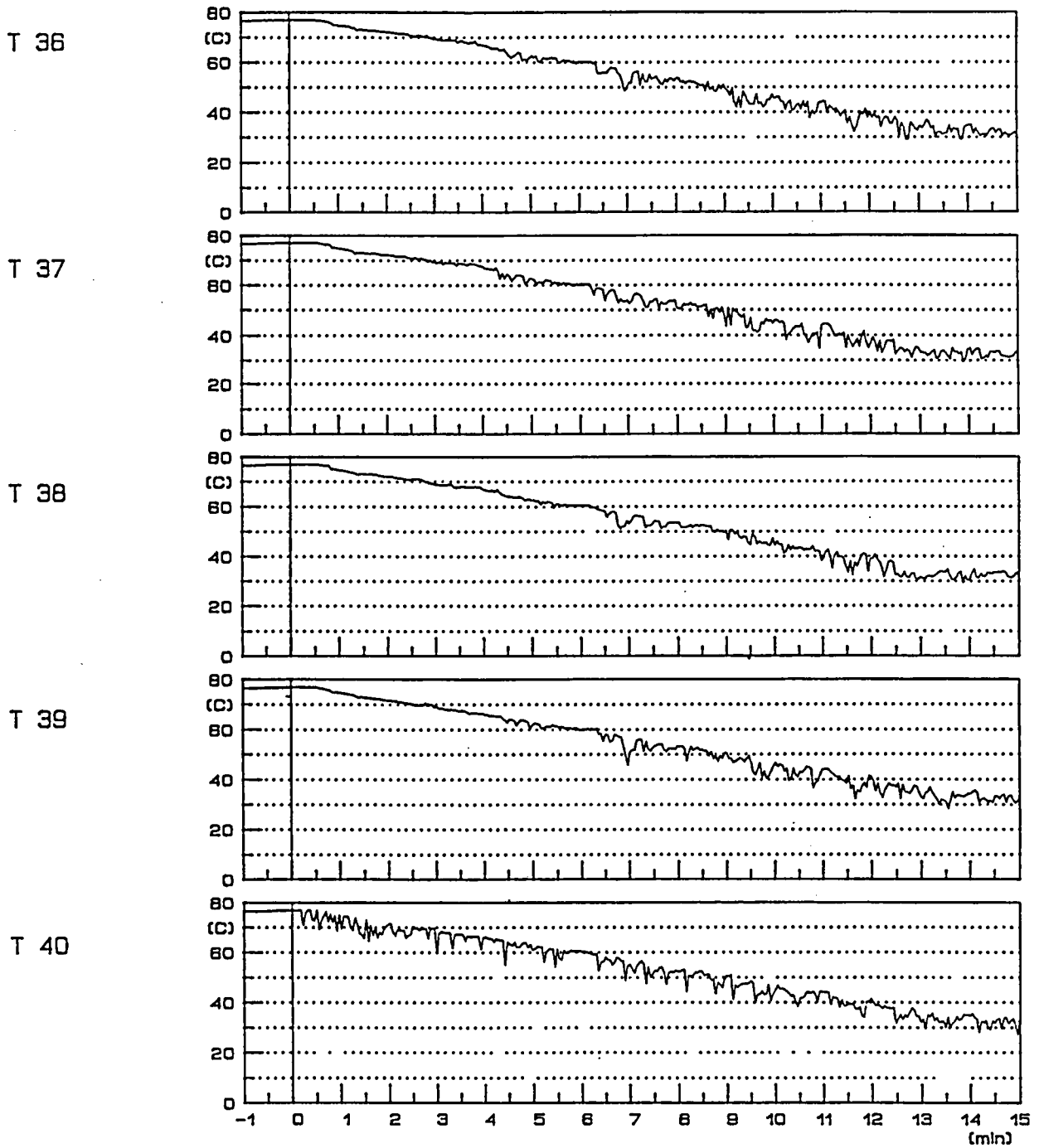


19. 9.1985

FLUID AND THERMAL MIXING TESTS

Test : 114

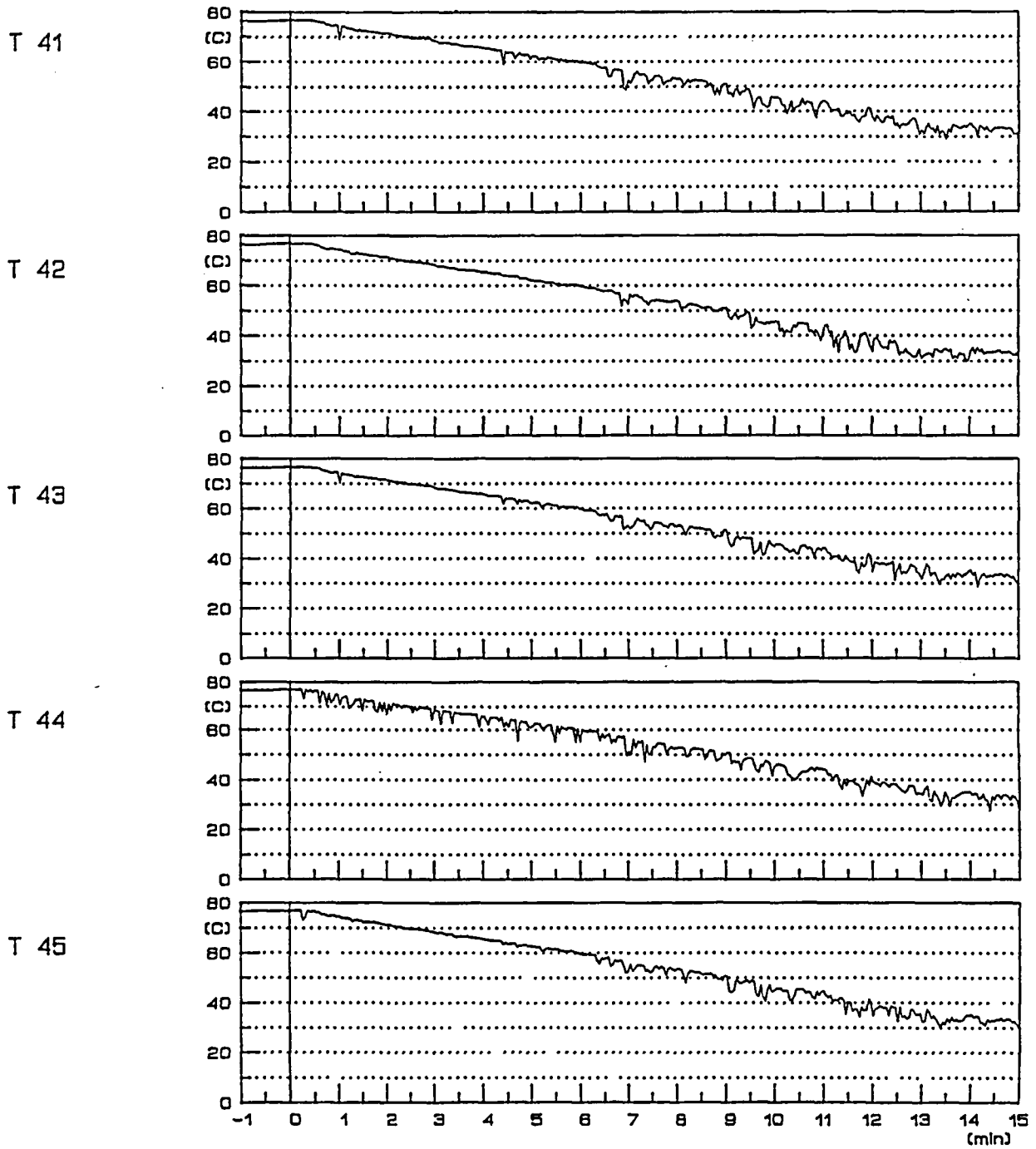
Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

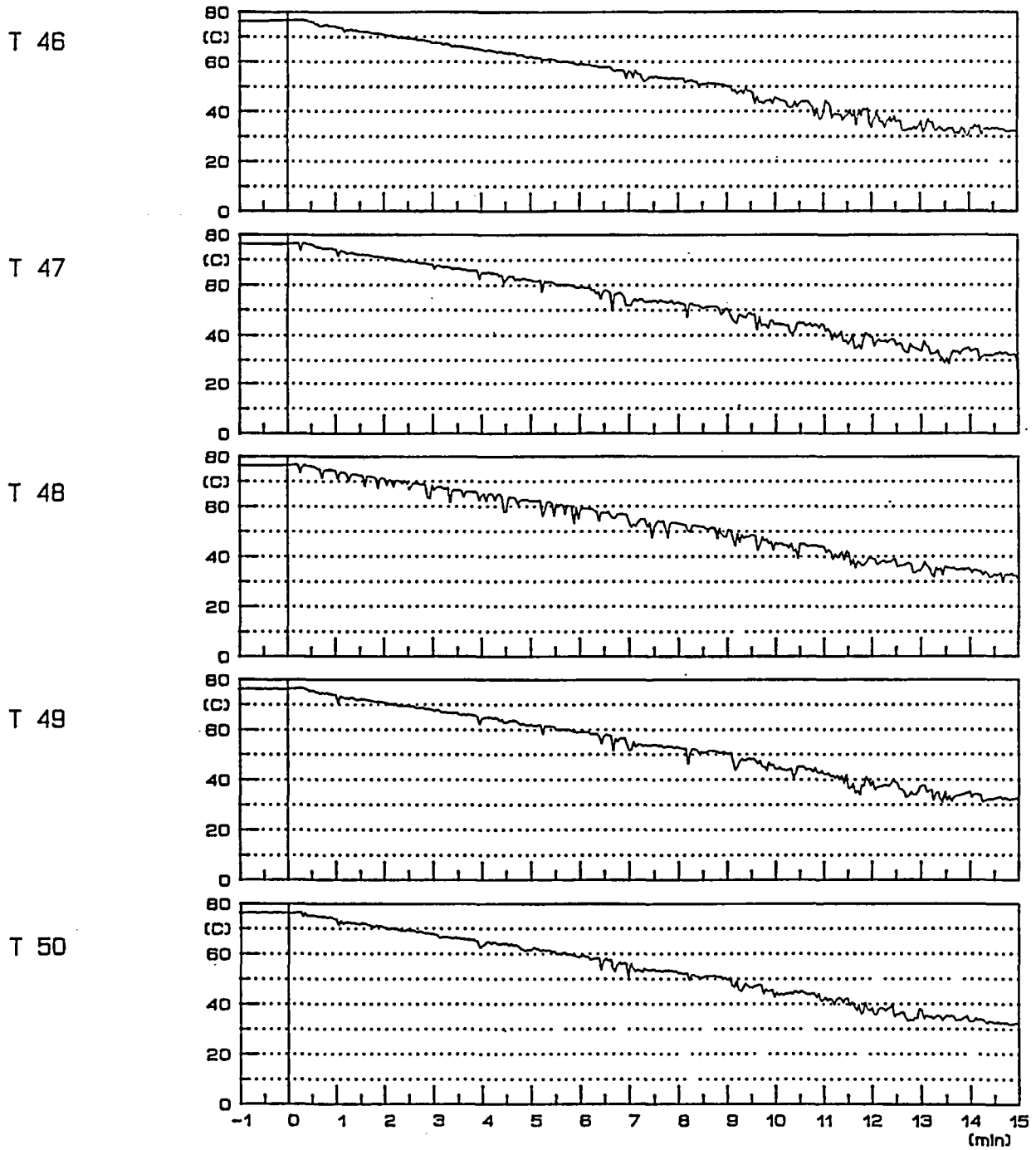
Test :	114	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

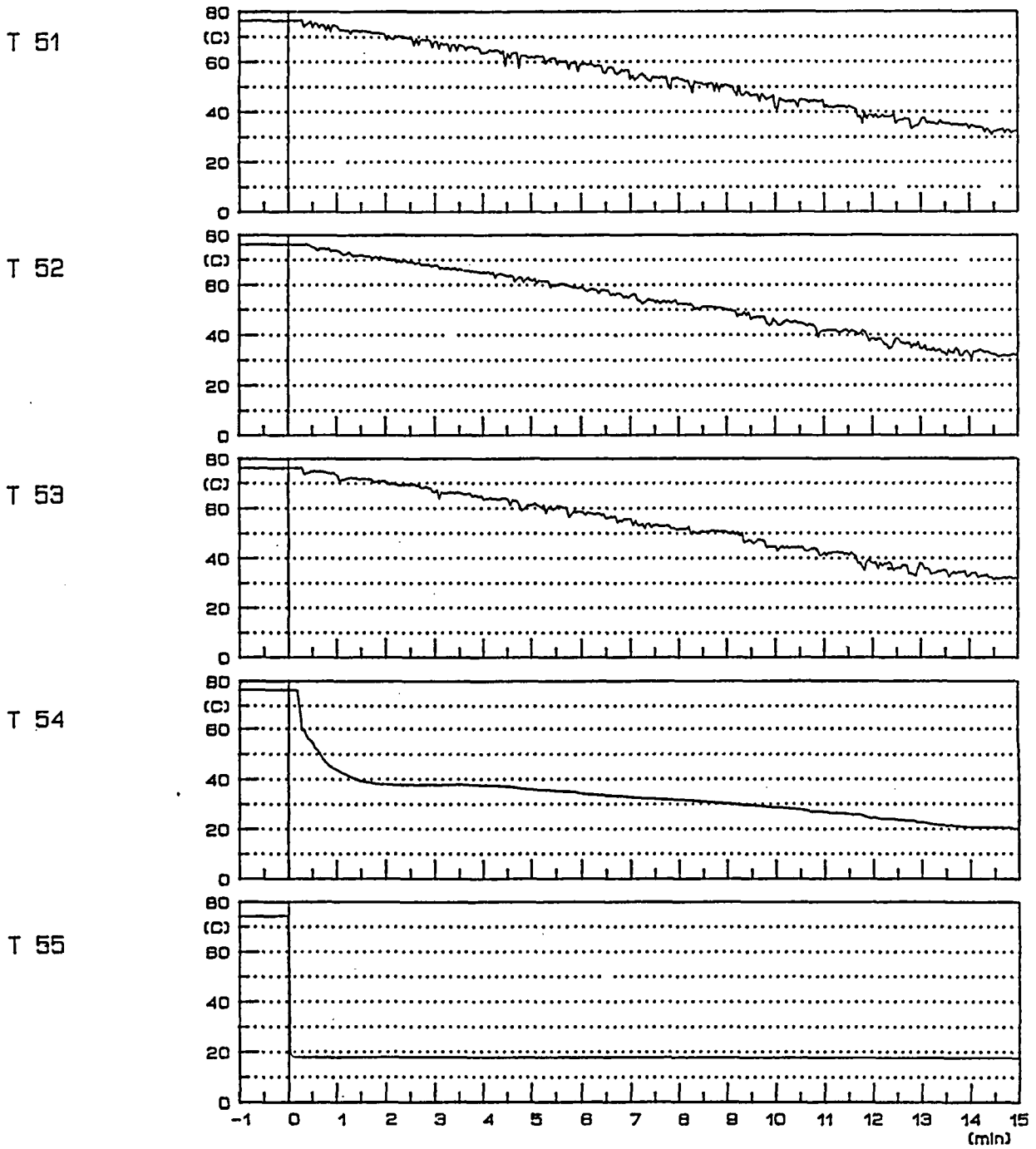
Test :	114	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

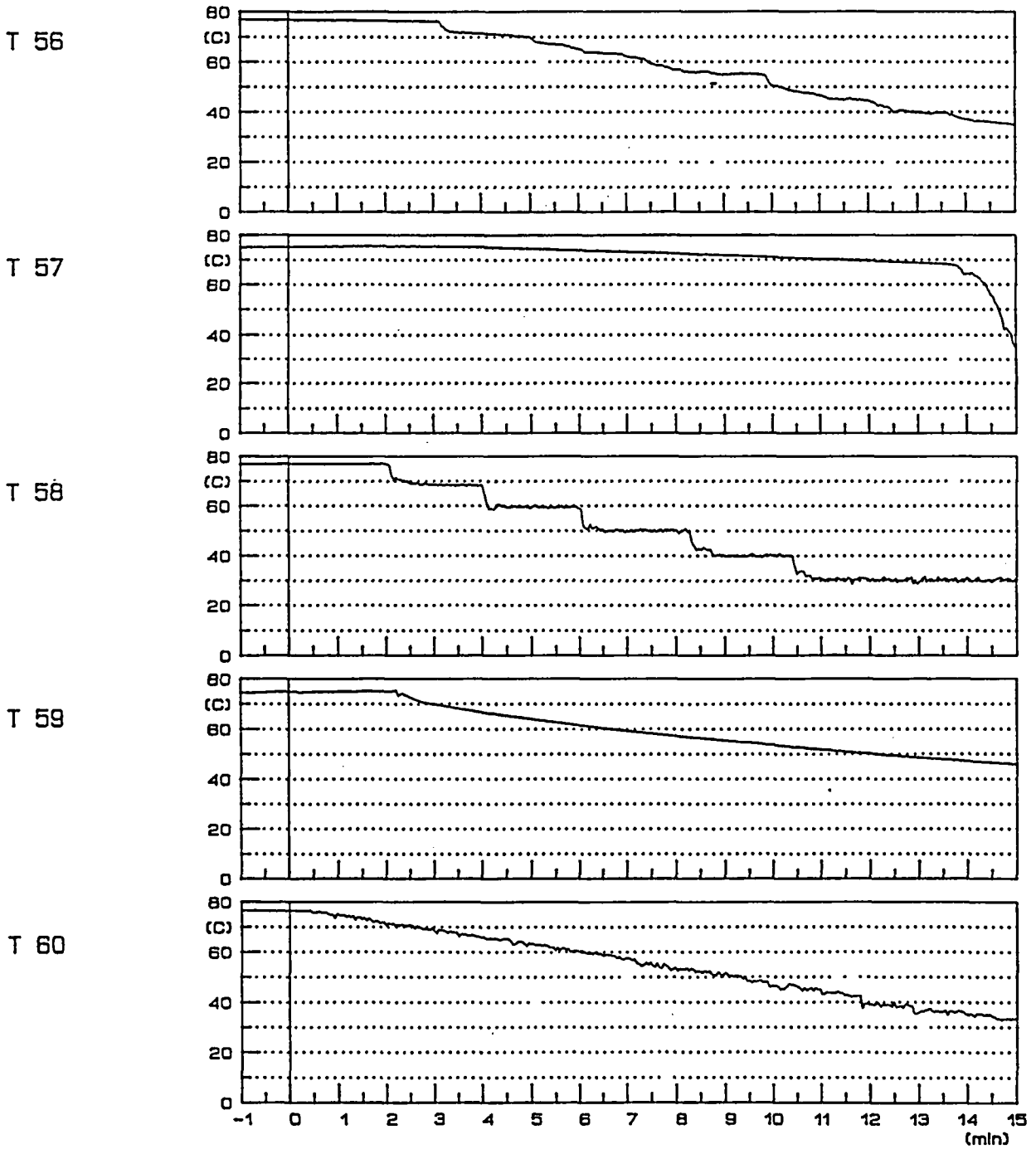
Test :	114	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

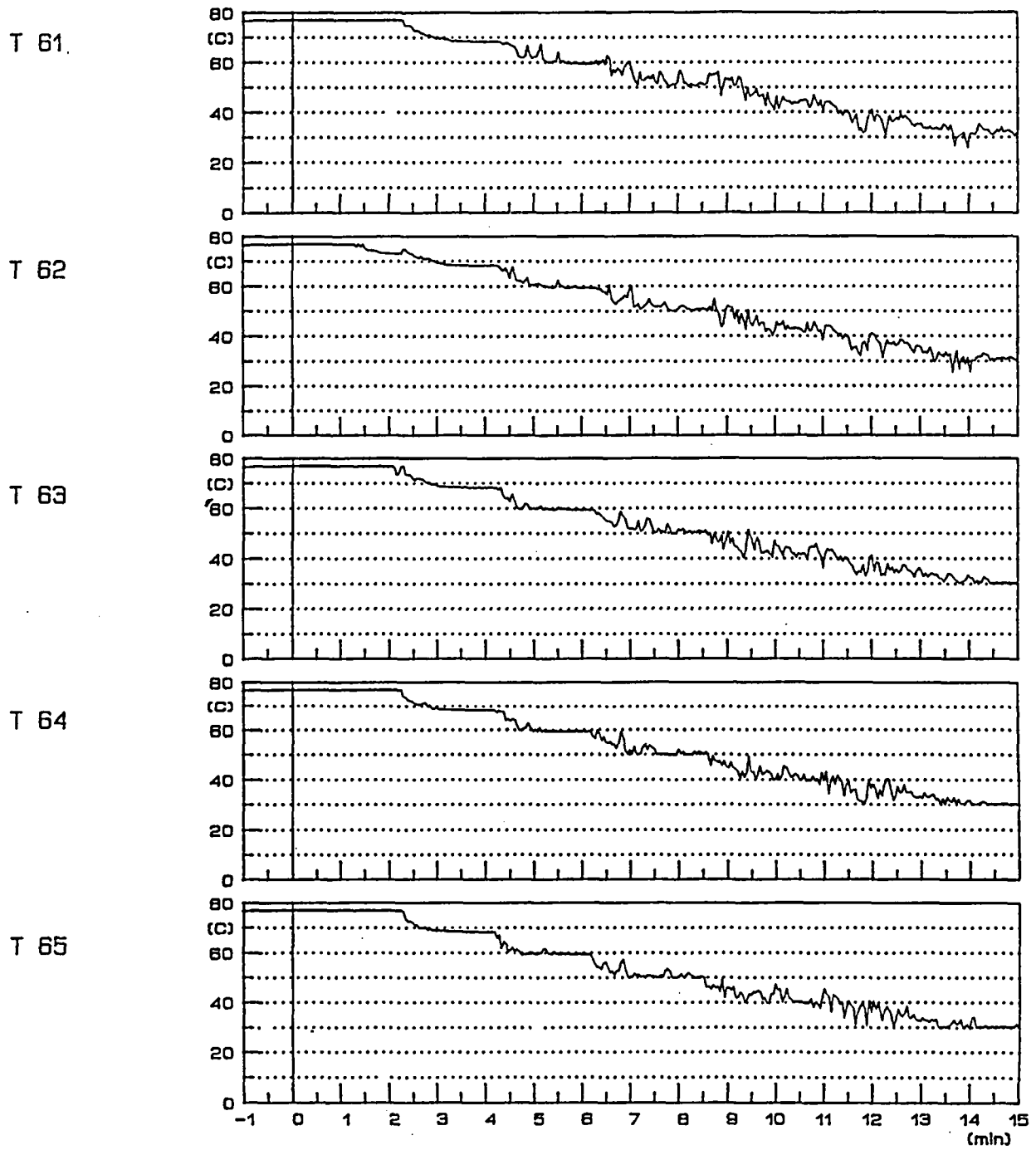
Test :	114	Q_C =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

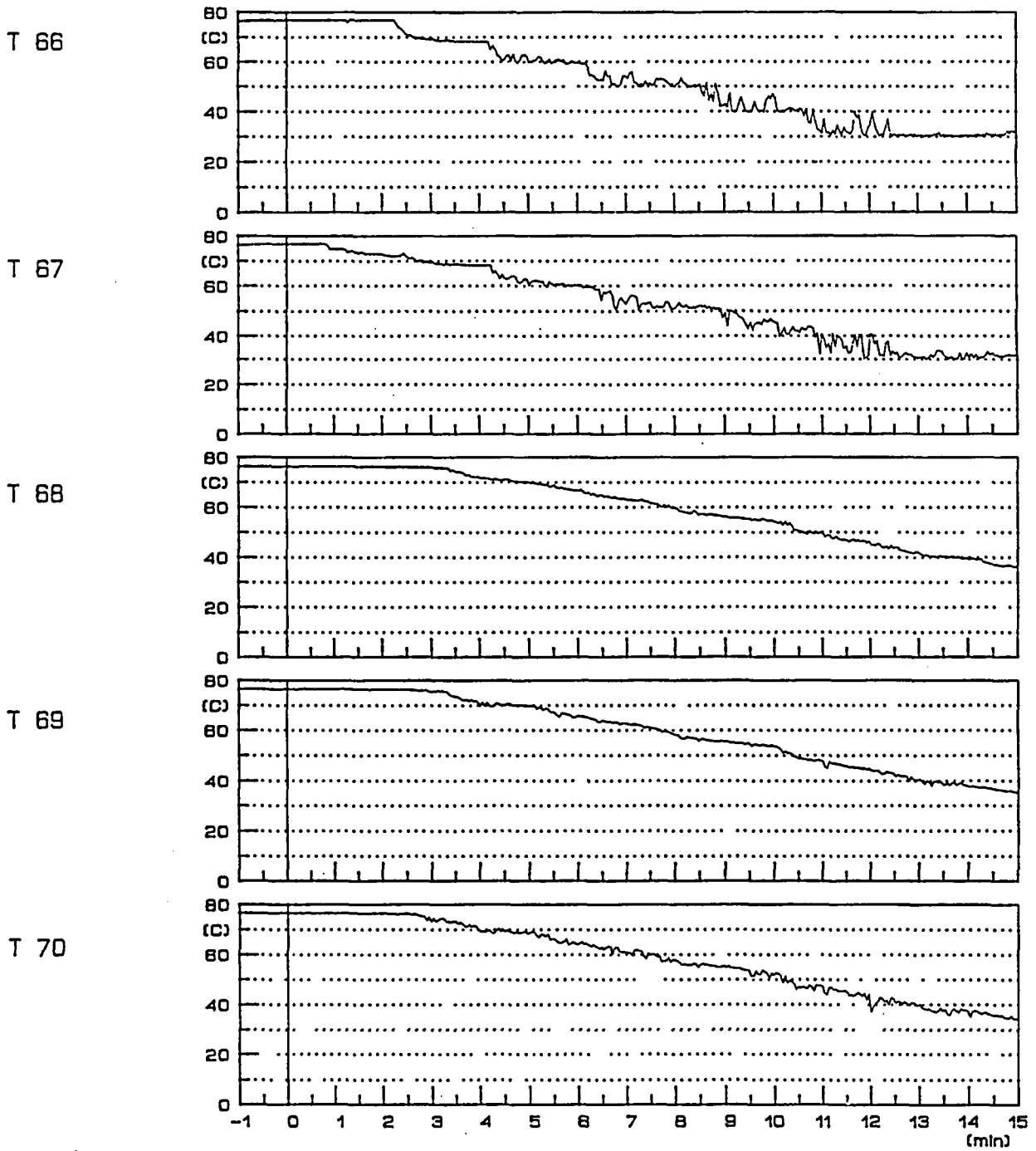
Test :	114	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

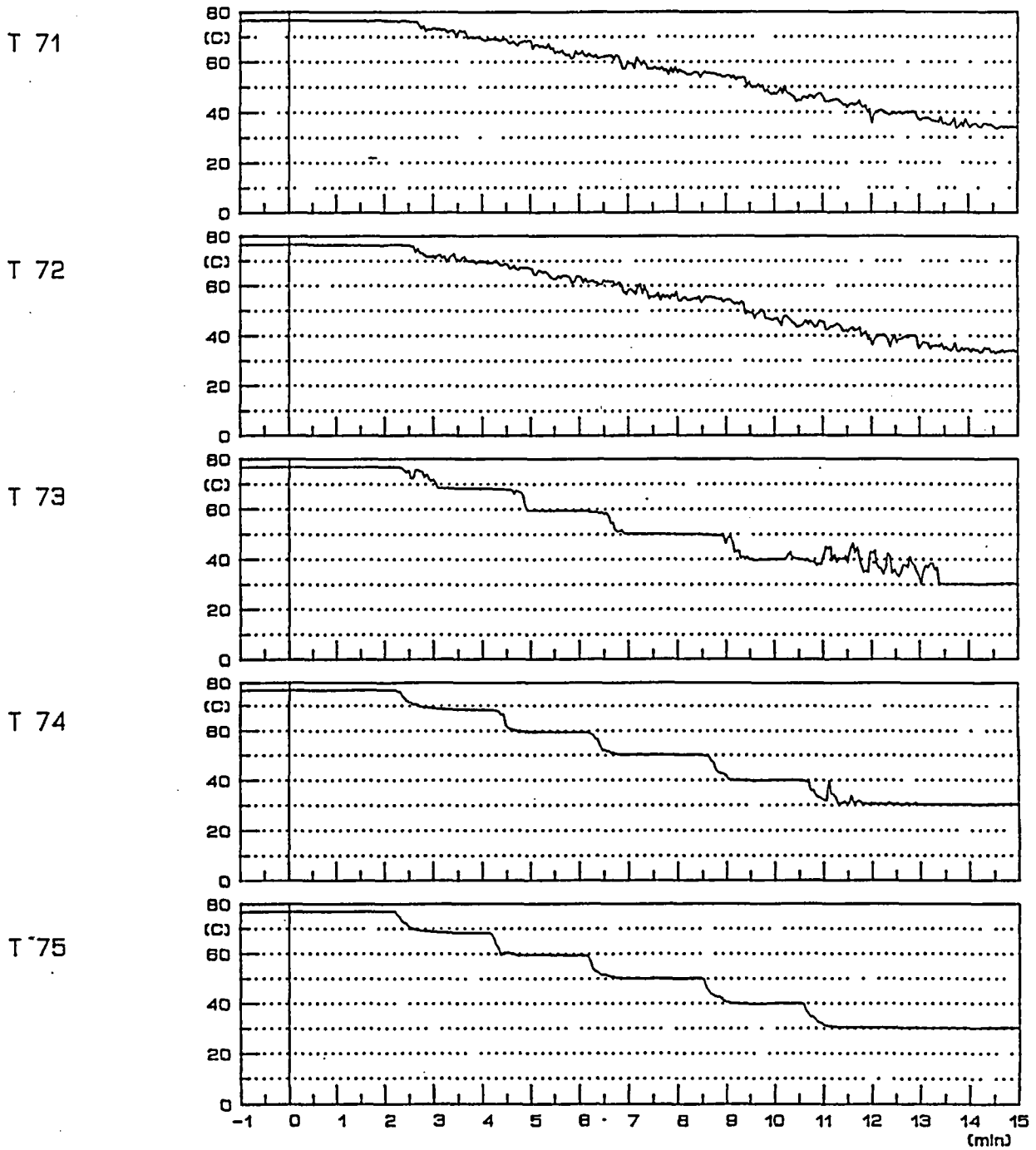
Test :	114	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						$\rho_.$	=	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

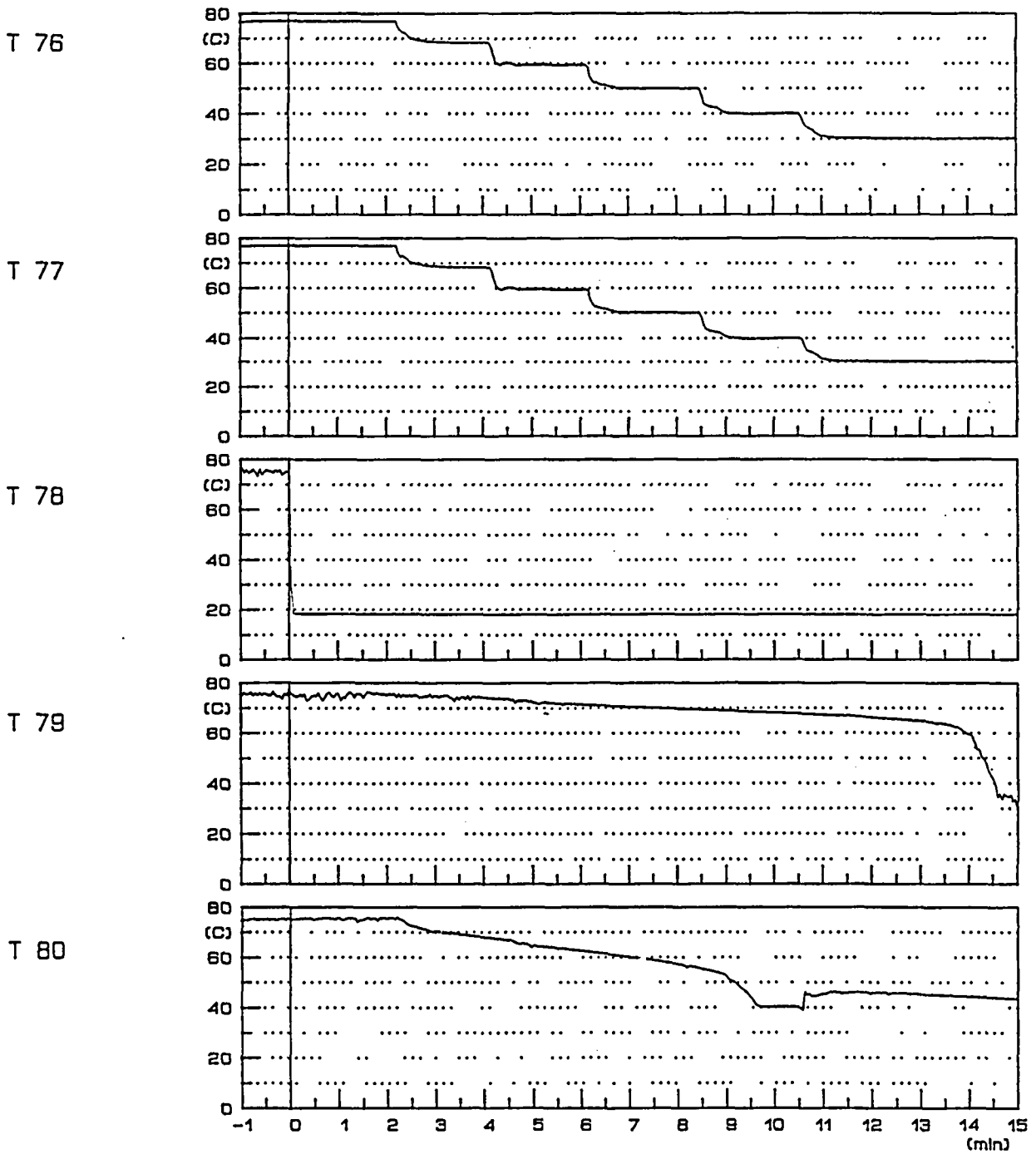
Test :	114	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1170.	kg/m^3



19. 9.1985

FLUID AND THERMAL MIXING TESTS

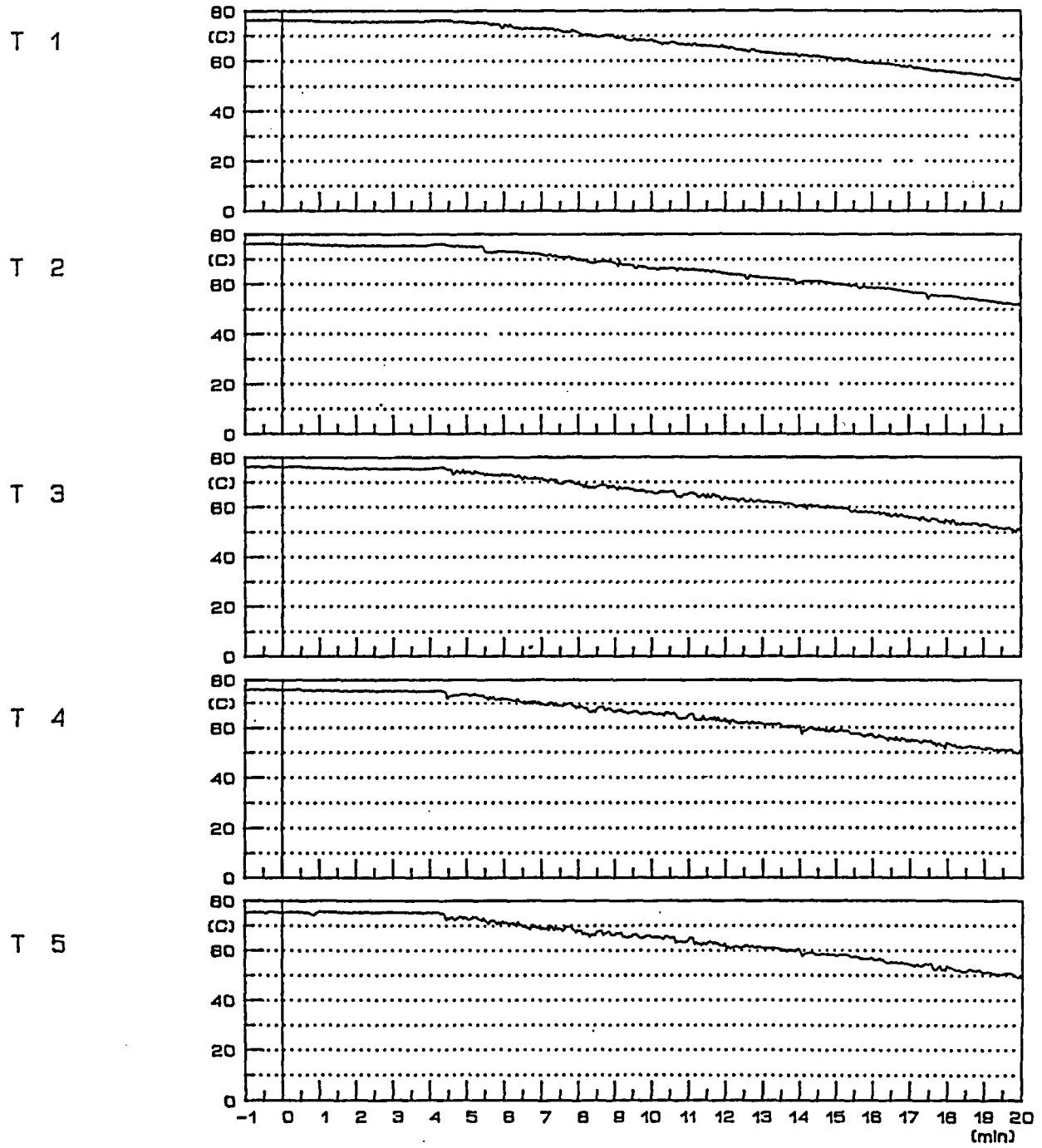
Test :	114	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1170.	kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

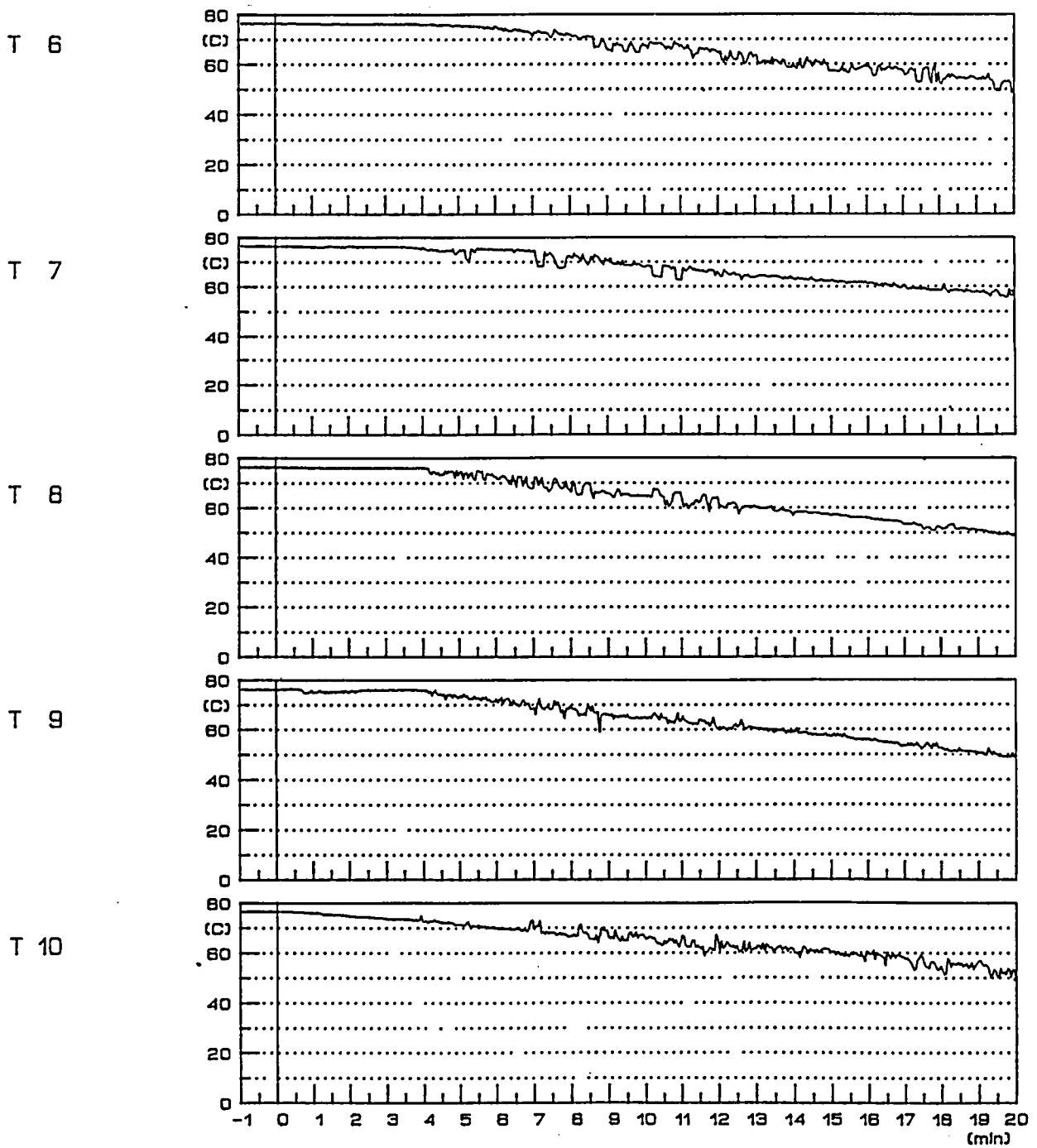
Test :	115	Q_C	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

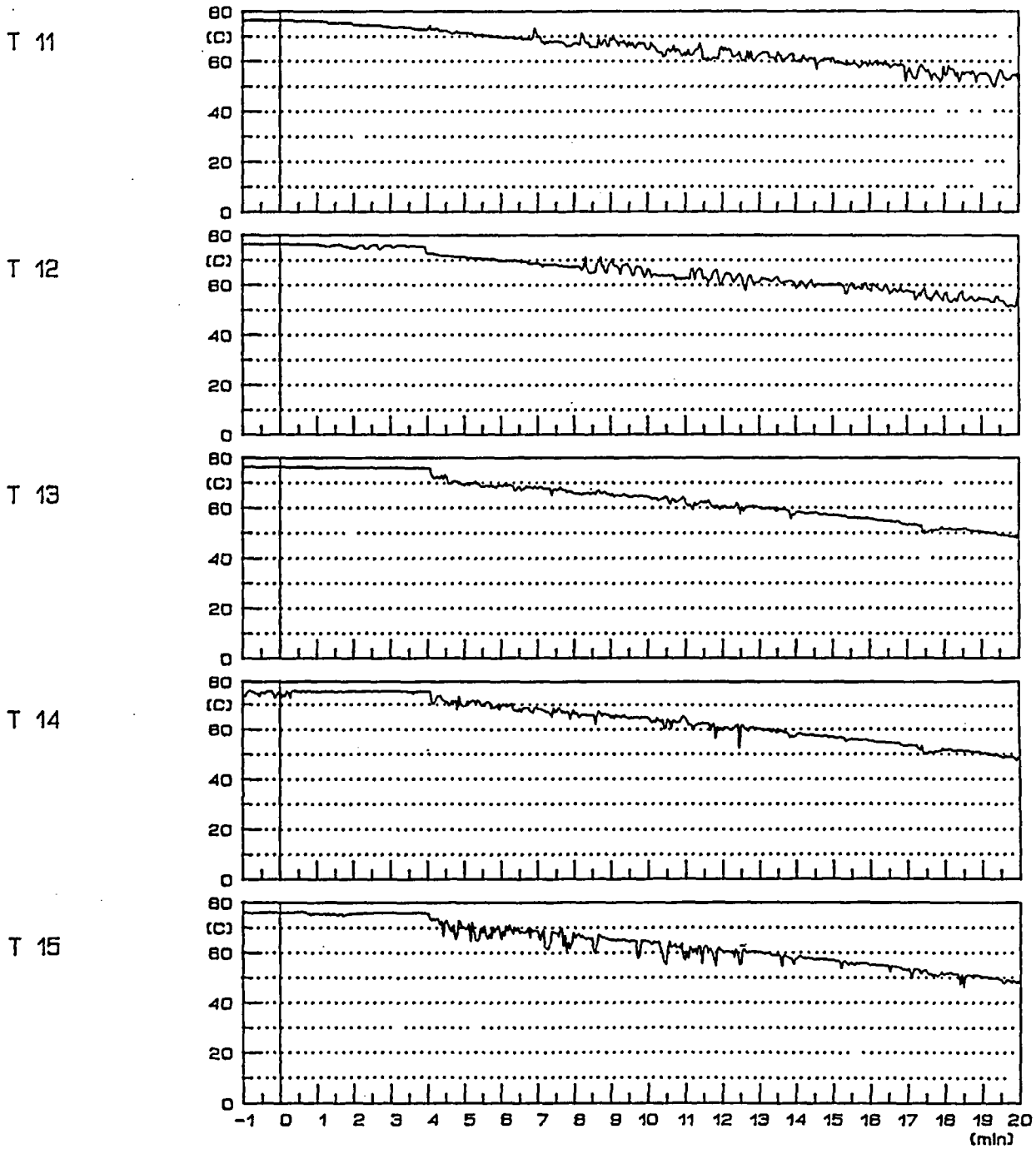
Test :	115	Q_C	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



10.10.1985

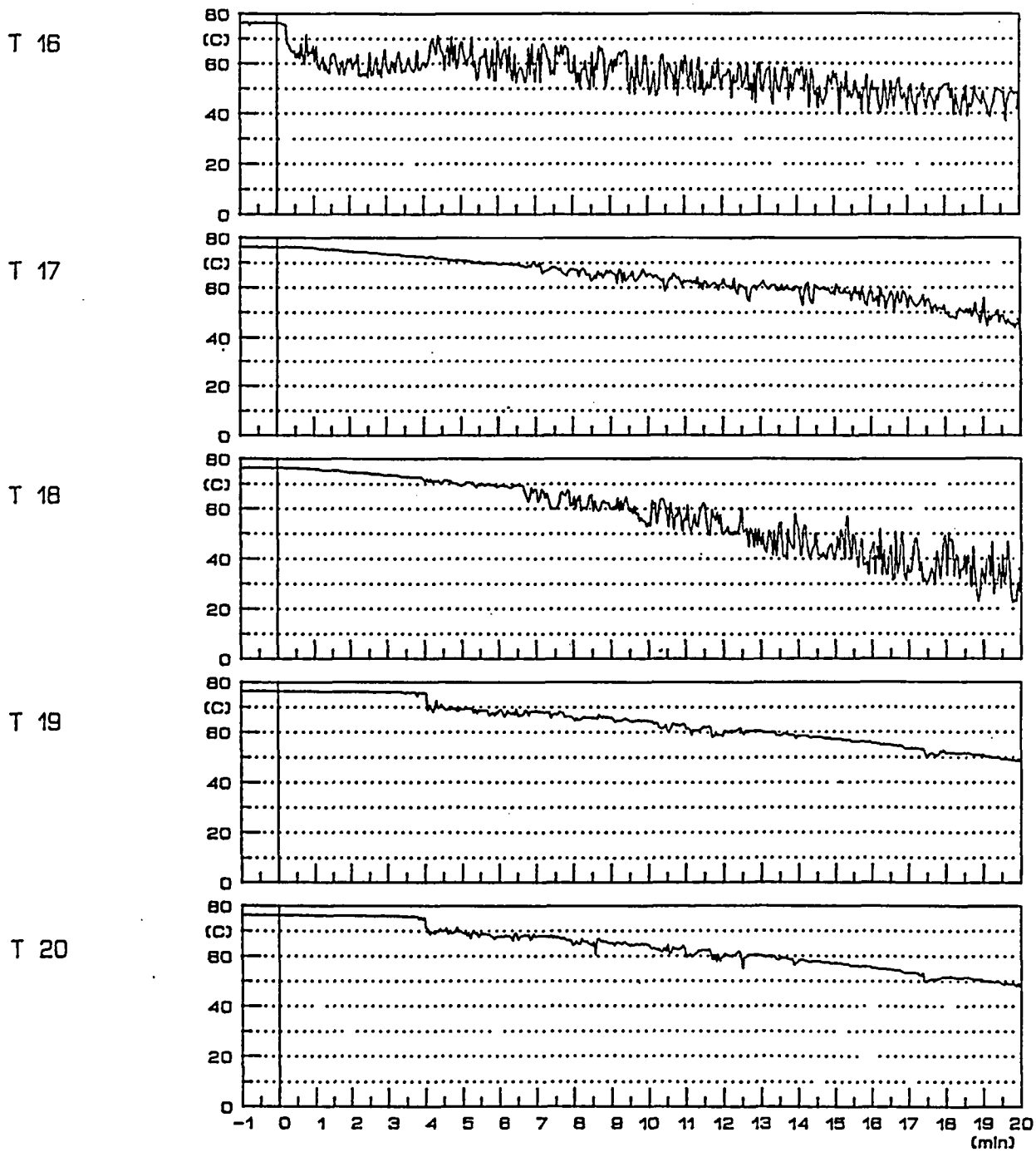
FLUID AND THERMAL MIXING TESTS

Test :	115	Q_c	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1168. kg/m^3



FLUID AND THERMAL MIXING TESTS

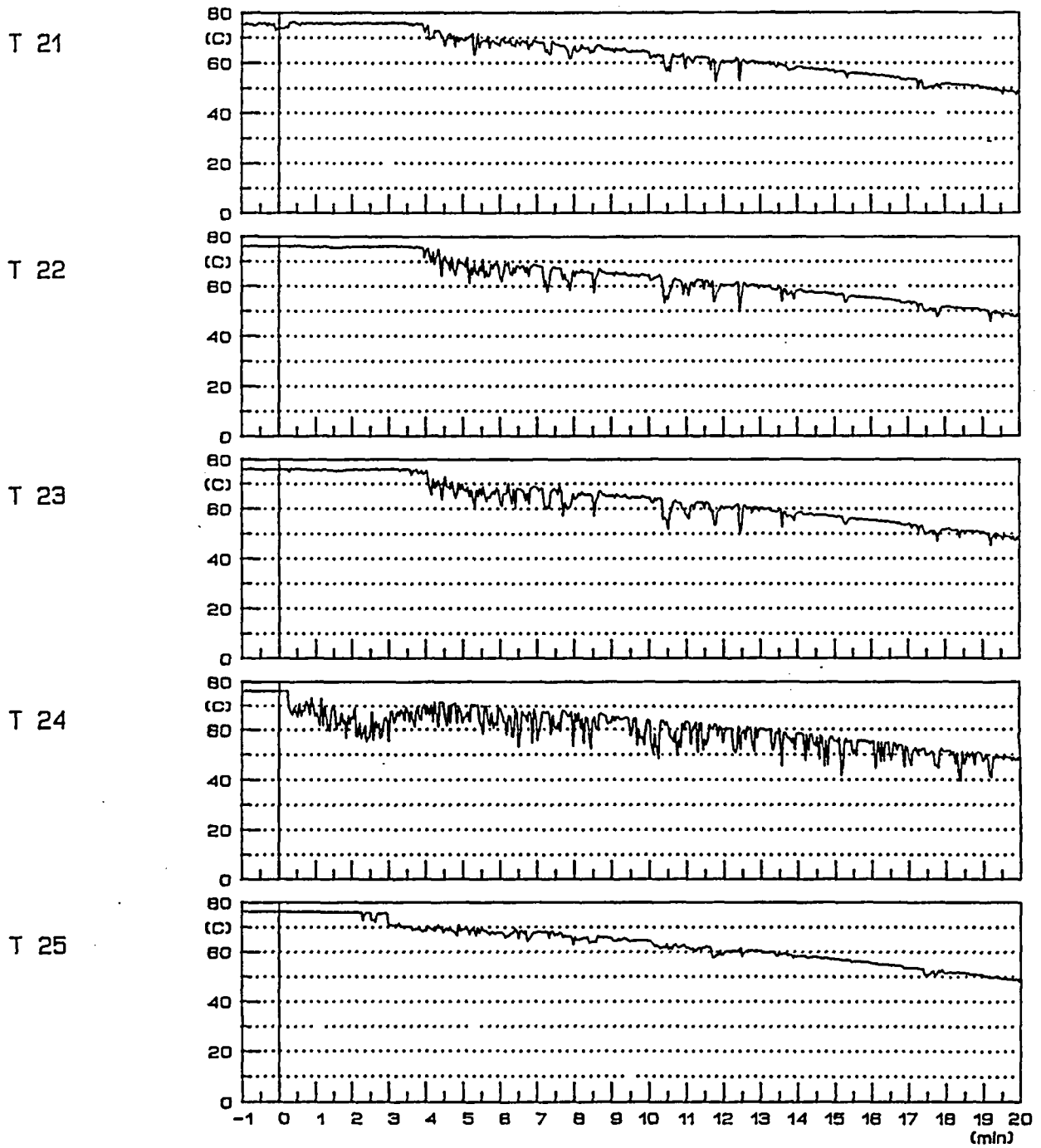
Test :	115	Q_c	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1168. kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

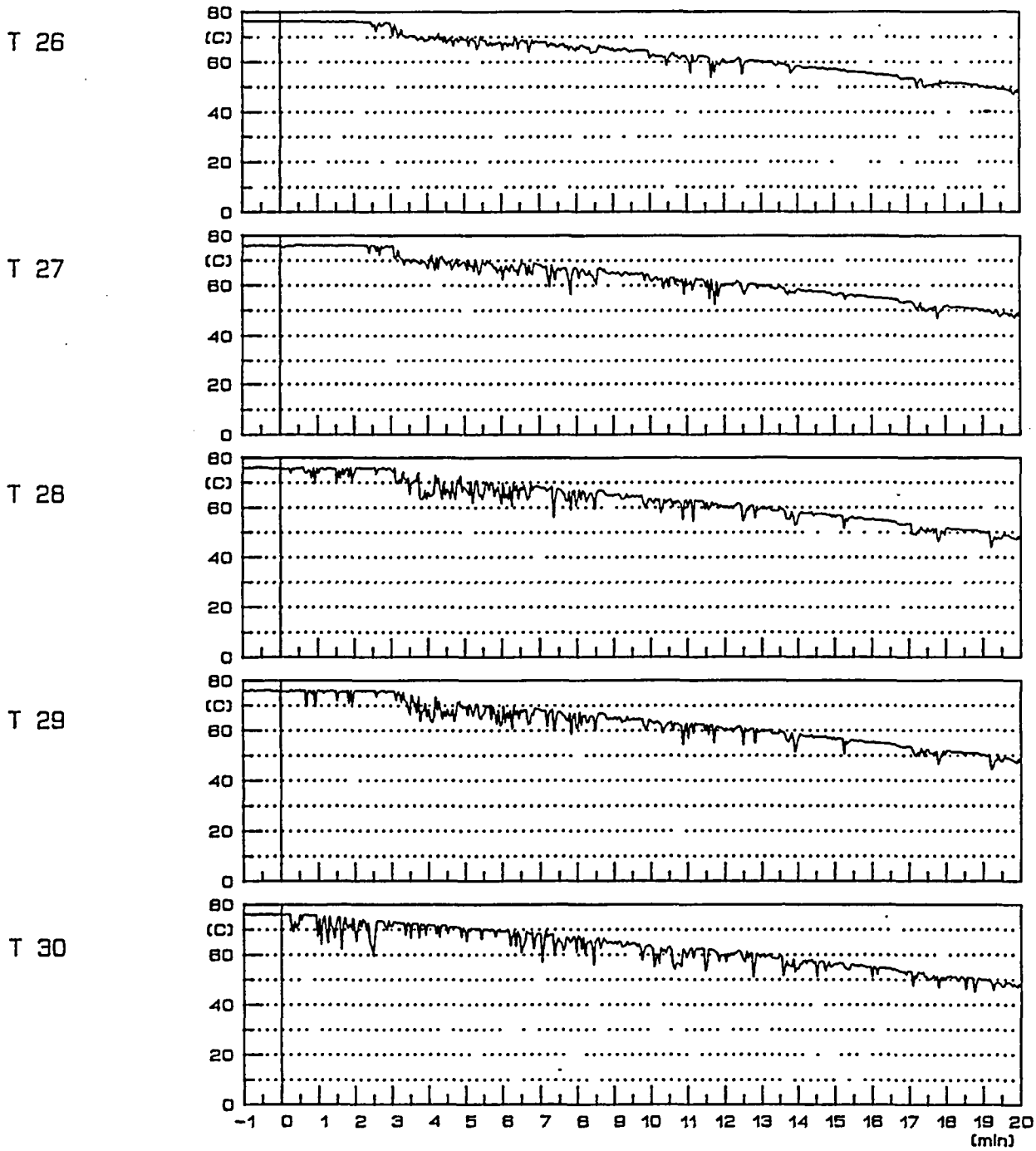
Test :	115	Q_c = .8 dm^3/s	$Q_{HPI,A}$ = 0.00 dm^3/s
		ρ = 978. kg/m^3	$Q_{HPI,B}$ = .42 dm^3/s
			$Q_{HPI,C}$ = 0.00 dm^3/s
			ρ = 1168. kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 115

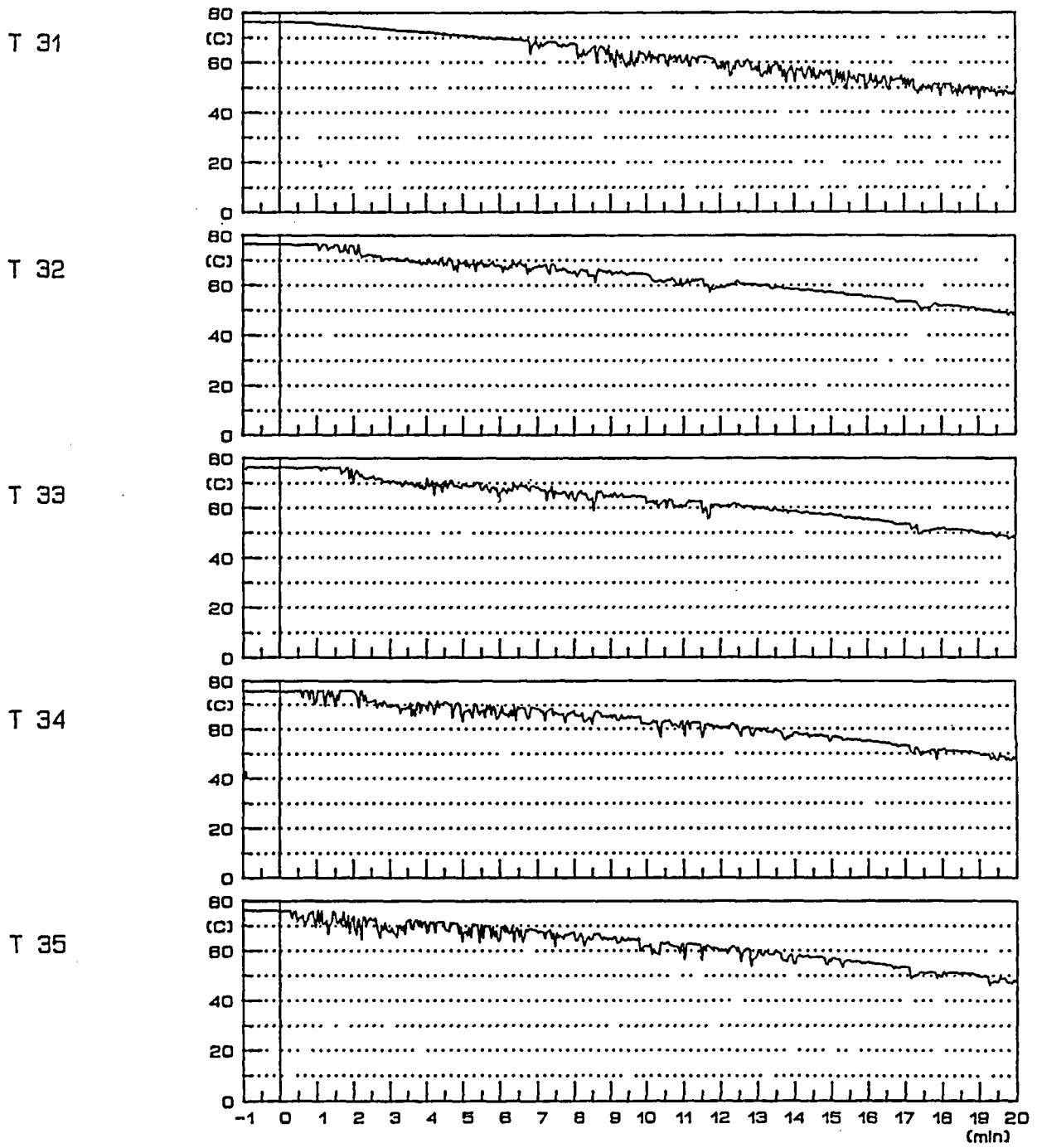
Q_C	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1168.	kg/m^3



10.10.1985

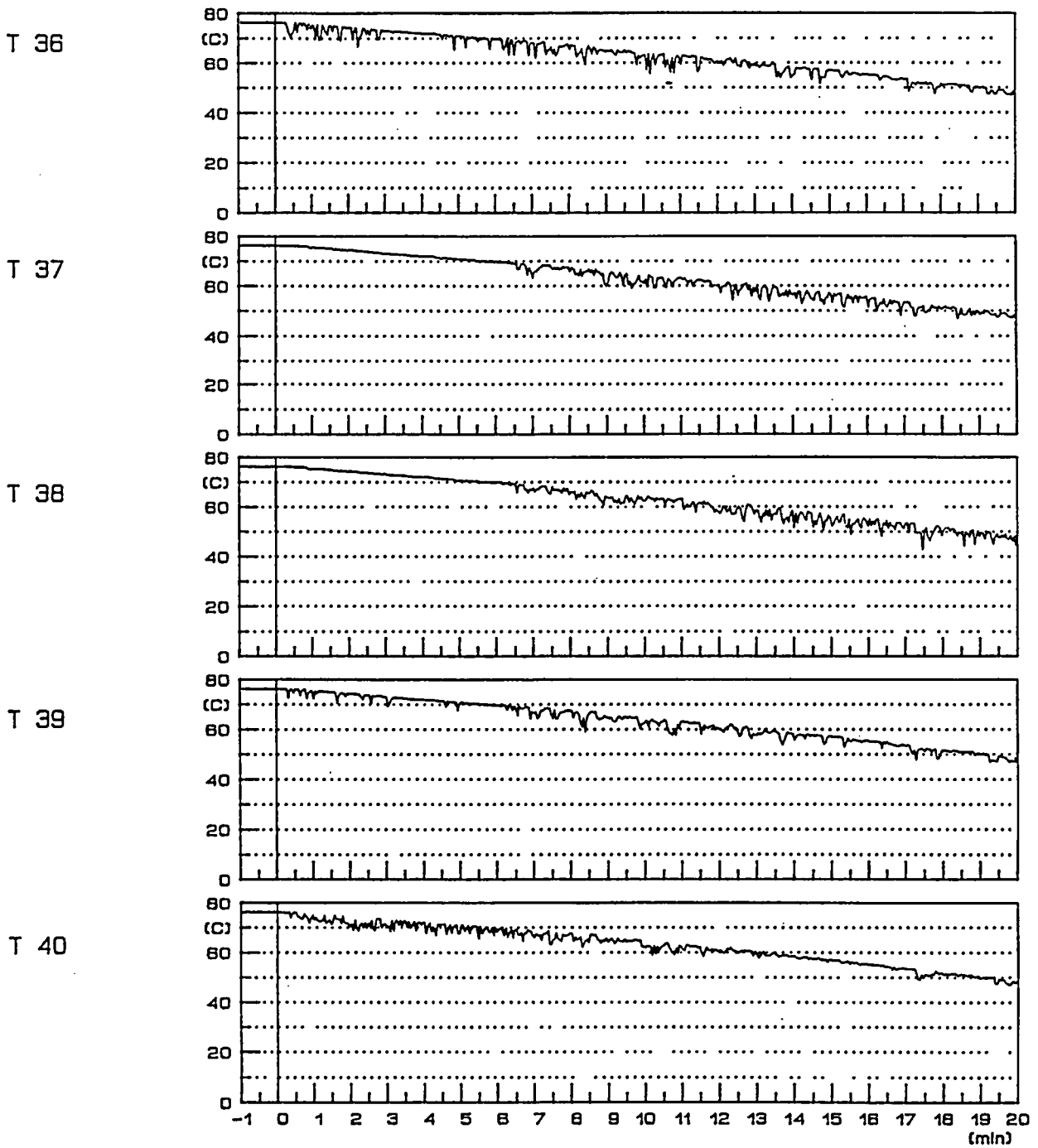
FLUID AND THERMAL MIXING TESTS

Test :	115	Q_c = .8 dm^3/s	$Q_{HPI,A}$ = 0.00 dm^3/s
		ρ = 978. kg/m^3	$Q_{HPI,B}$ = .42 dm^3/s
			$Q_{HPI,C}$ = 0.00 dm^3/s
			ρ = 1168. kg/m^3



FLUID AND THERMAL MIXING TESTS

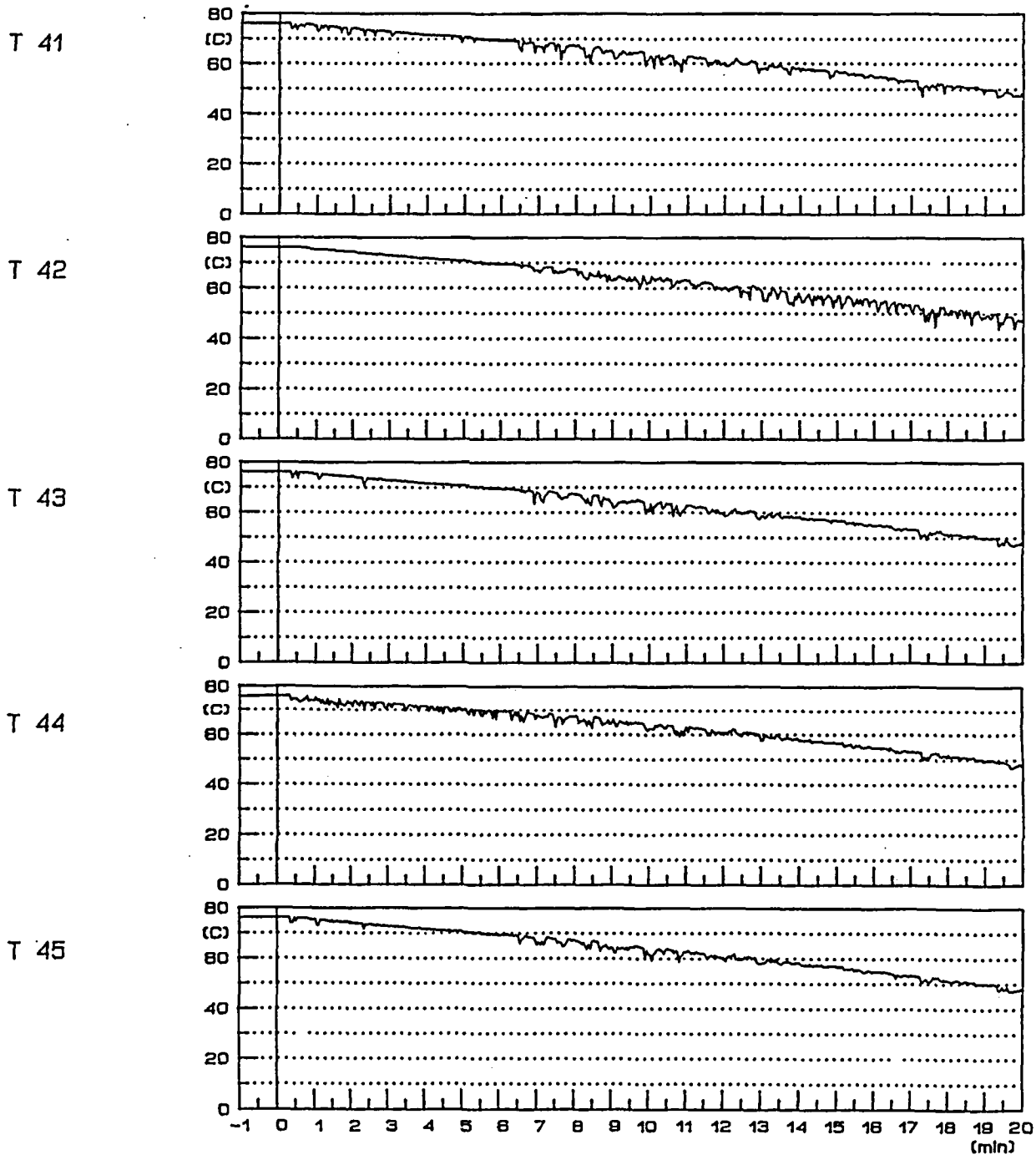
Test :	115	Q_c = .8 dm^3/s	$Q_{HPI,A}$ = 0.00 dm^3/s
		ρ = 978. kg/m^3	$Q_{HPI,B}$ = .42 dm^3/s
			$Q_{HPI,C}$ = 0.00 dm^3/s
			ρ = 1168. kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

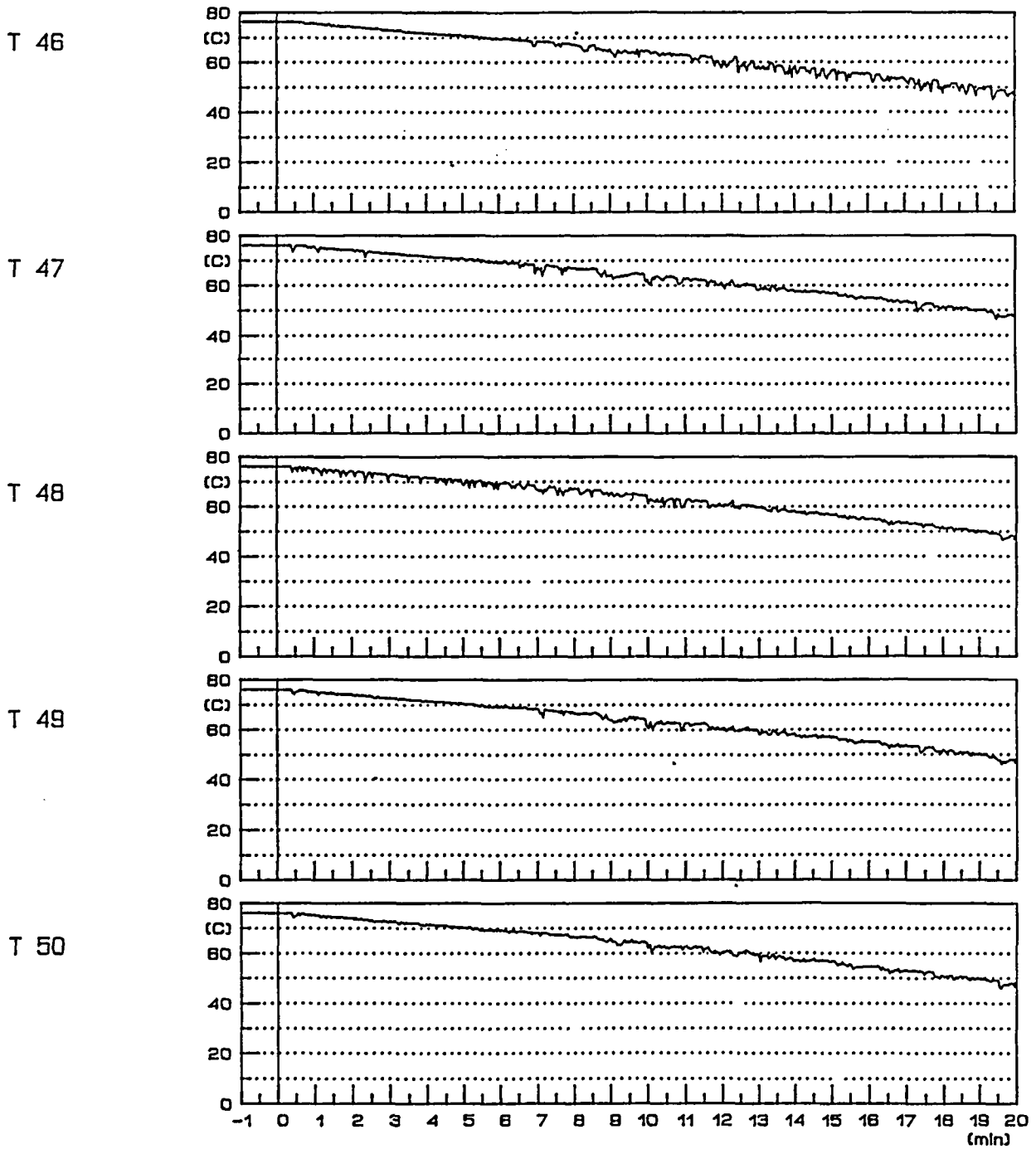
Test :	115	Q_C	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

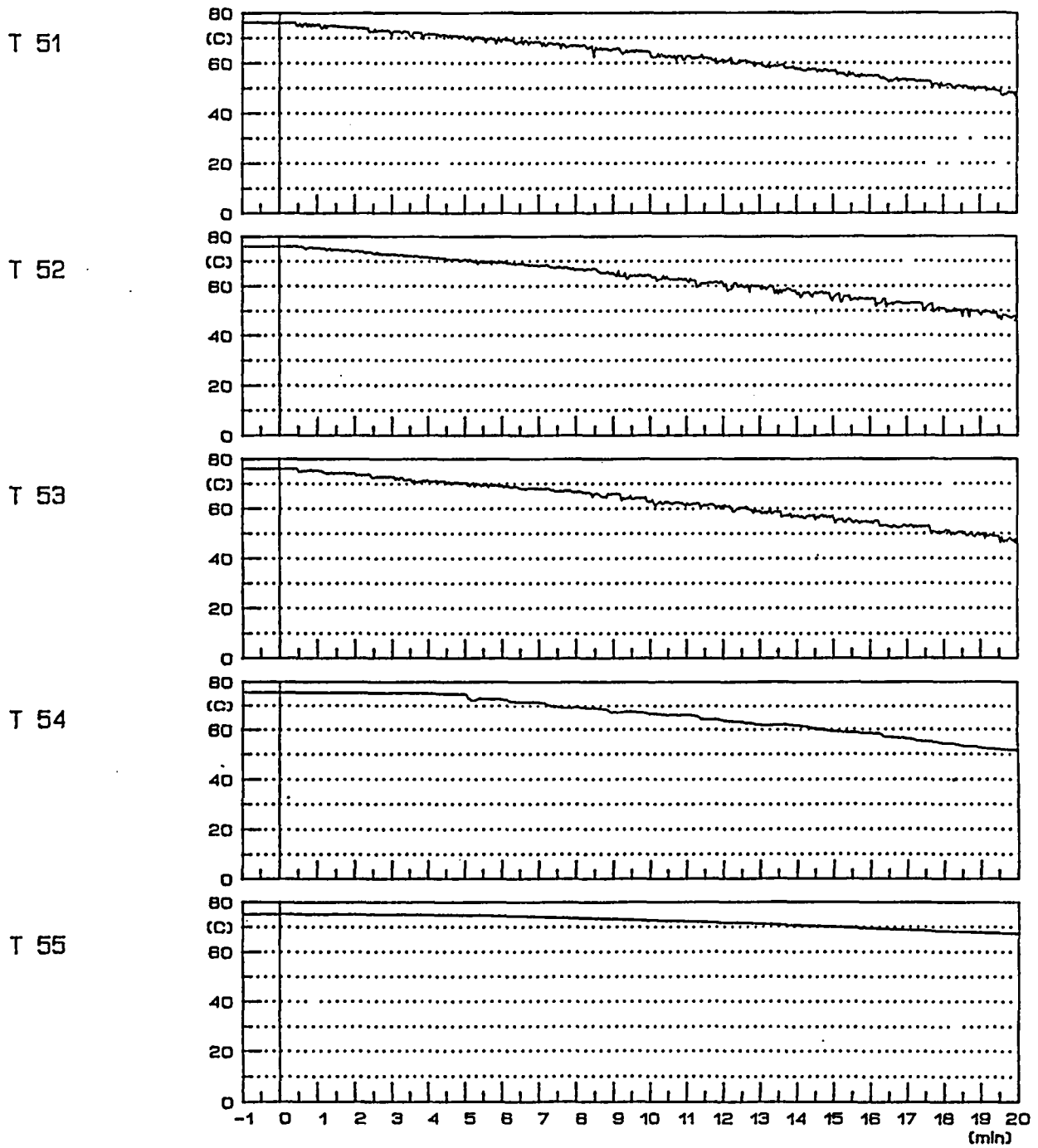
Test :	115	Q_C = .8 dm^3/s	$Q_{HPI,A}$ = 0.00 dm^3/s
		ρ = 978. kg/m^3	$Q_{HPI,B}$ = .42 dm^3/s
			$Q_{HPI,C}$ = 0.00 dm^3/s
			ρ = 1168. kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

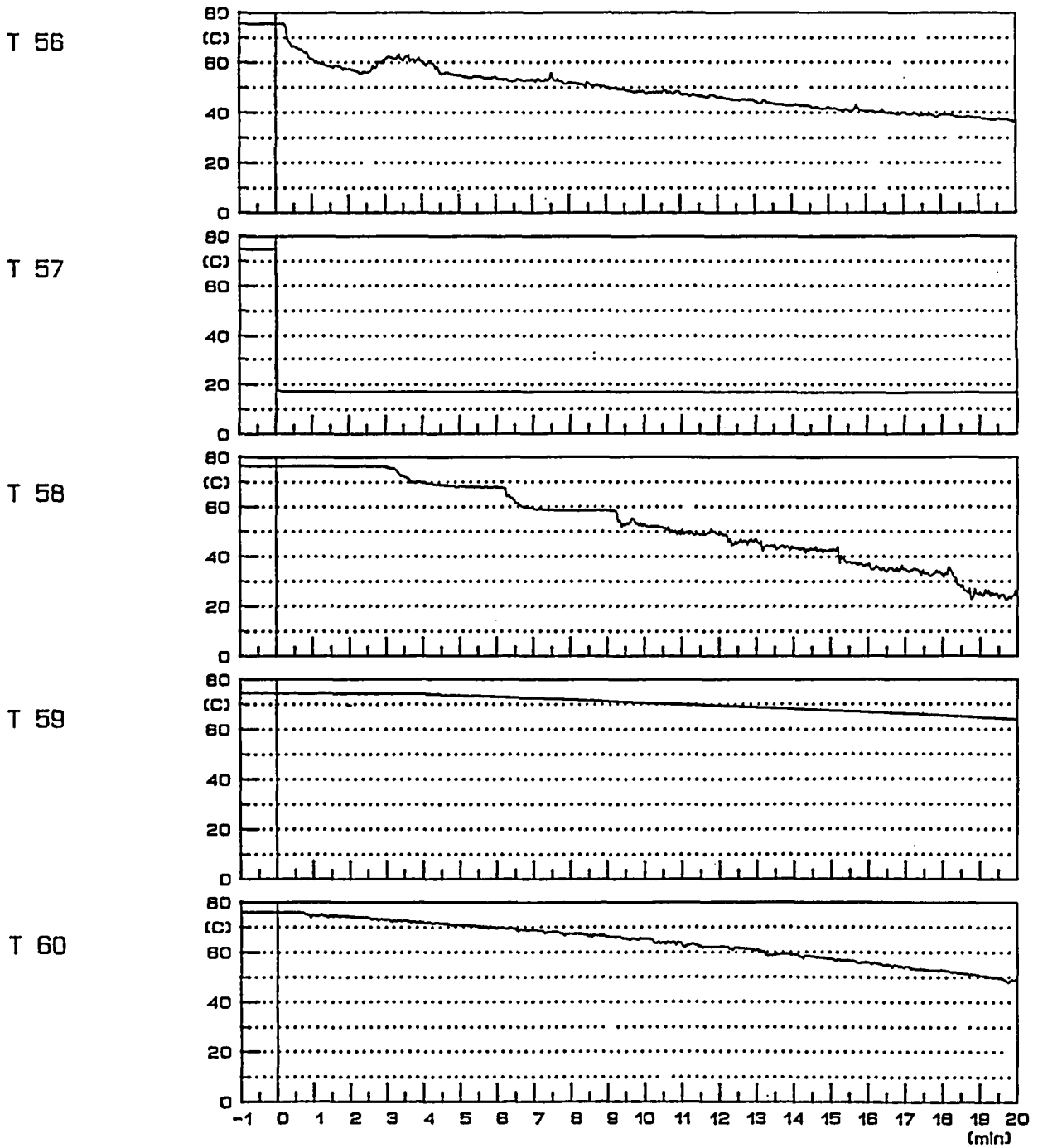
Test :	115	Q_c	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

Test :	115	Q_c = .8 dm^3/s	$Q_{HPI,A}$ = 0.00 dm^3/s
		ρ = 978. kg/m^3	$Q_{HPI,B}$ = .42 dm^3/s
			$Q_{HPI,C}$ = 0.00 dm^3/s
			ρ = 1168. kg/m^3

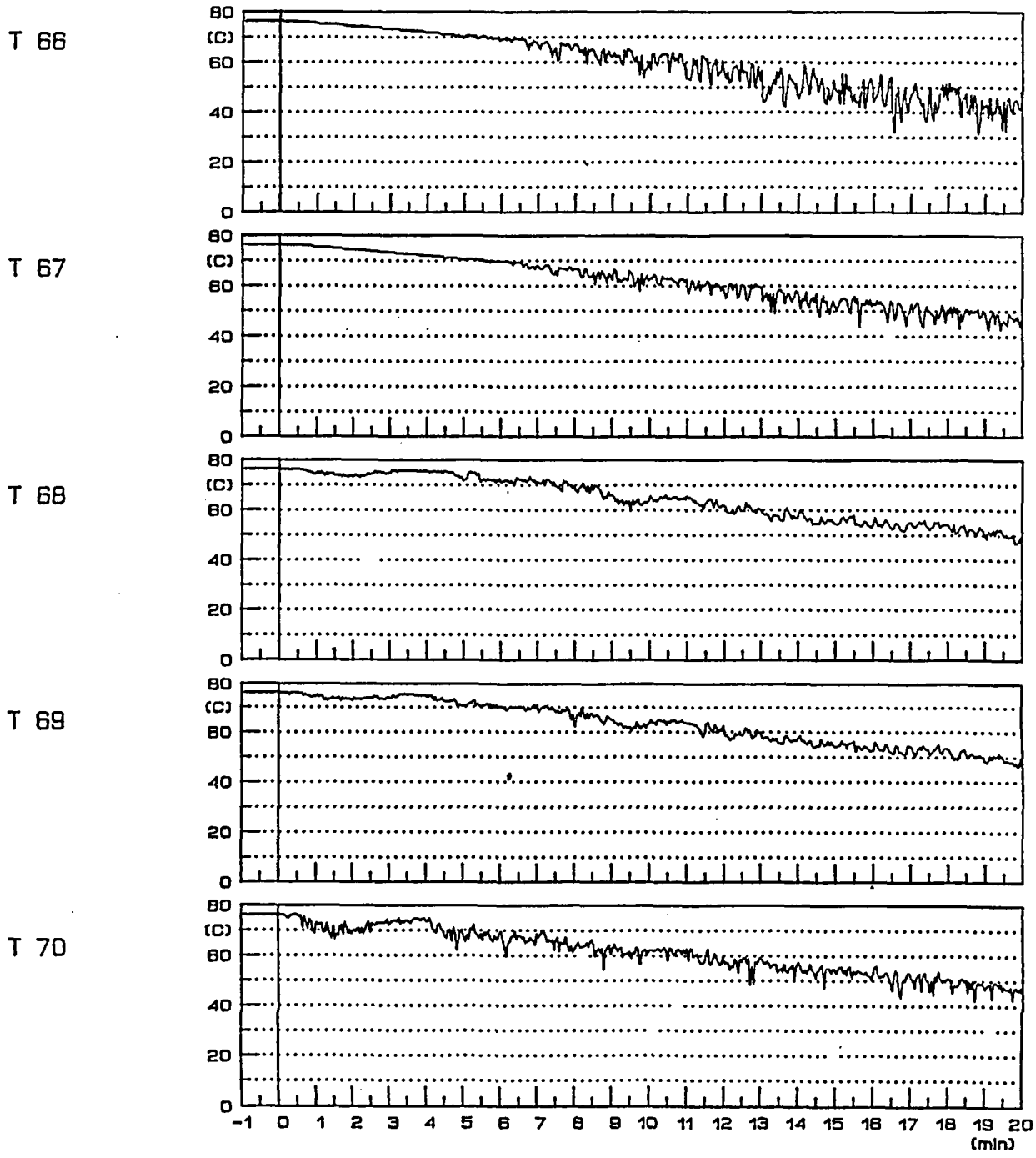


10.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 115

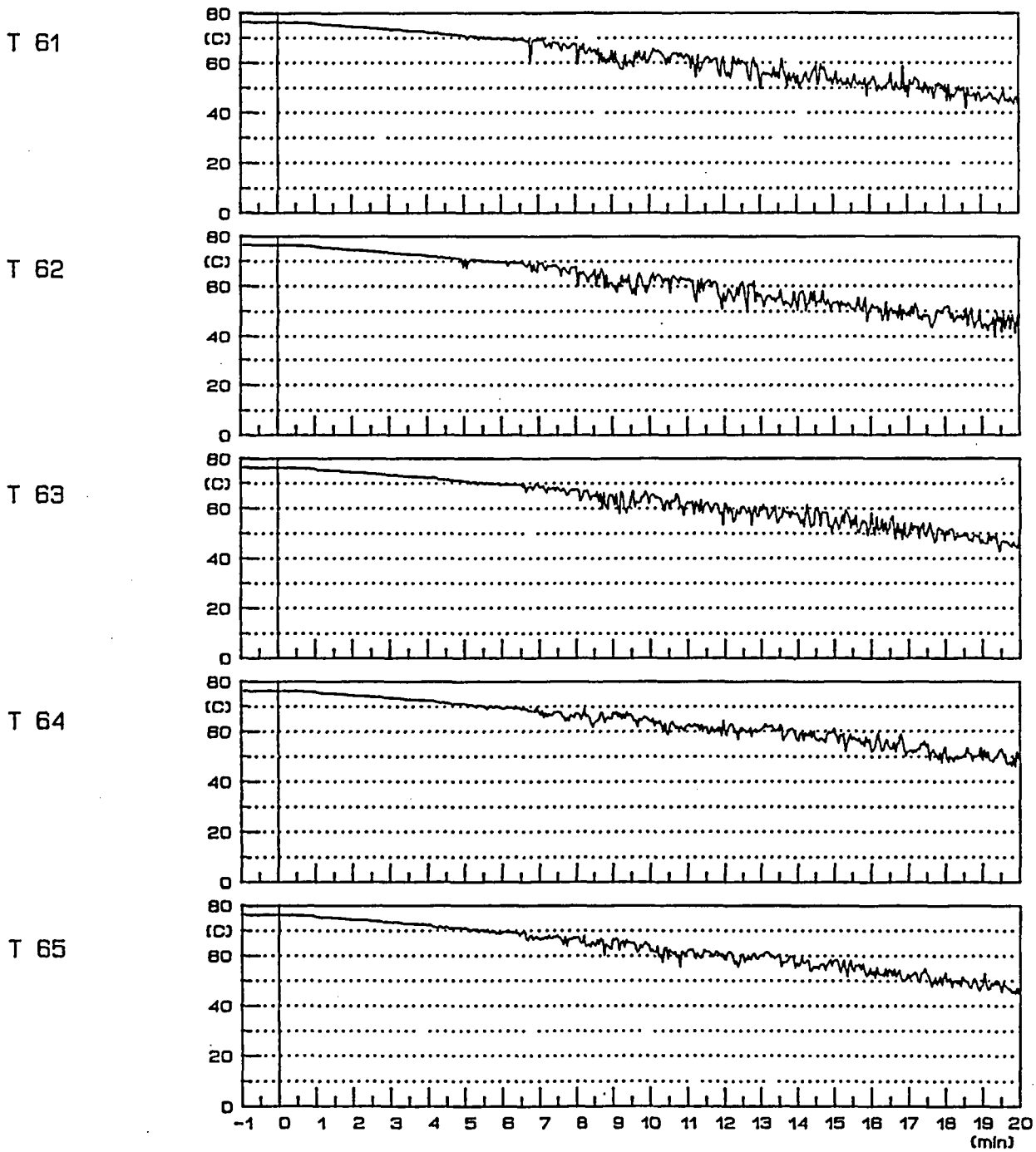
Q_c	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1168.	kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

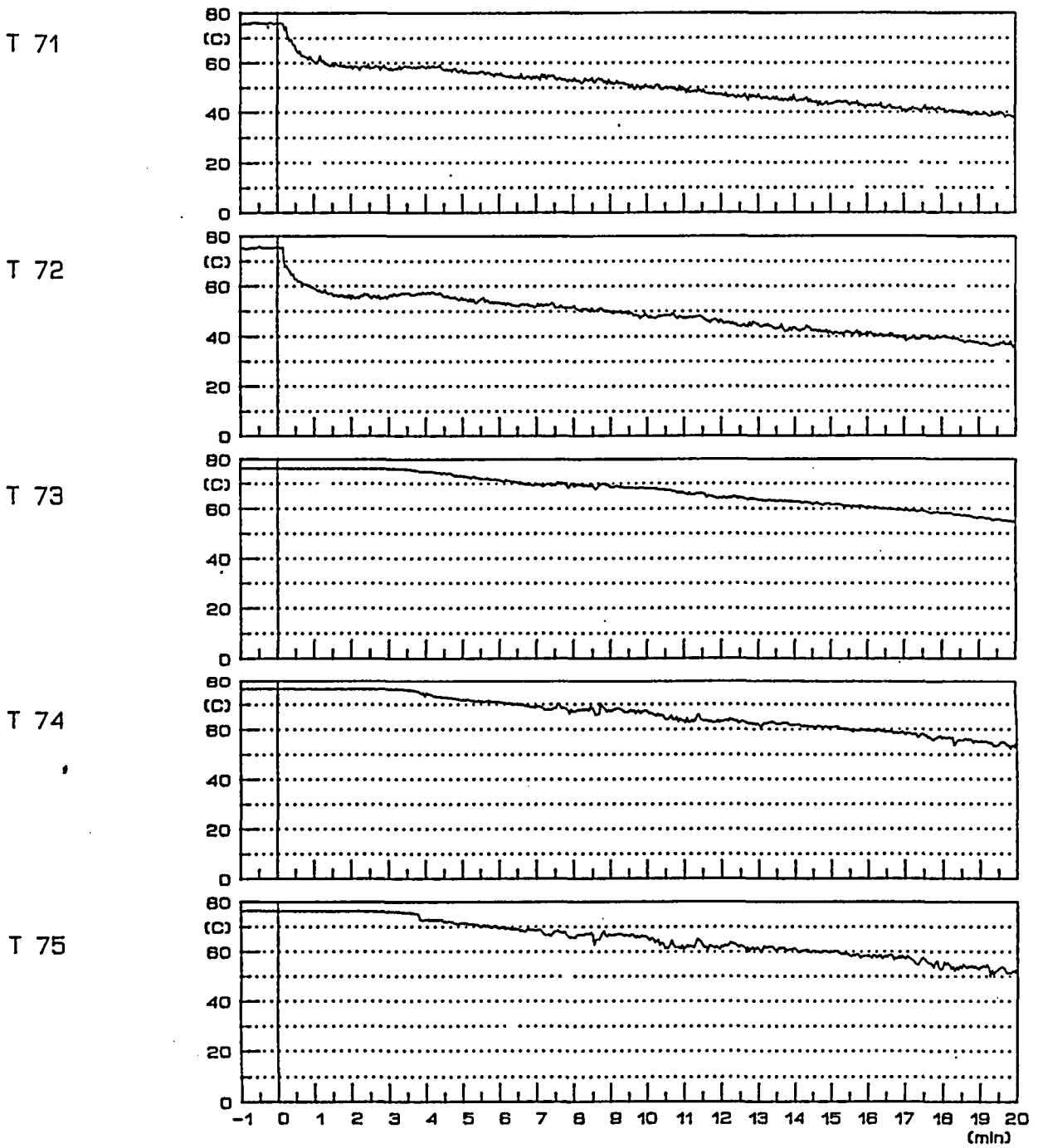
Test :	115	Q_C	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

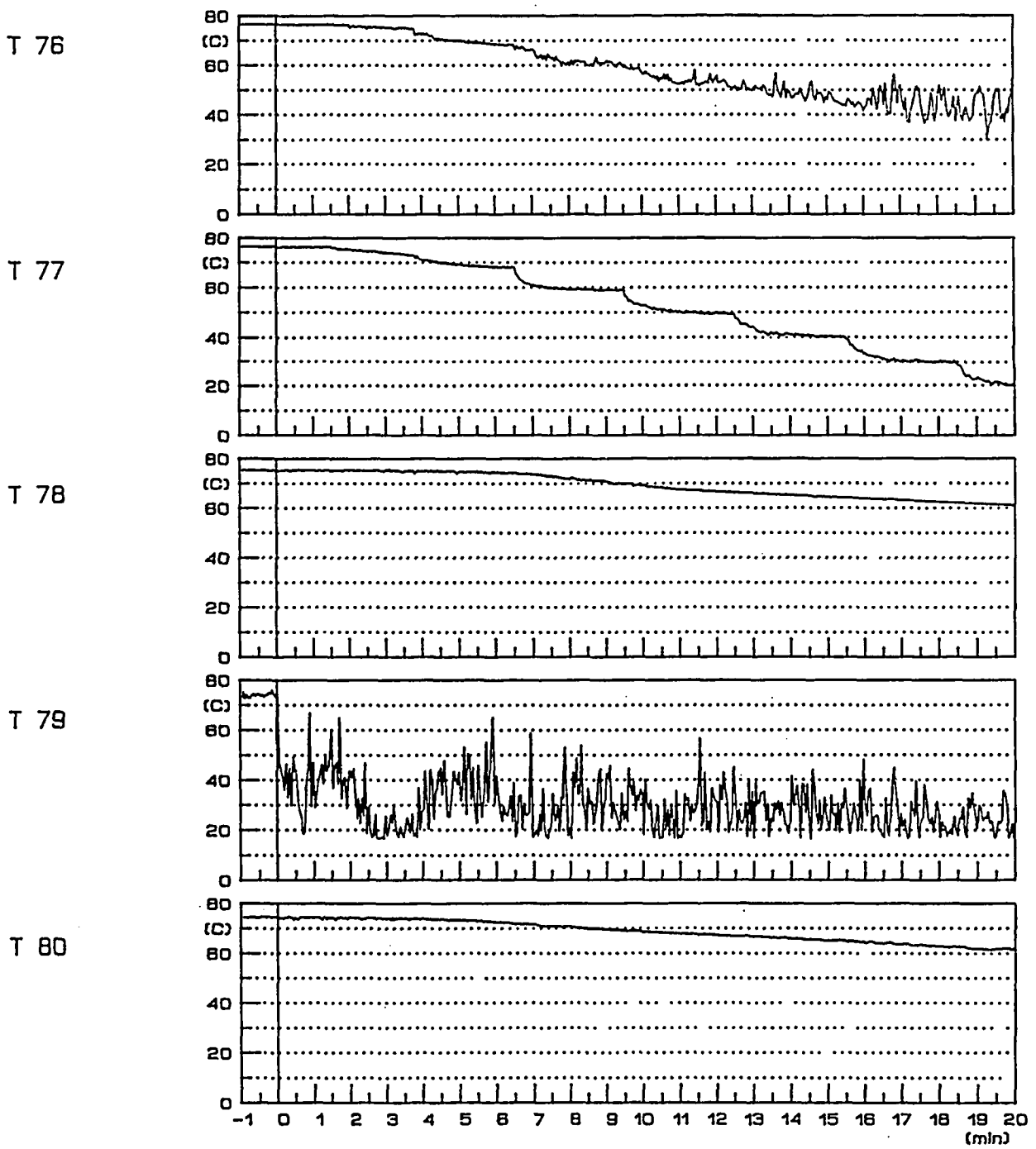
Test :	115	Q_c	=	.8	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



10.10.1985

FLUID AND THERMAL MIXING TESTS

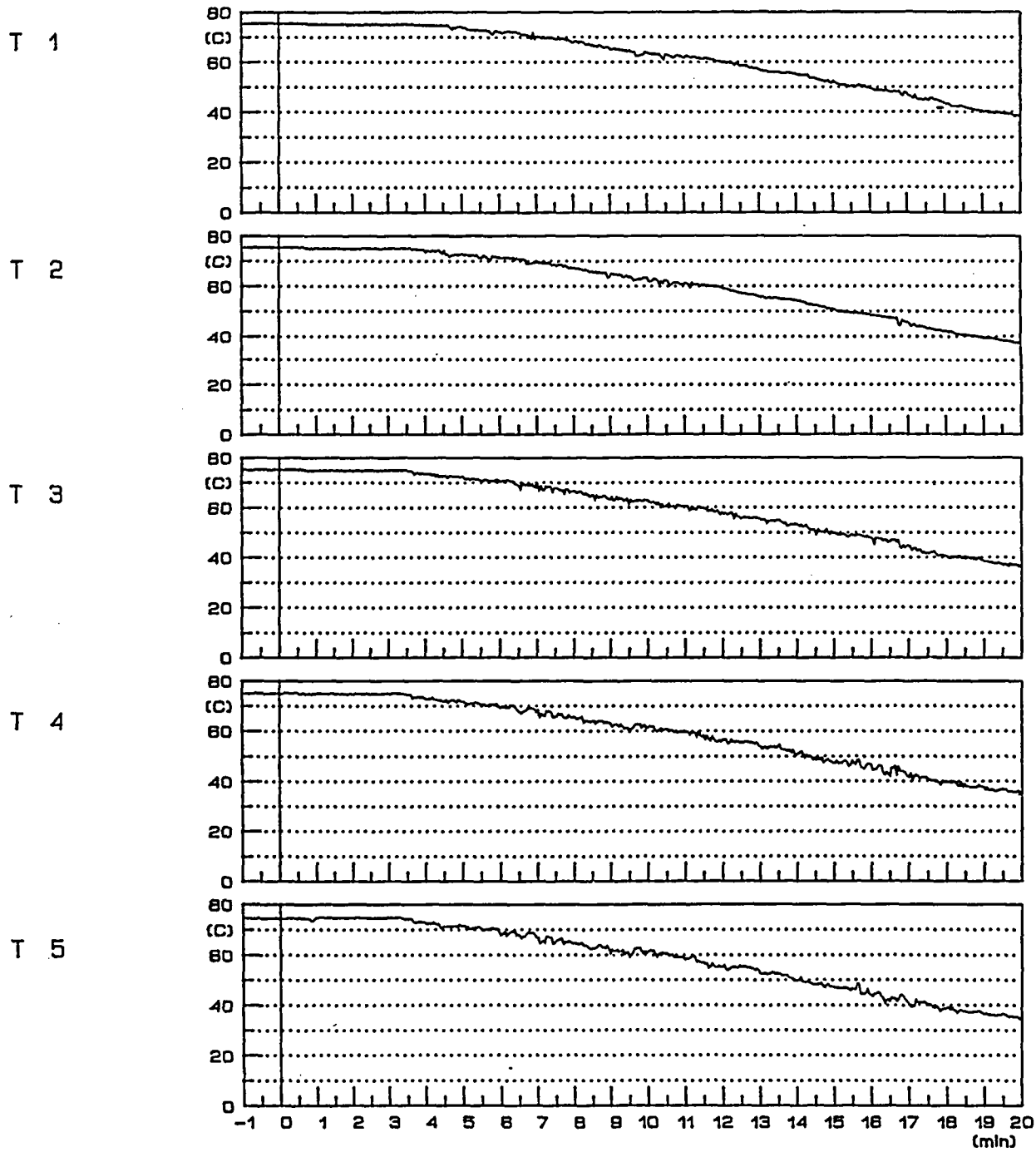
Test :	115	Q_c = .8 dm^3/s	$Q_{HPI,A}$ = 0.00 dm^3/s
		ρ = 978. kg/m^3	$Q_{HPI,B}$ = .42 dm^3/s
			$Q_{HPI,C}$ = 0.00 dm^3/s
			ρ = 1168. kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

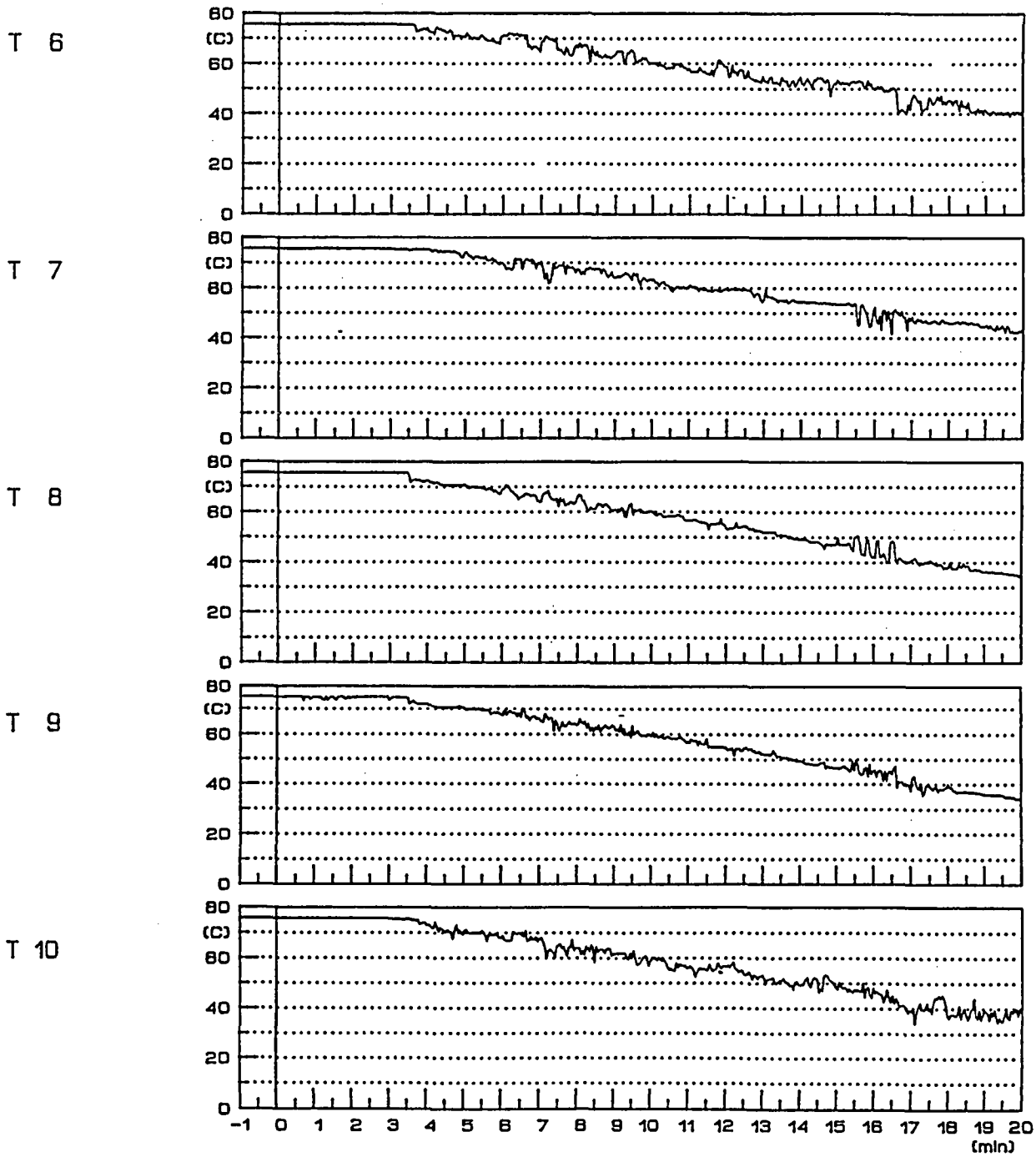
Test :	117	Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1168. kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

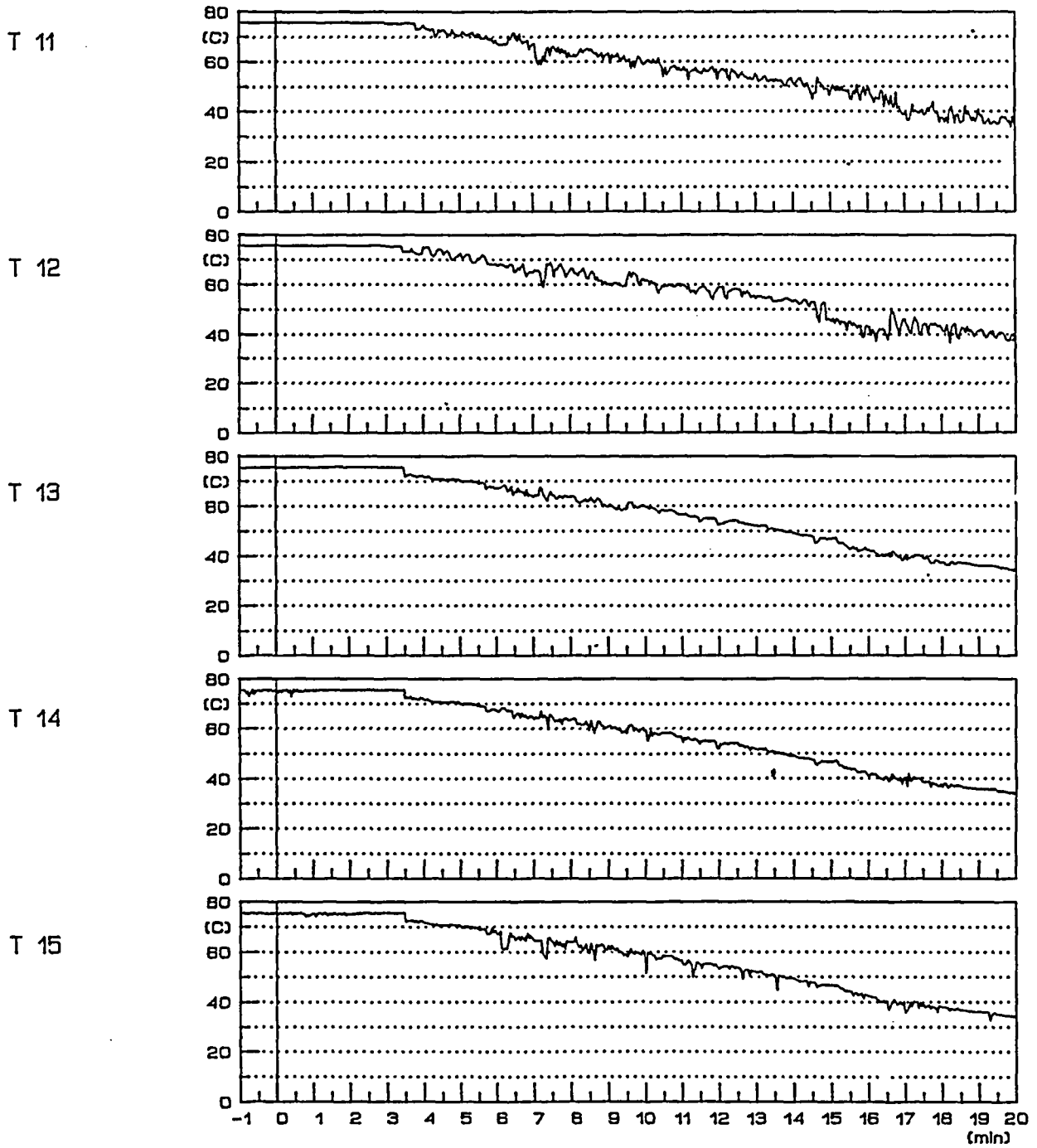
Test :	117	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



14.10.1985

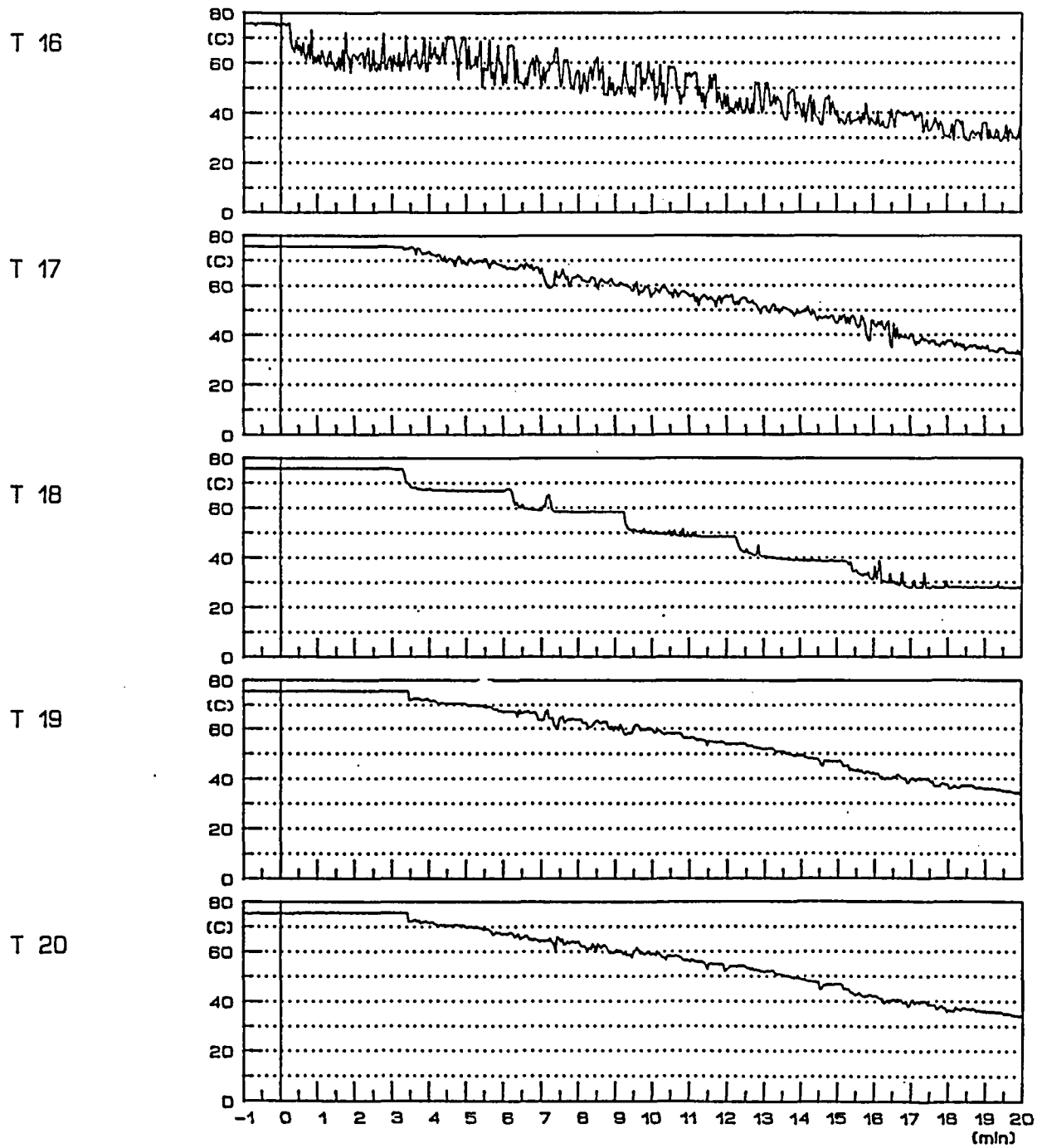
FLUID AND THERMAL MIXING TESTS

Test :	117	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



FLUID AND THERMAL MIXING TESTS

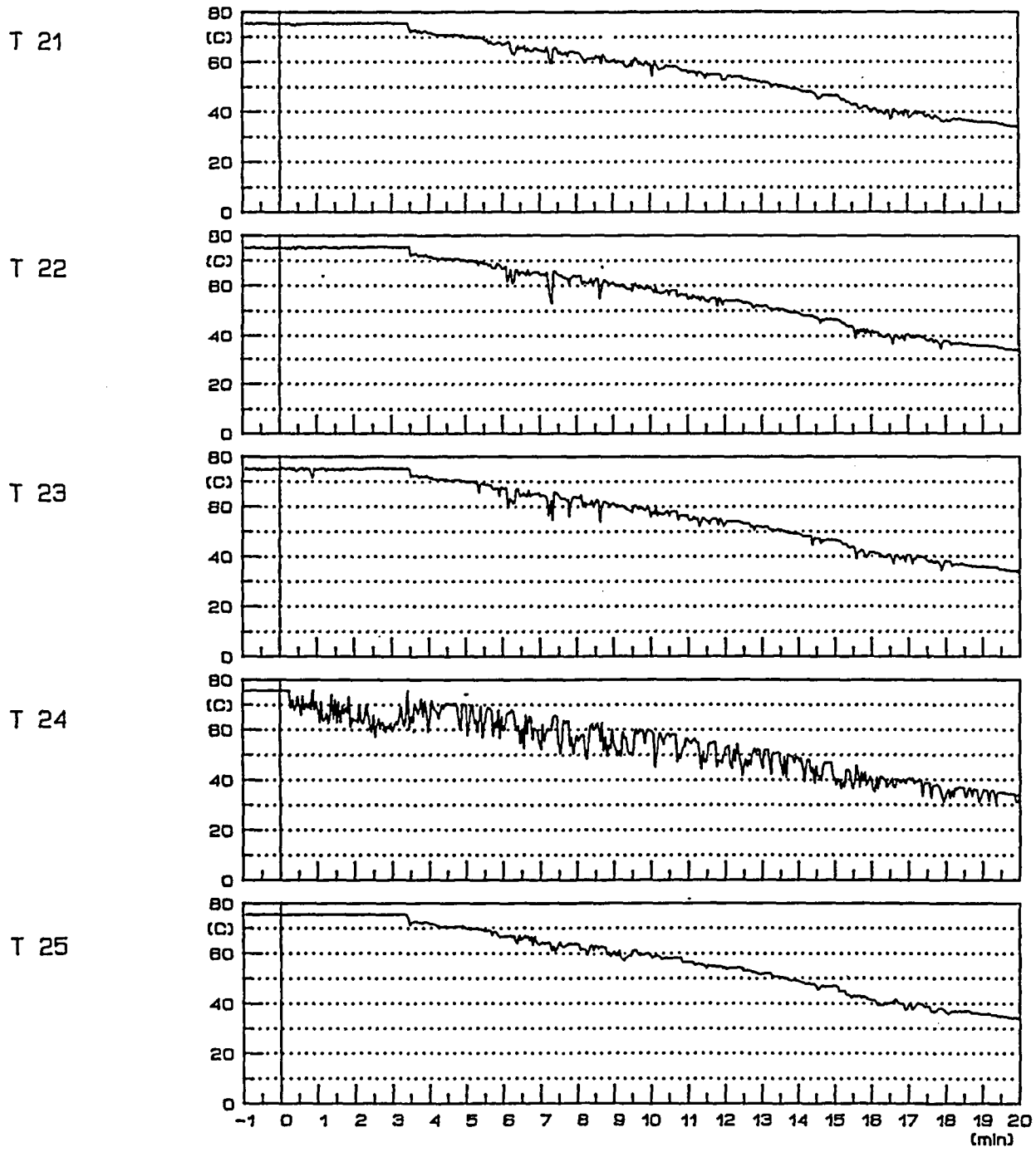
Test :	117	Q_c = 4.2 dm^3/s	$Q_{HPI,A}$ = 0.00 dm^3/s
		ρ = 978. kg/m^3	$Q_{HPI,B}$ = .42 dm^3/s
			$Q_{HPI,C}$ = 0.00 dm^3/s
			ρ = 1168. kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

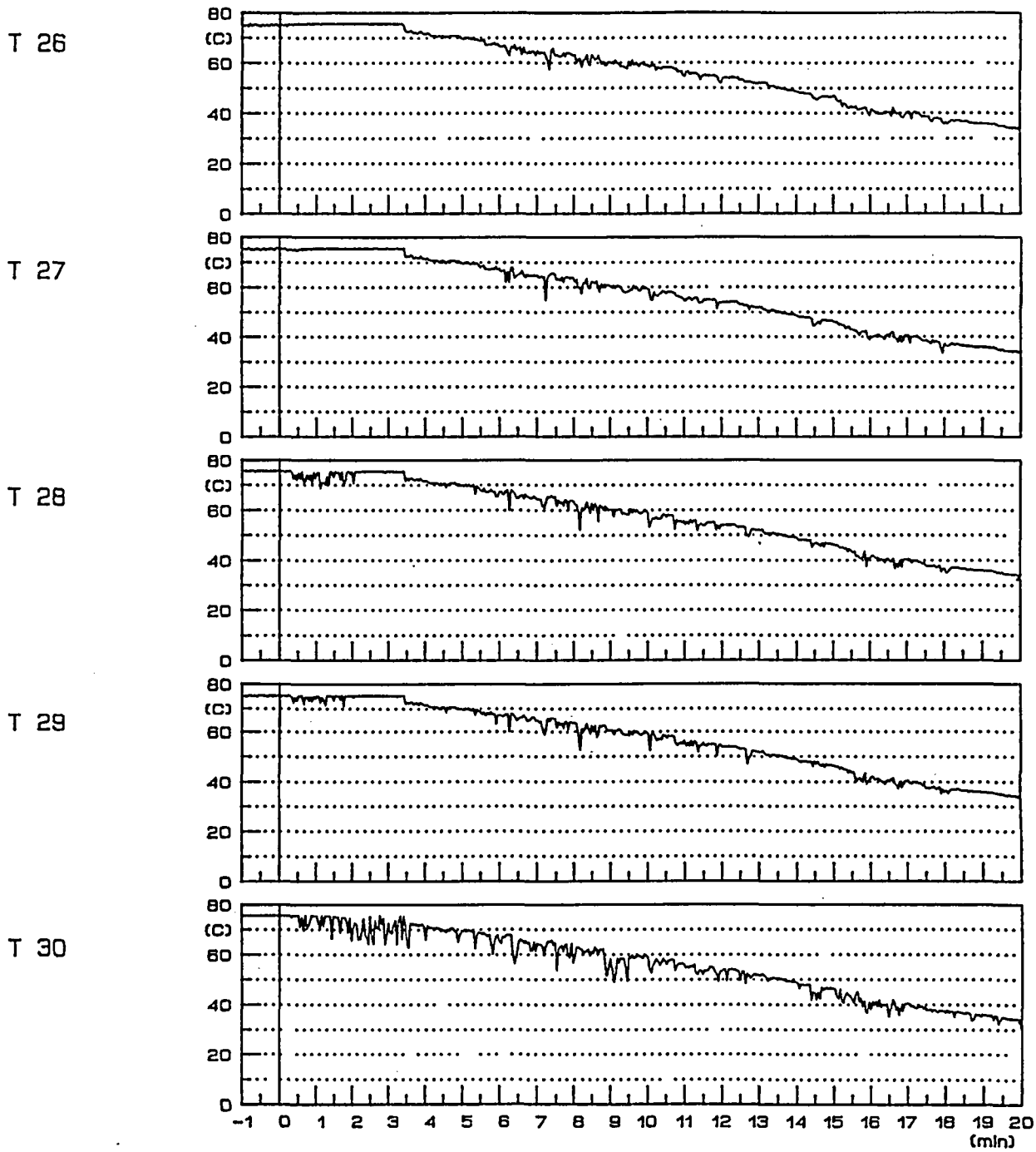
Test :	117	Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1168. kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

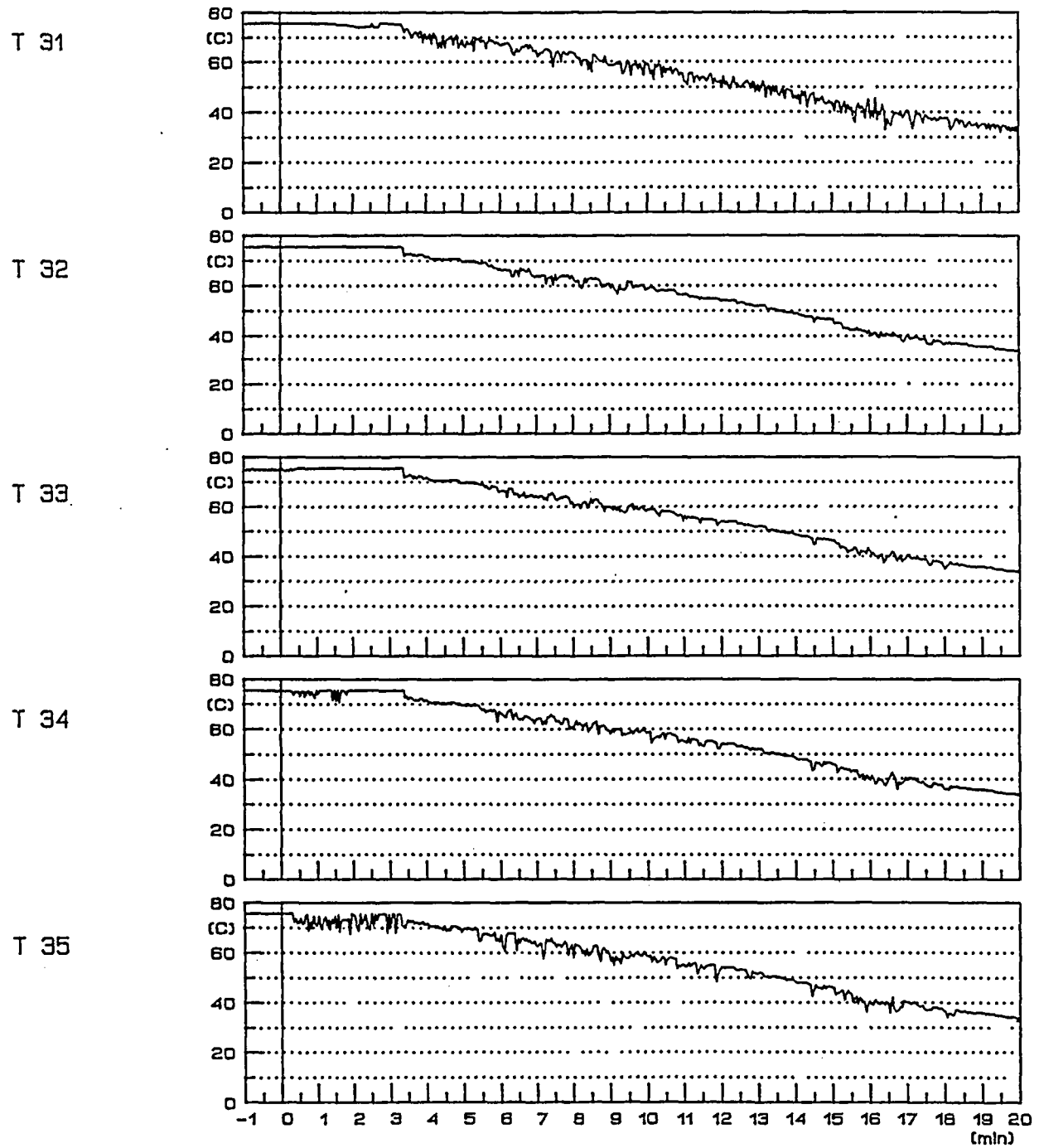
Test :	117	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

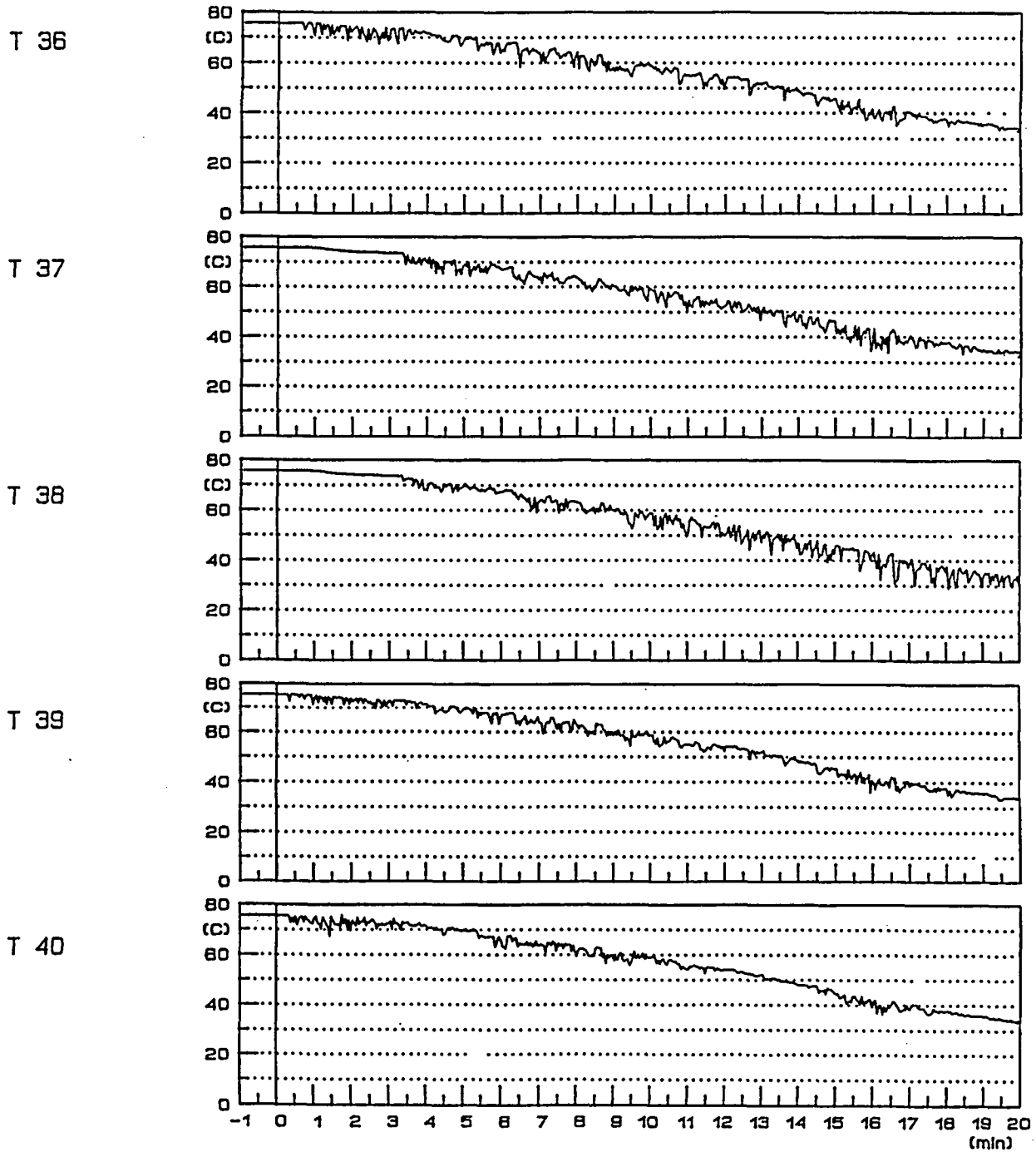
Test :	117	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

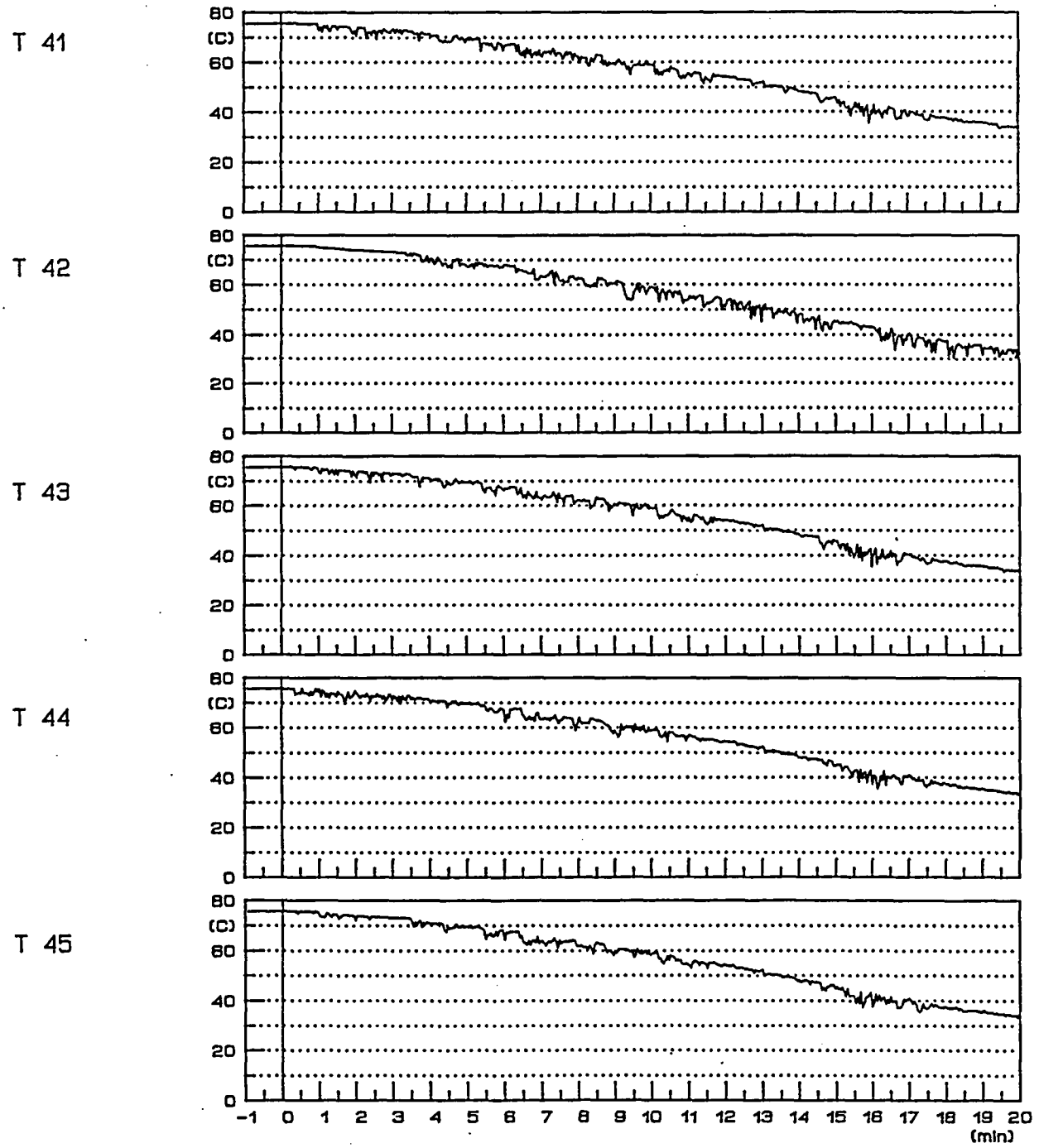
Test :	117	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

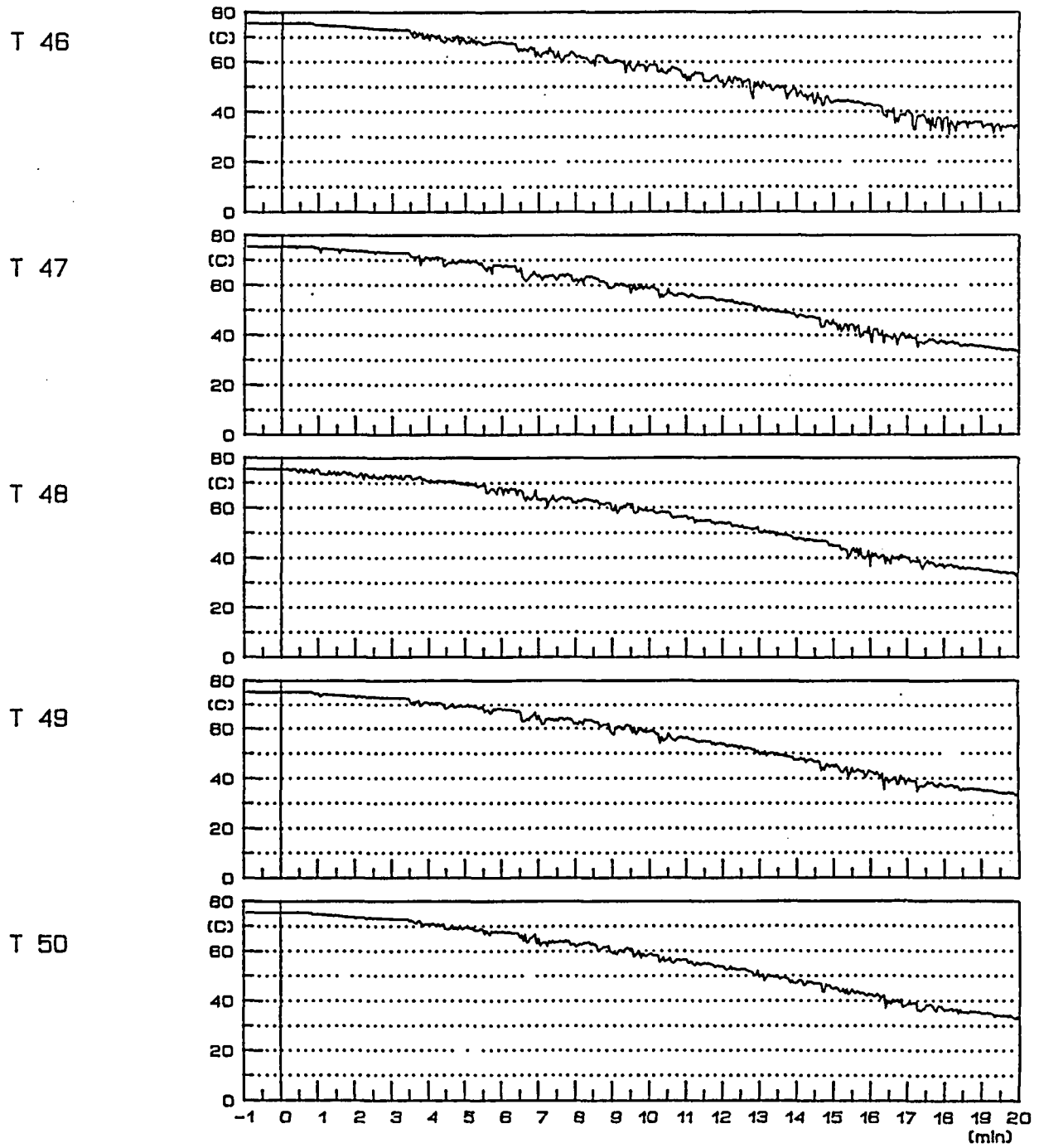
Test :	117	Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

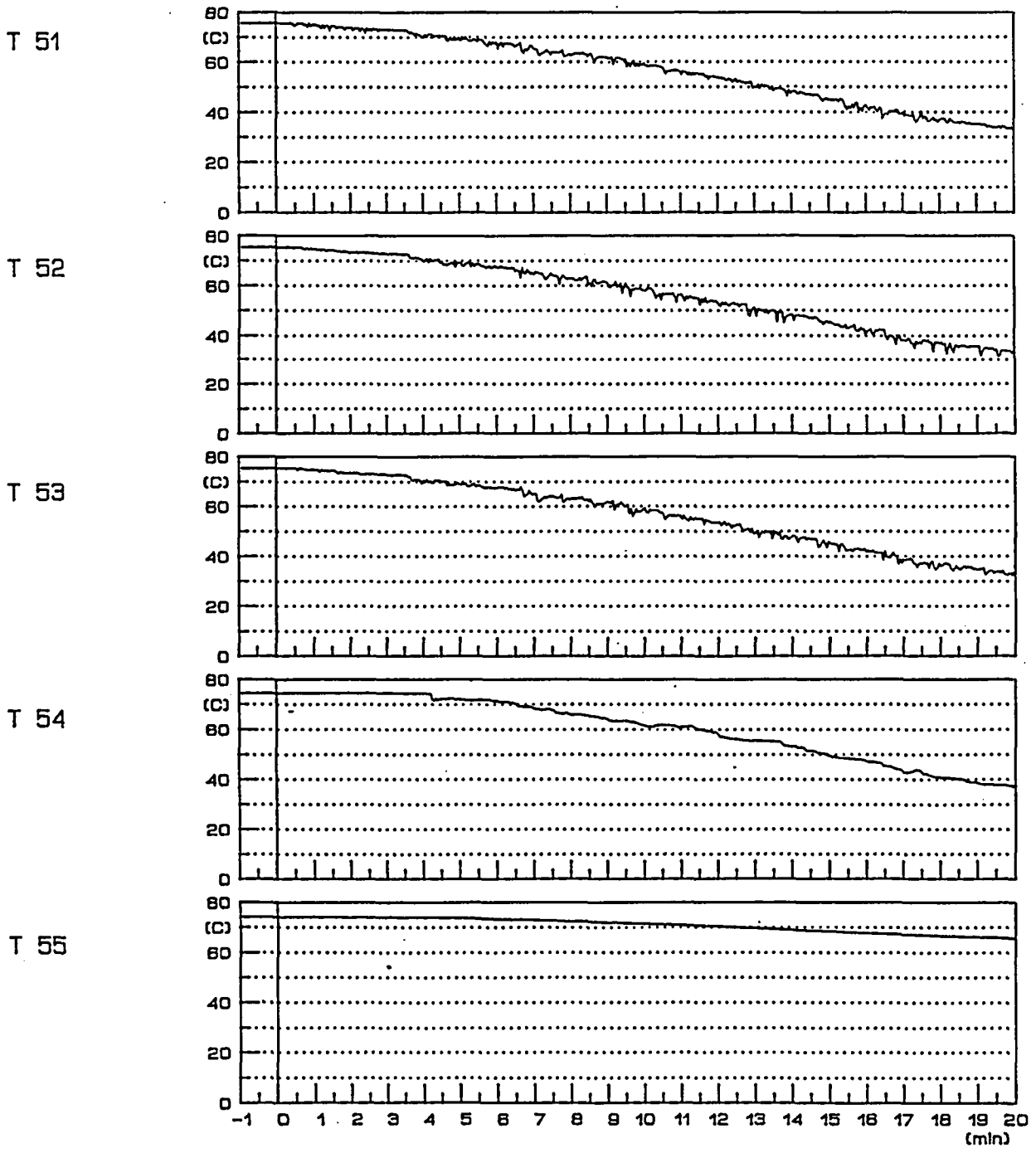
Test :	117	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

Test :	117	Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3

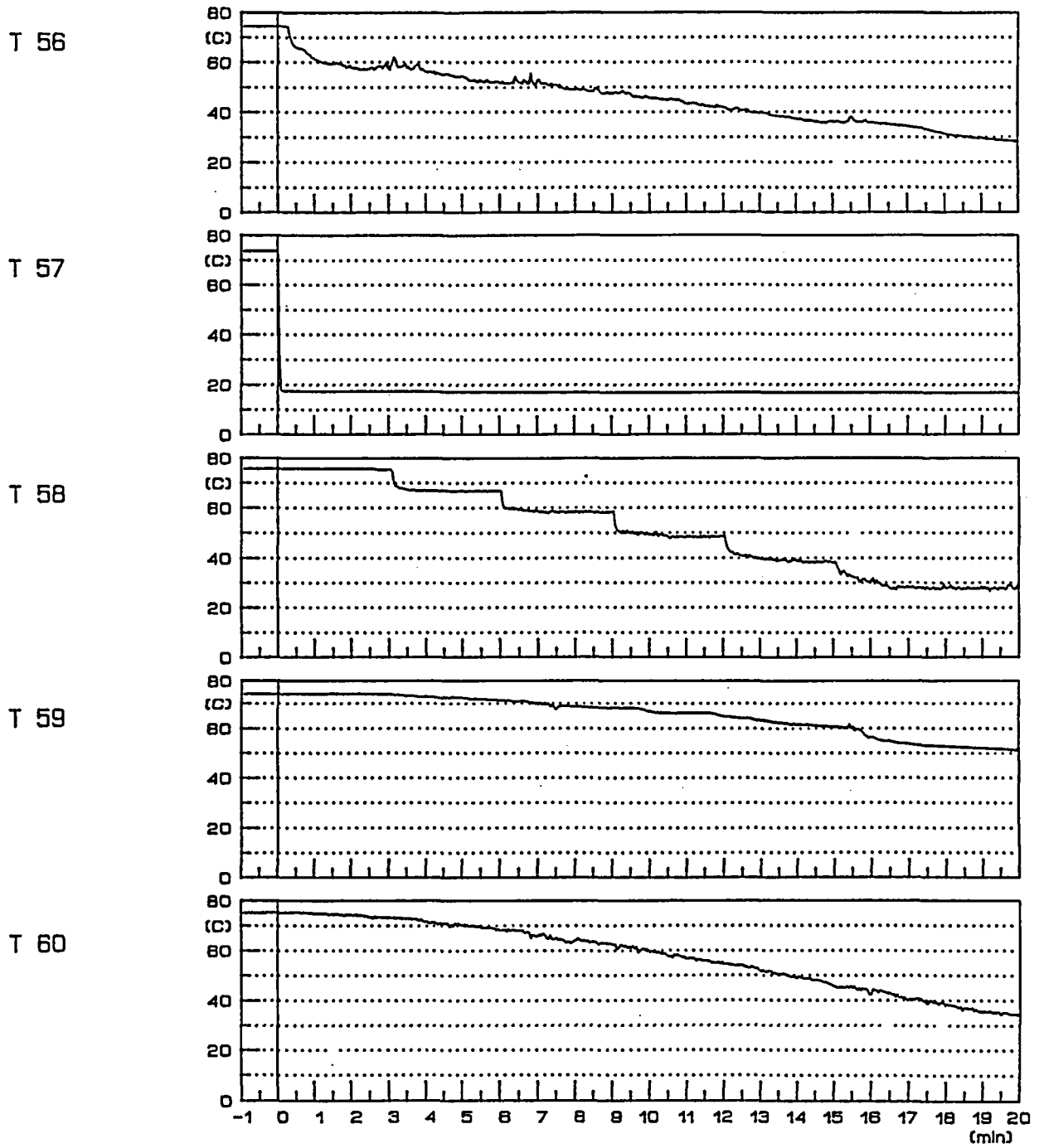


14.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 117

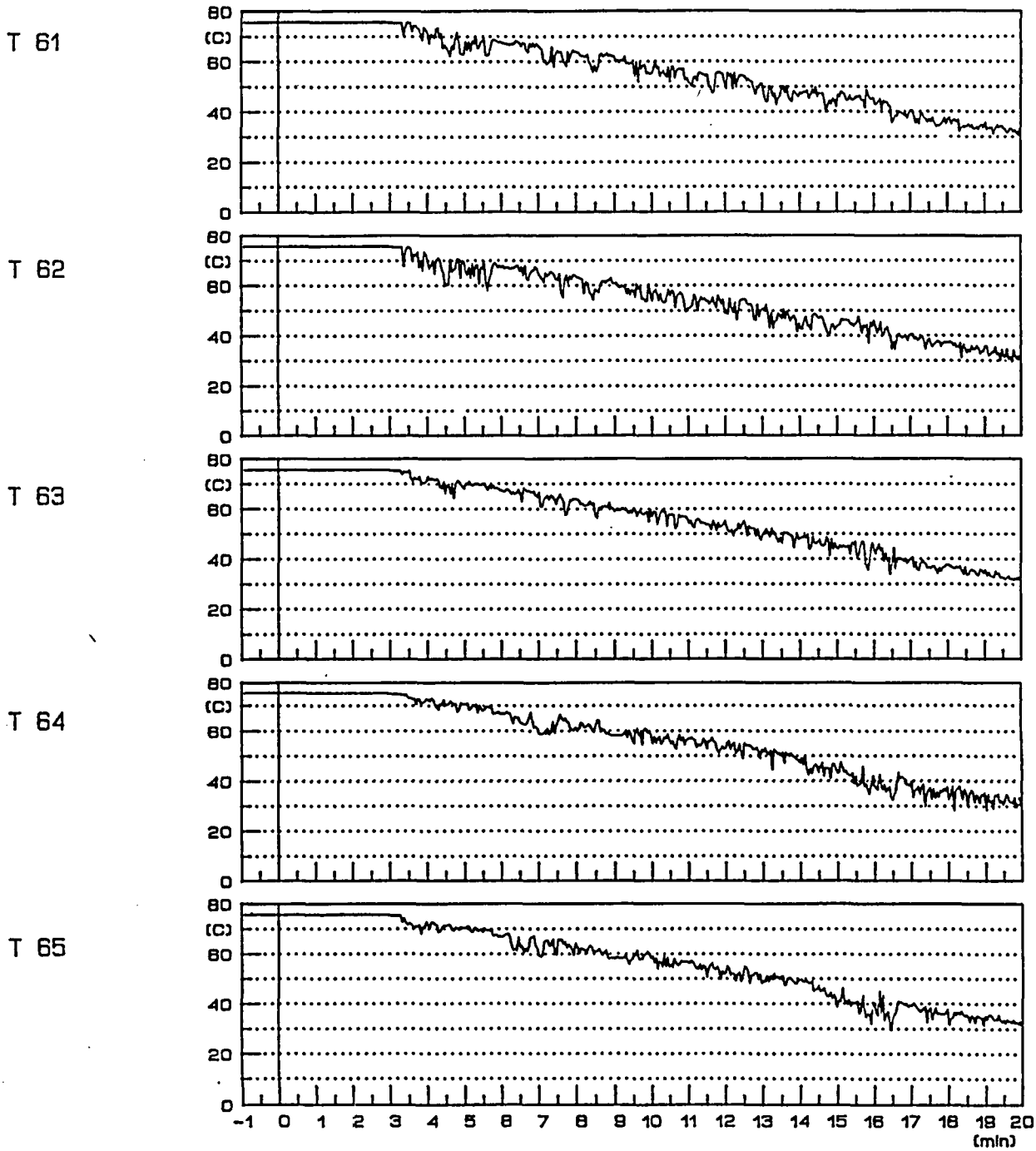
Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1168.	kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

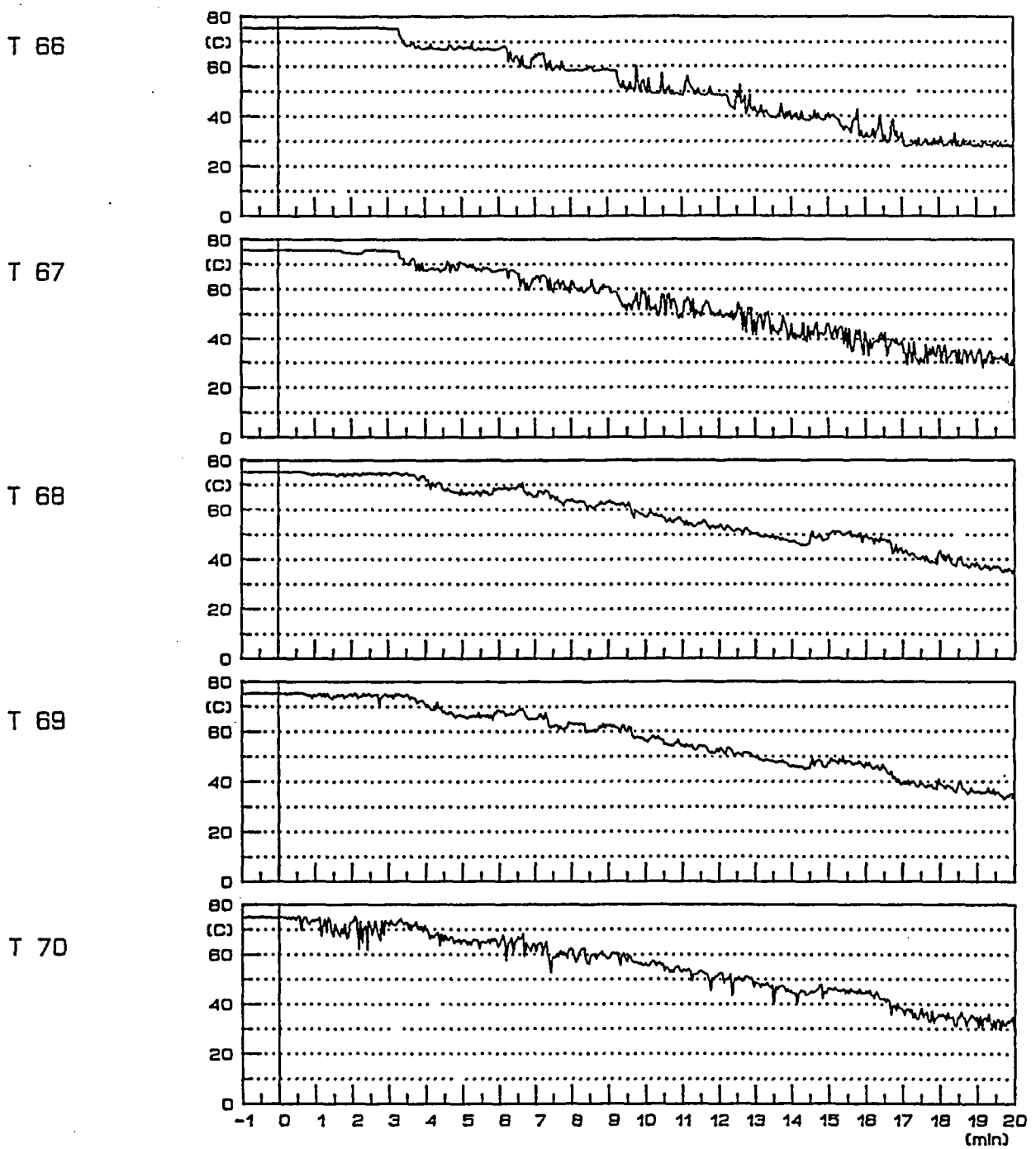
Test :	117	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1168. kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

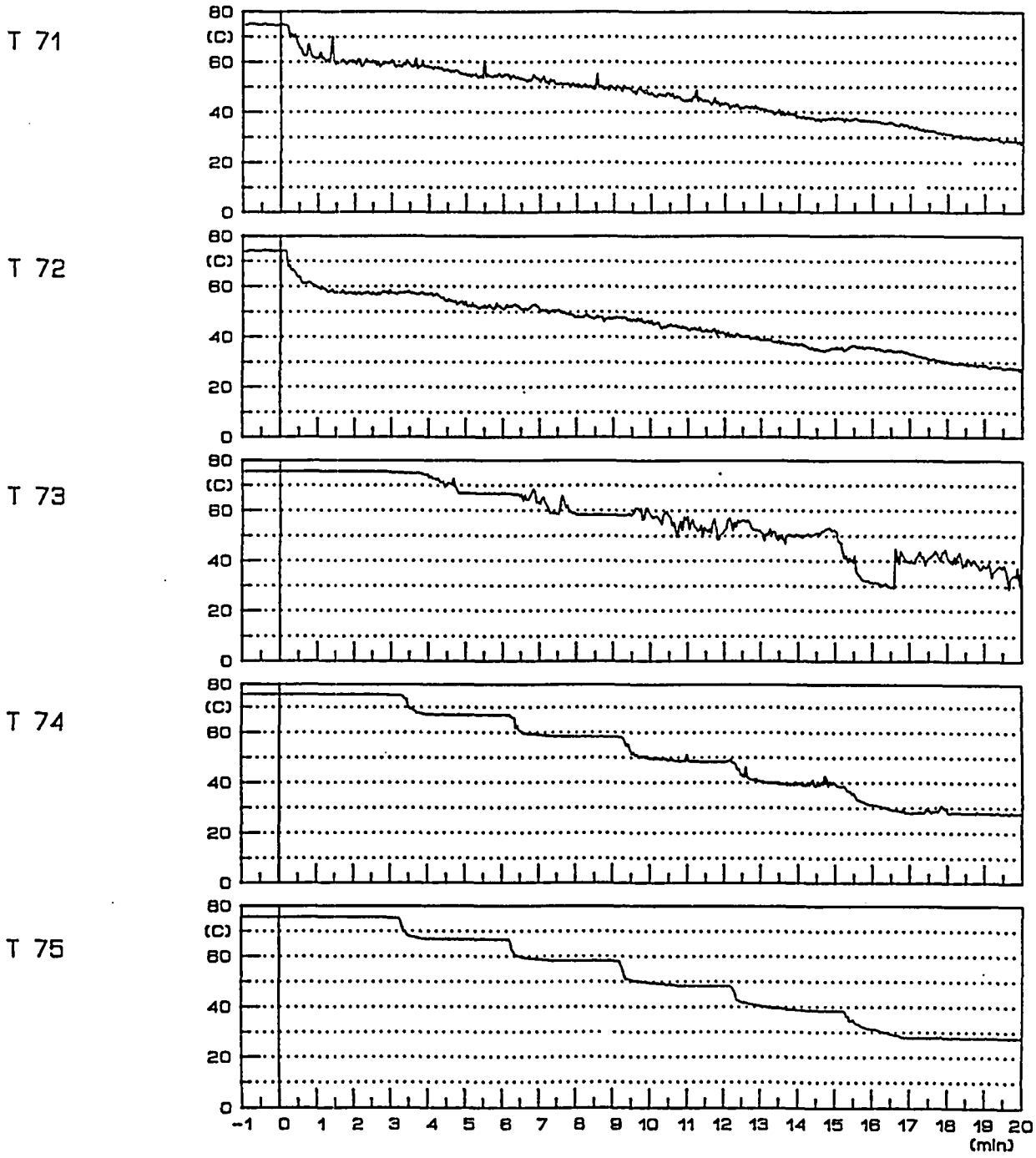
Test :	117	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	.42	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

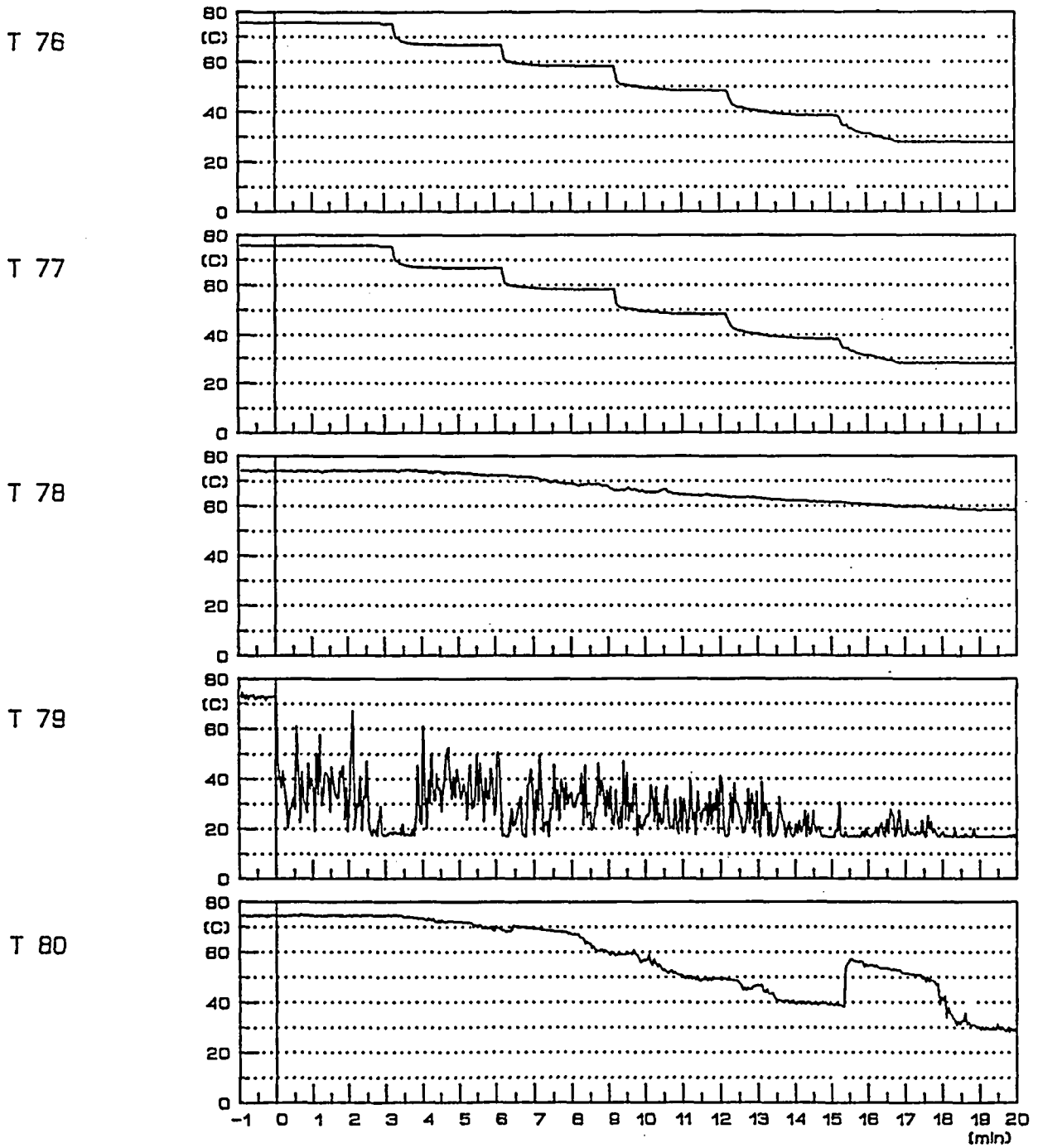
Test :	117	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



14.10.1985

FLUID AND THERMAL MIXING TESTS

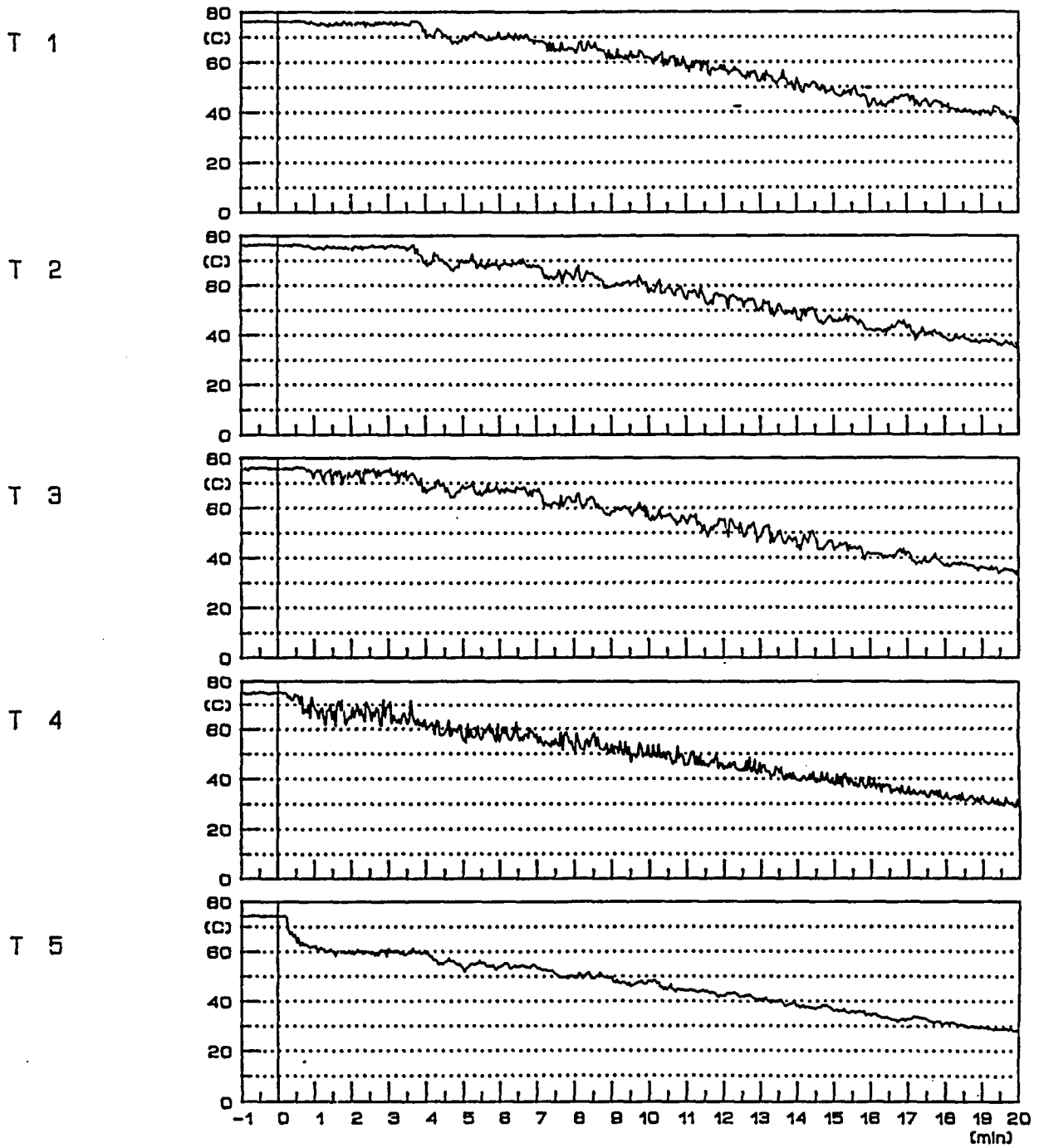
Test :	117	Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	.42	dm^3/s-
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



16.10.1985

FLUID AND THERMAL MIXING TESTS

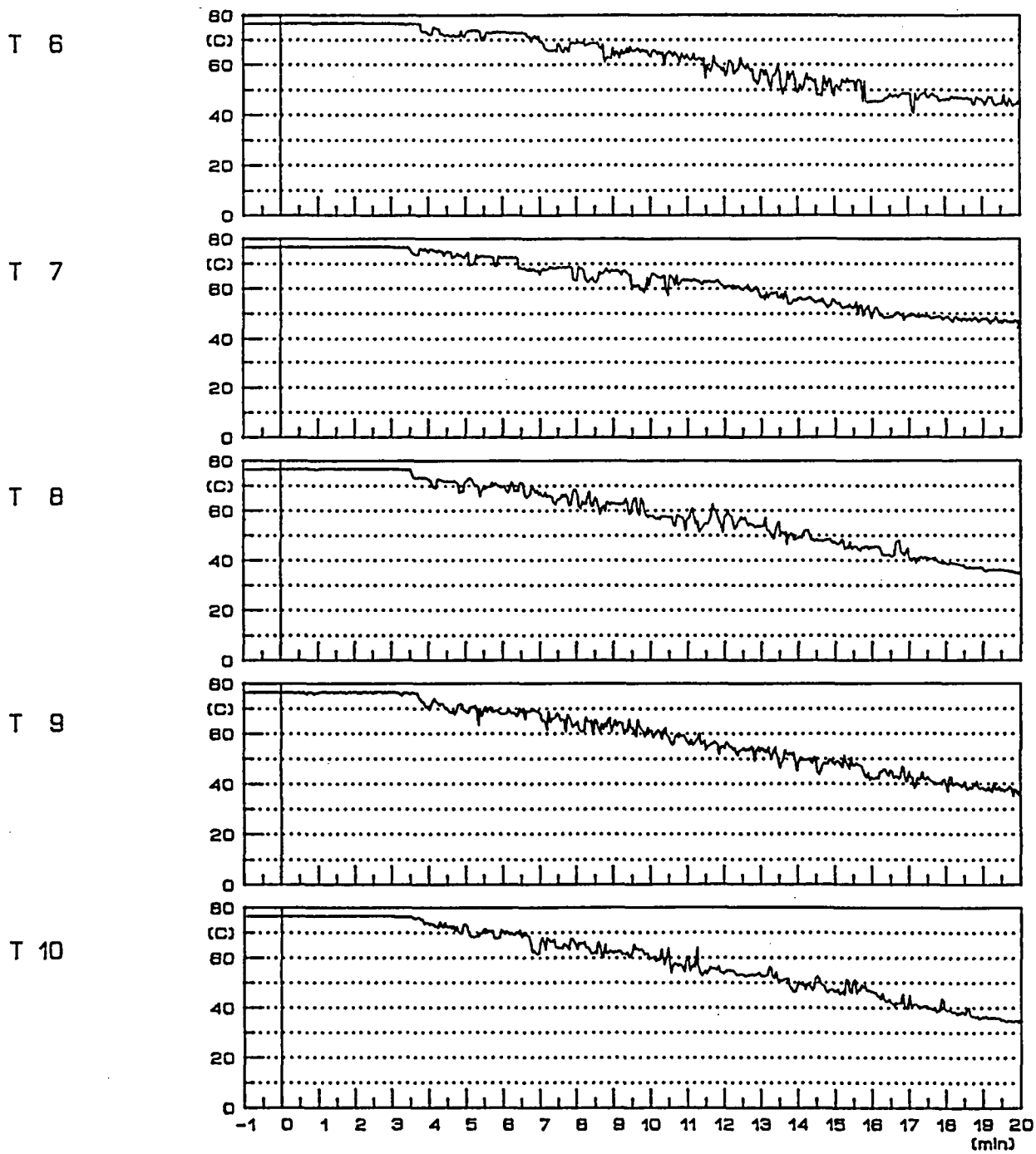
Test :	118	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

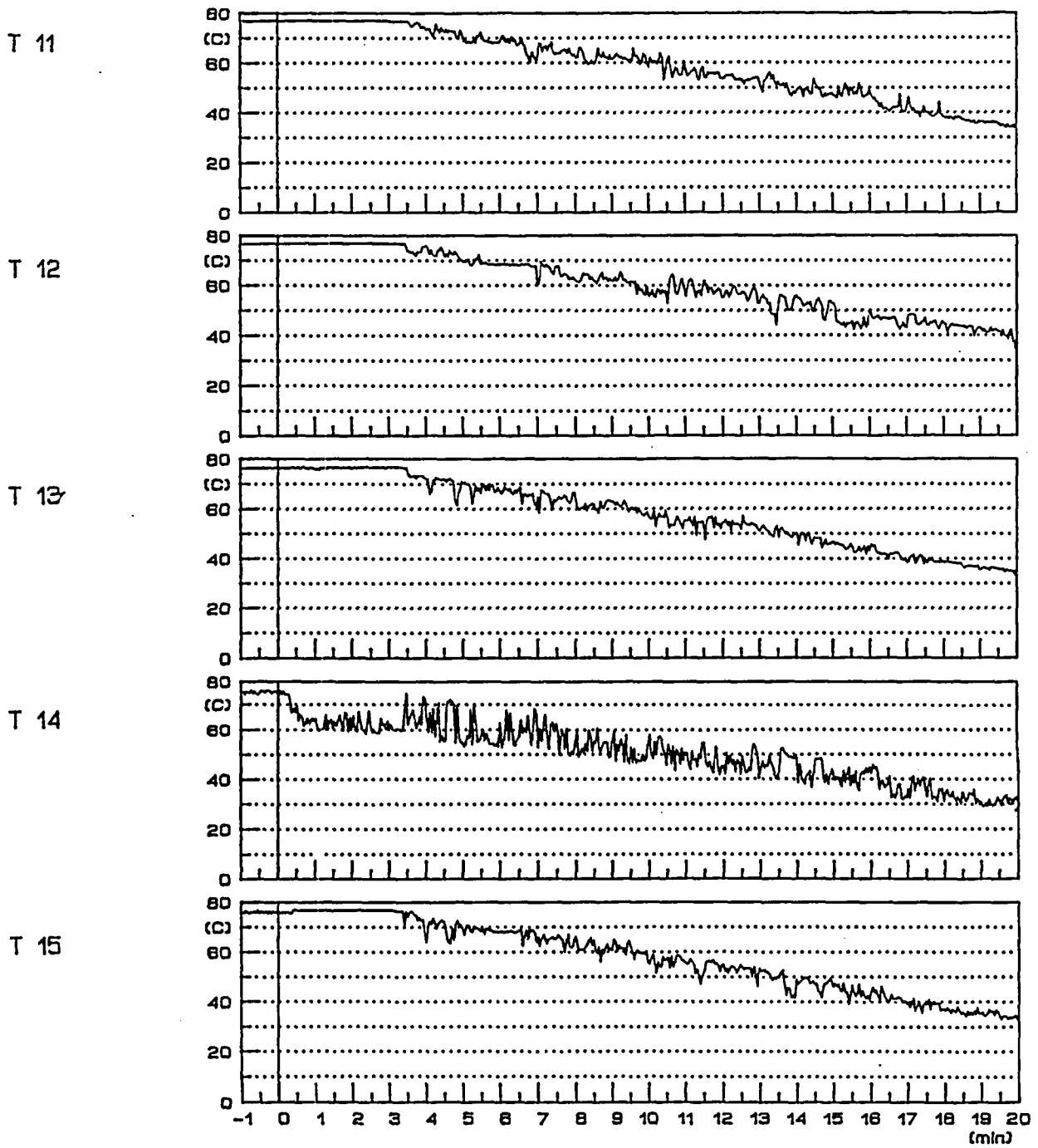
Test :	118	Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

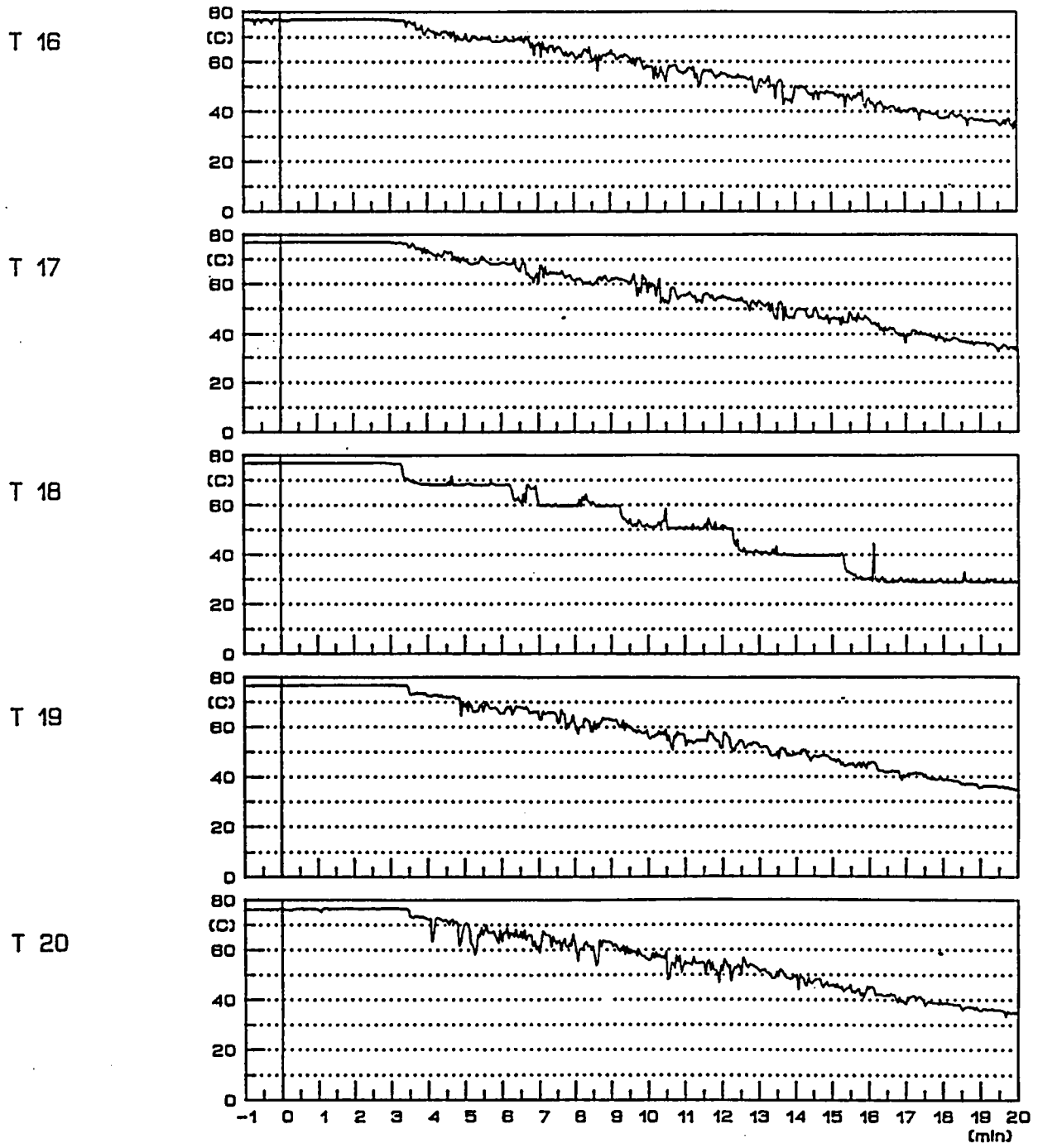
Test :	118	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1168. kg/m^3



18.10.1985

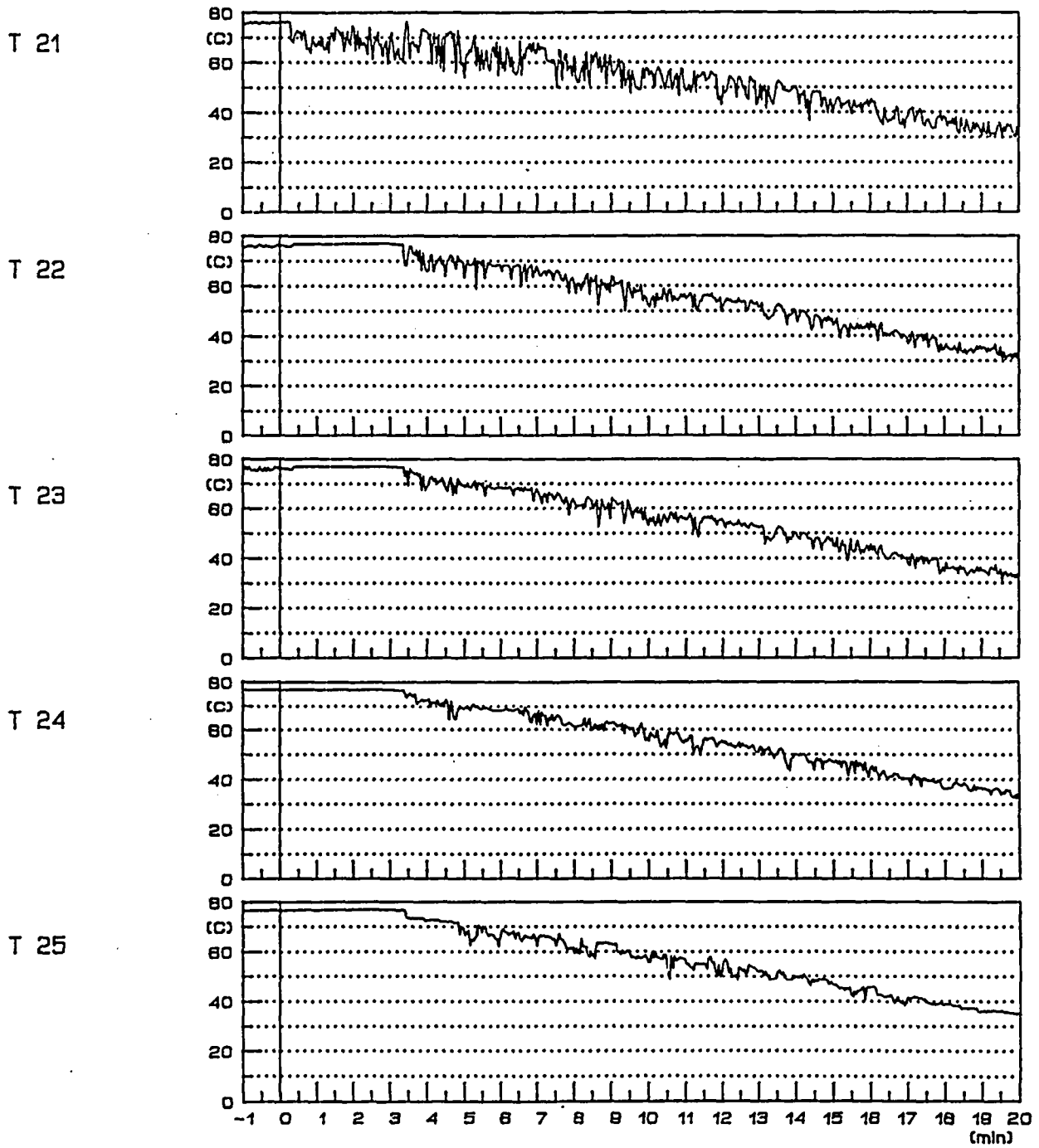
FLUID AND THERMAL MIXING TESTS

Test :	118	Q_C =	4.2	dm^3/s	$Q_{HPI,A}$ =	.42	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



FLUID AND THERMAL MIXING TESTS

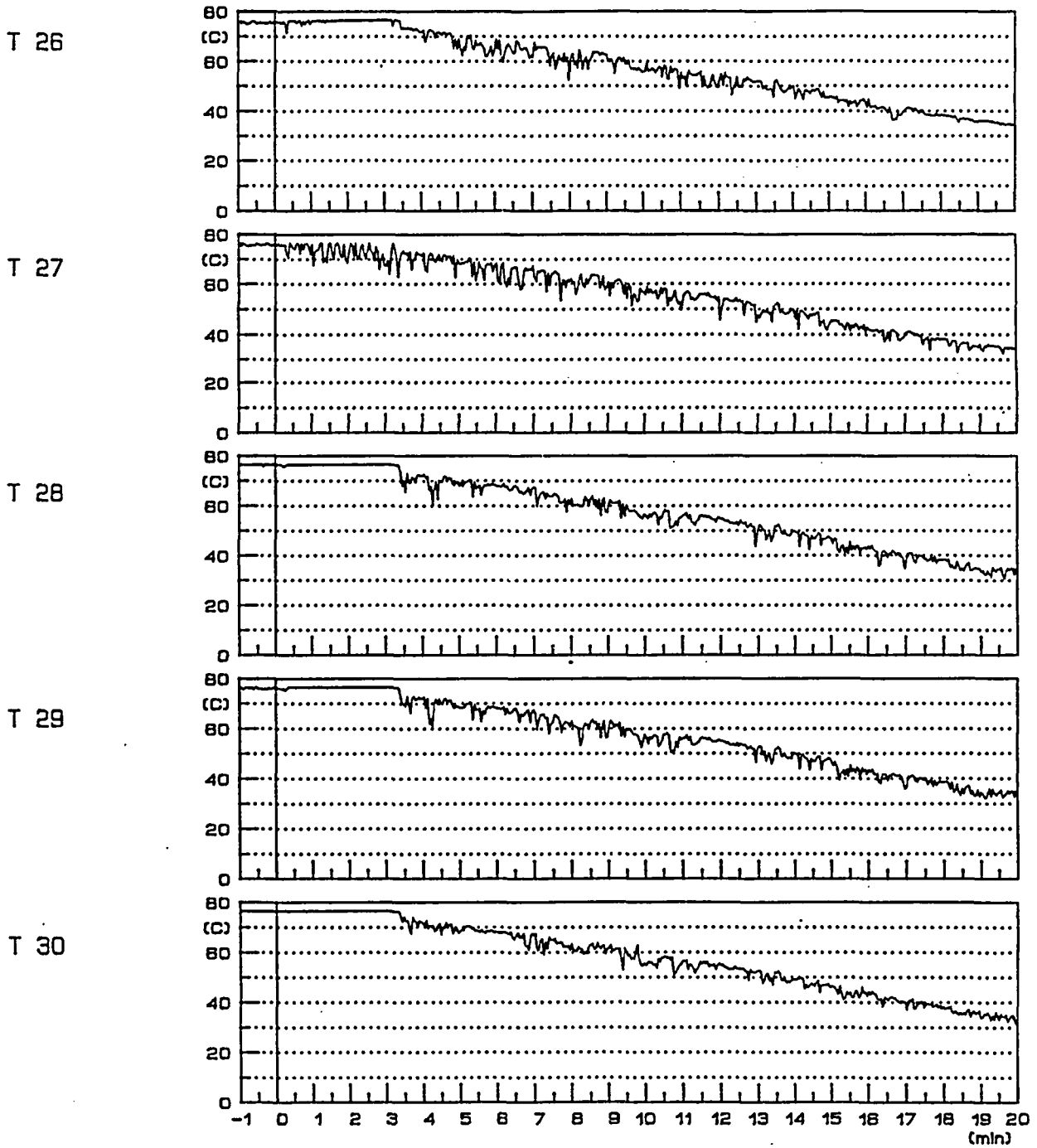
Test :	118	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42 dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00 dm^3/s
						$Q_{HPI,C}$	=	0.00 dm^3/s
						ρ	=	1168. kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

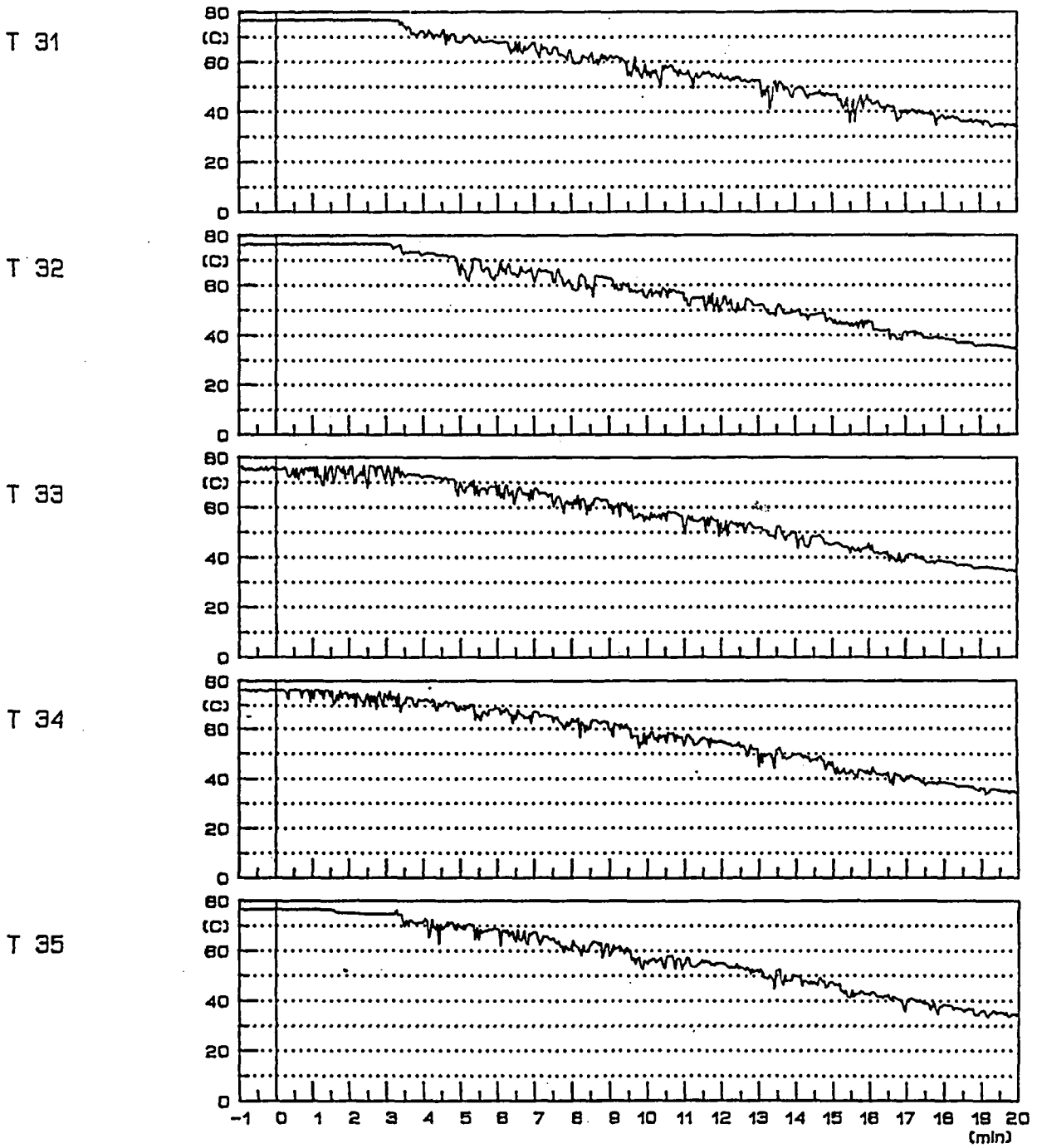
Test :	118	Q_C =	4.2	dm^3/s	$Q_{HPI,A}$ =	.42	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

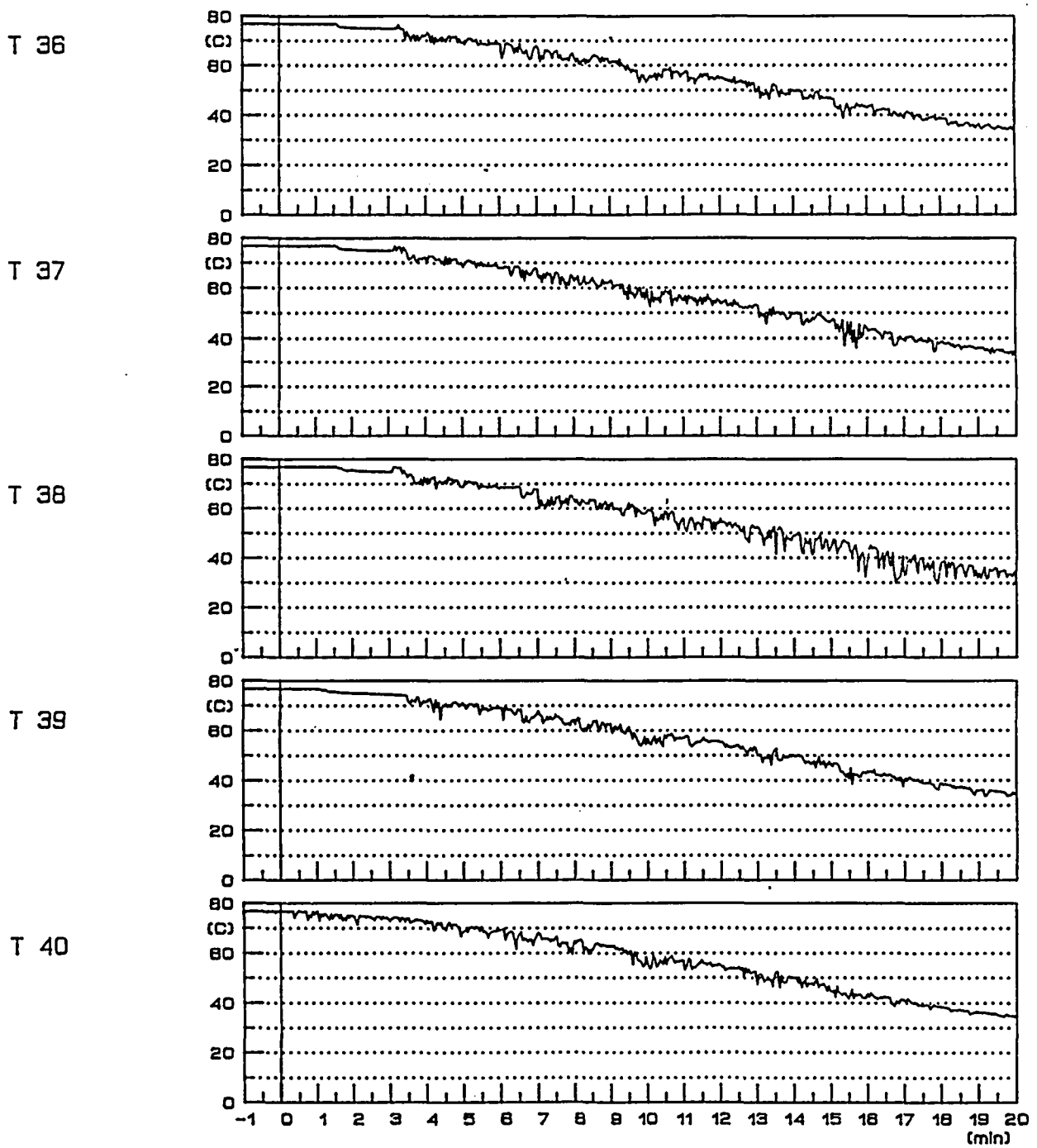
Test :	118	Q_C =	4.2	dm^3/s	$Q_{HPI,A}$ =	.42	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

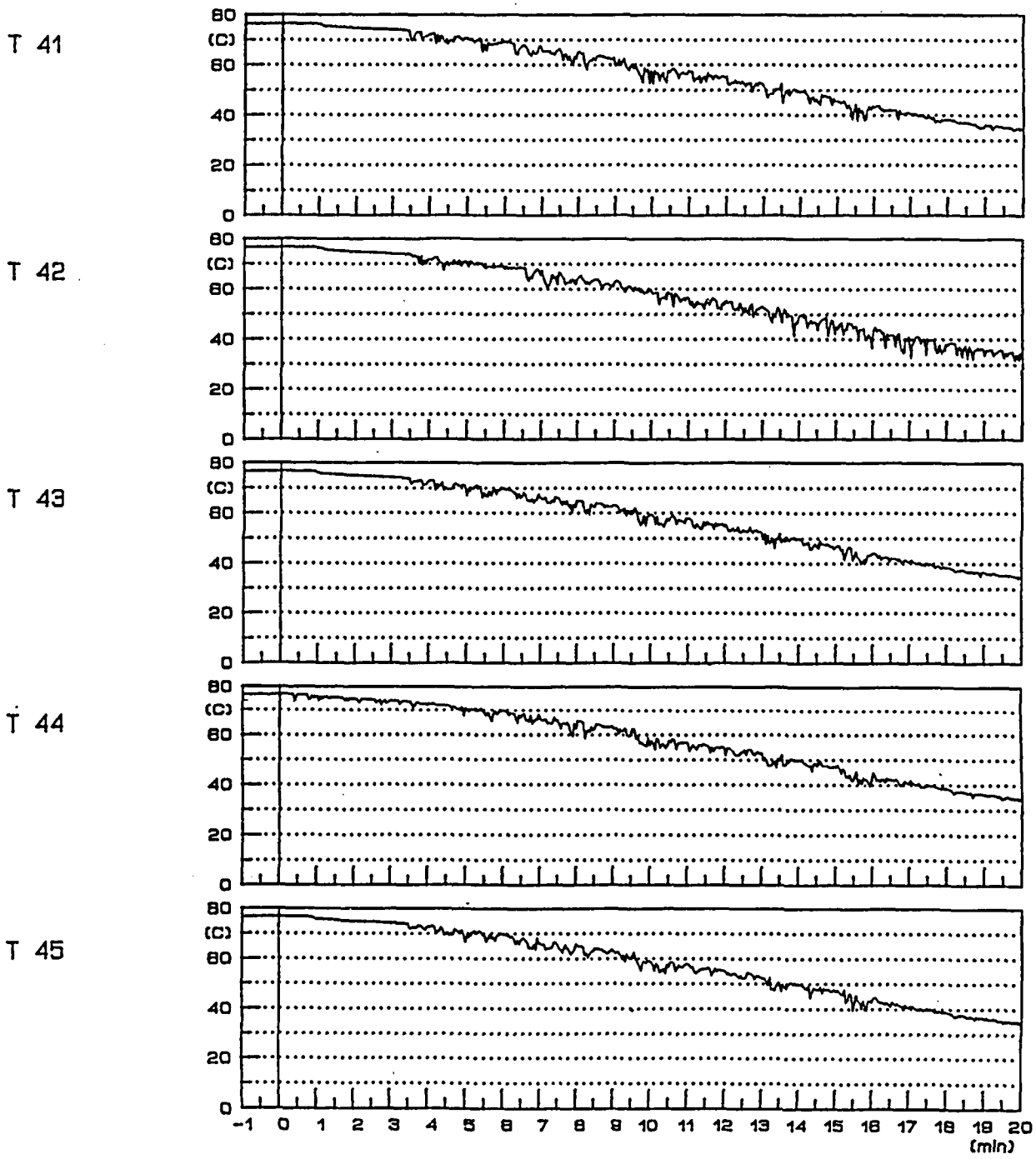
Test :	118	Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

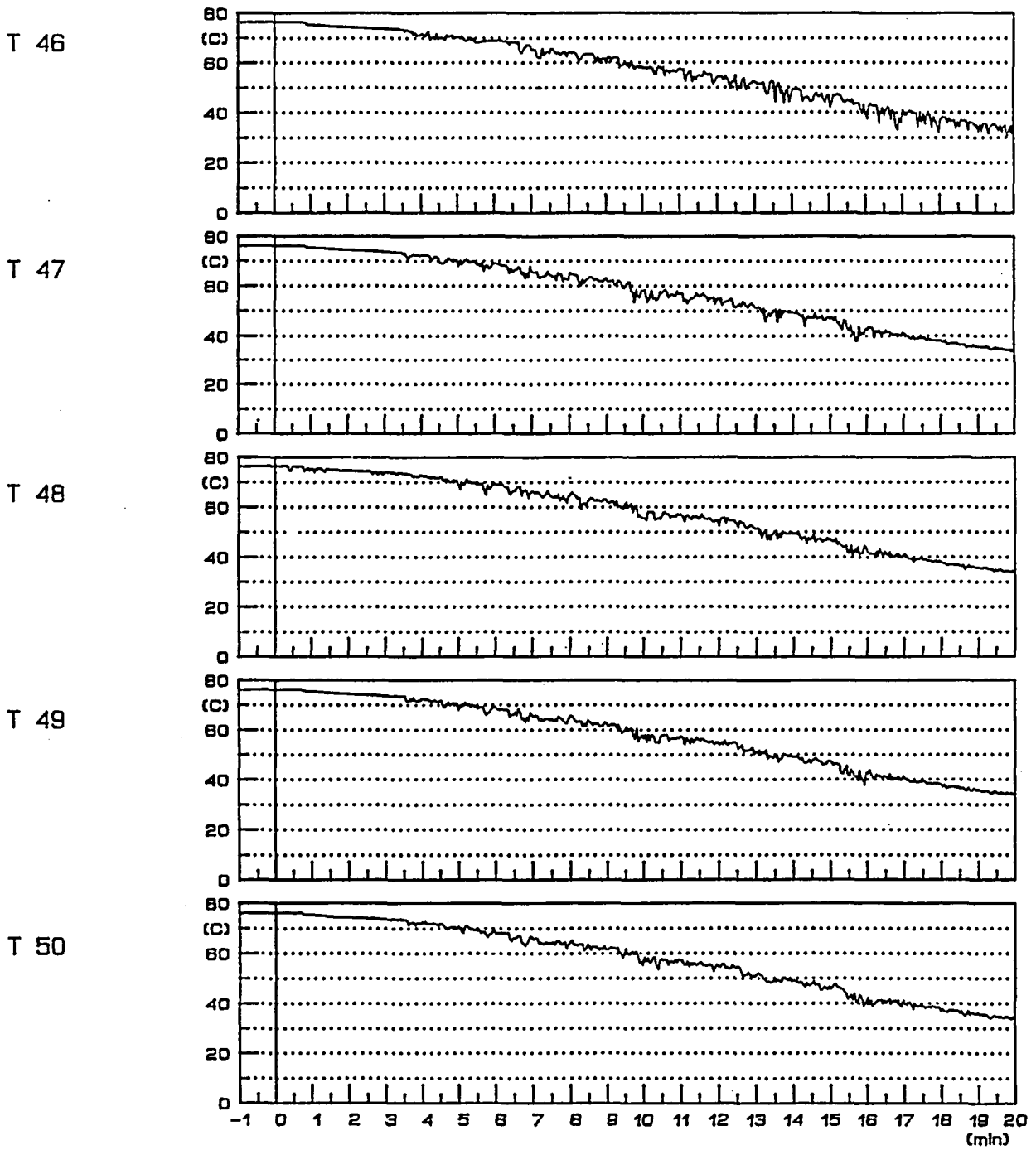
Test :	118	Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

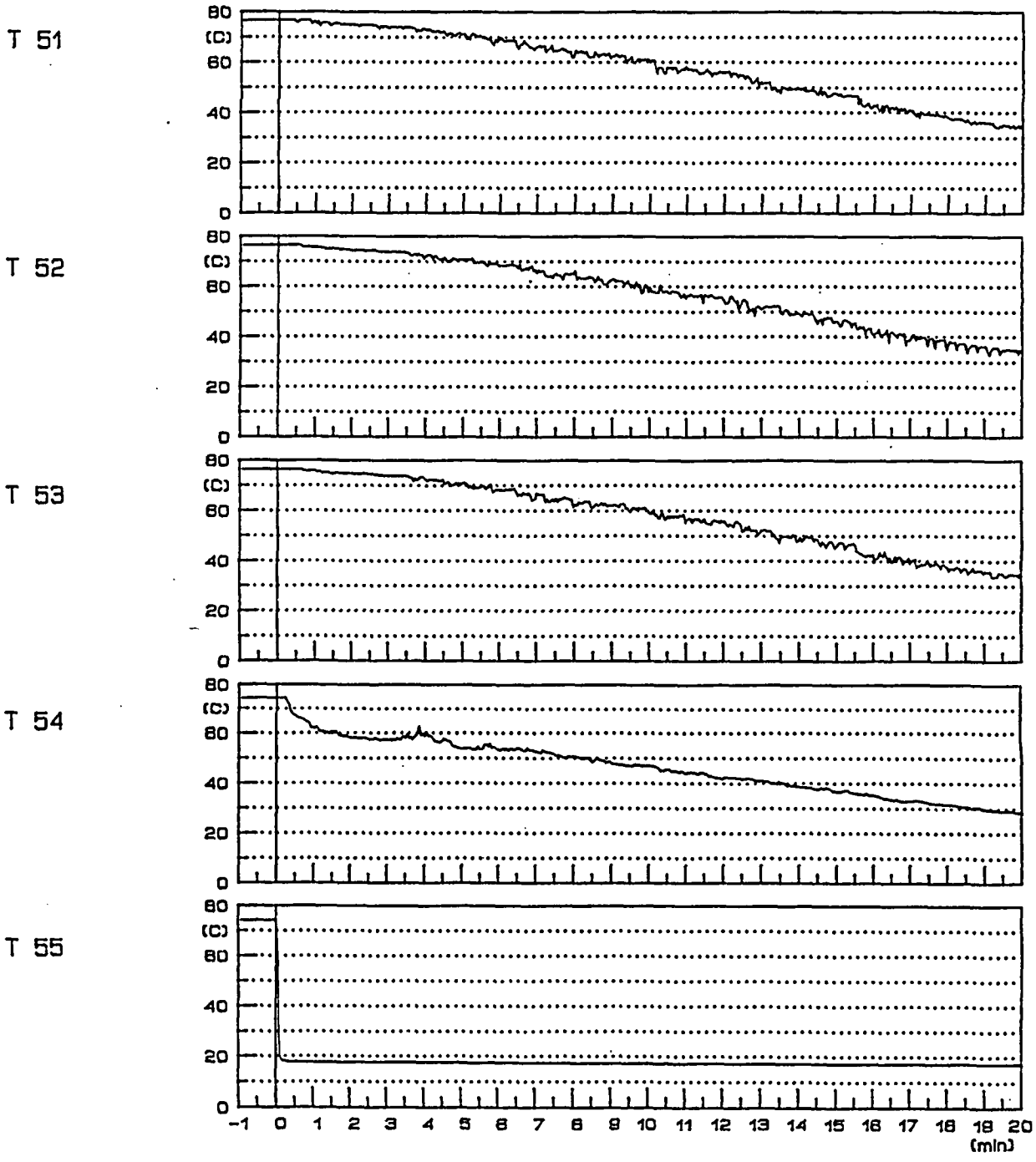
Test :	118	Q_c =	4.2	dm^3/s	$Q_{HPI,A}$ =	.42	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

Test :	118	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3

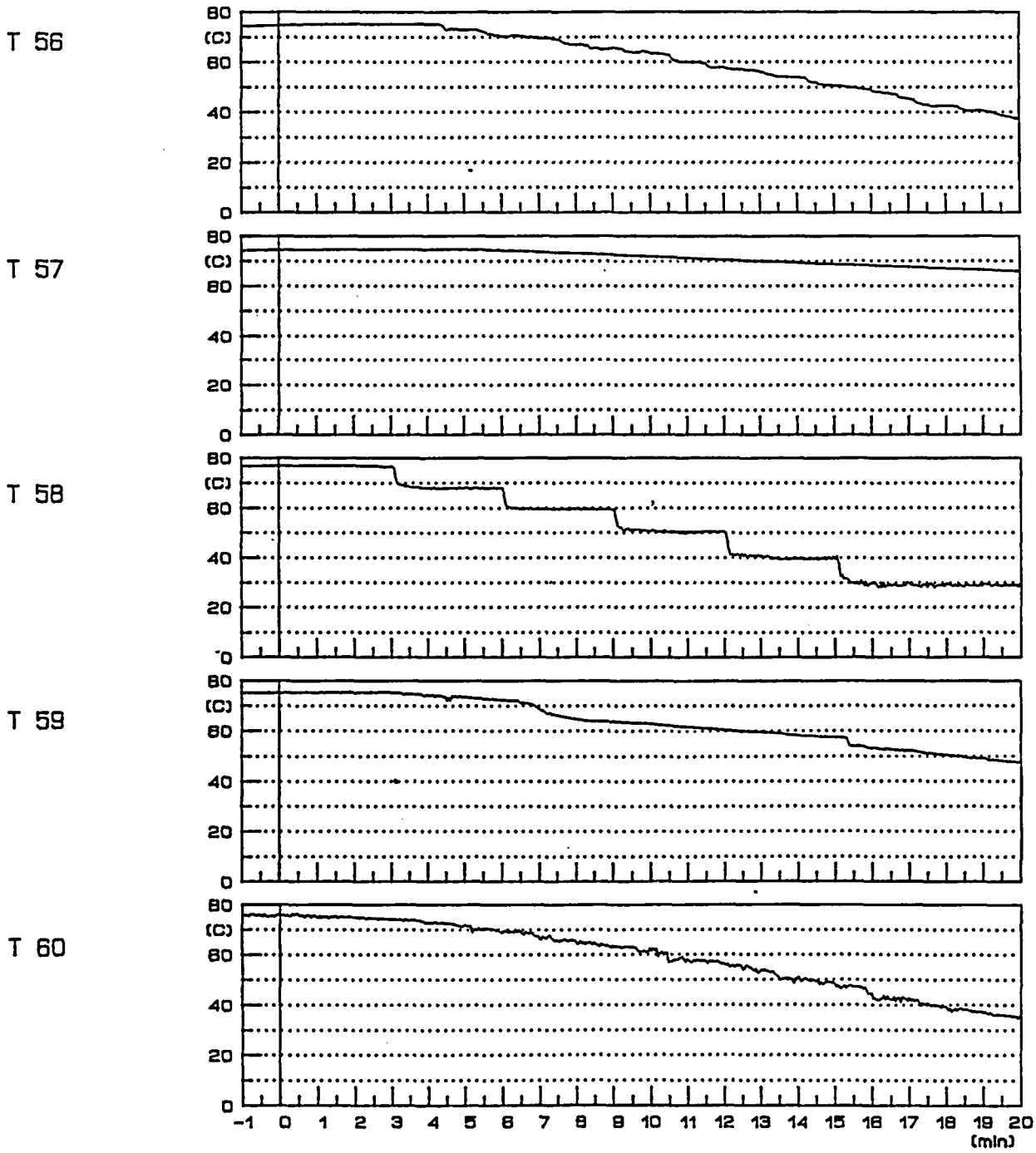


18.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 118

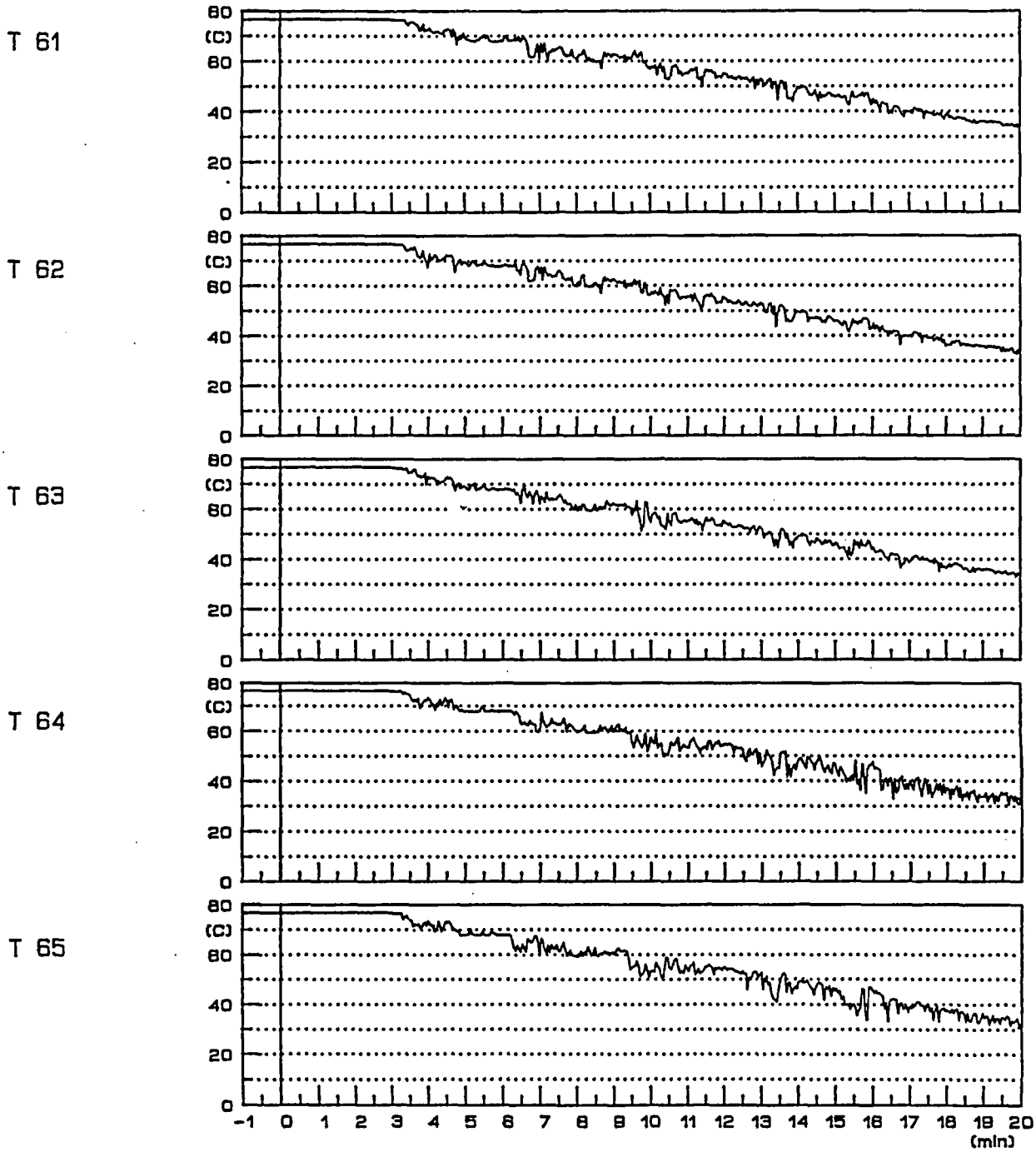
Q_C	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1168.	kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

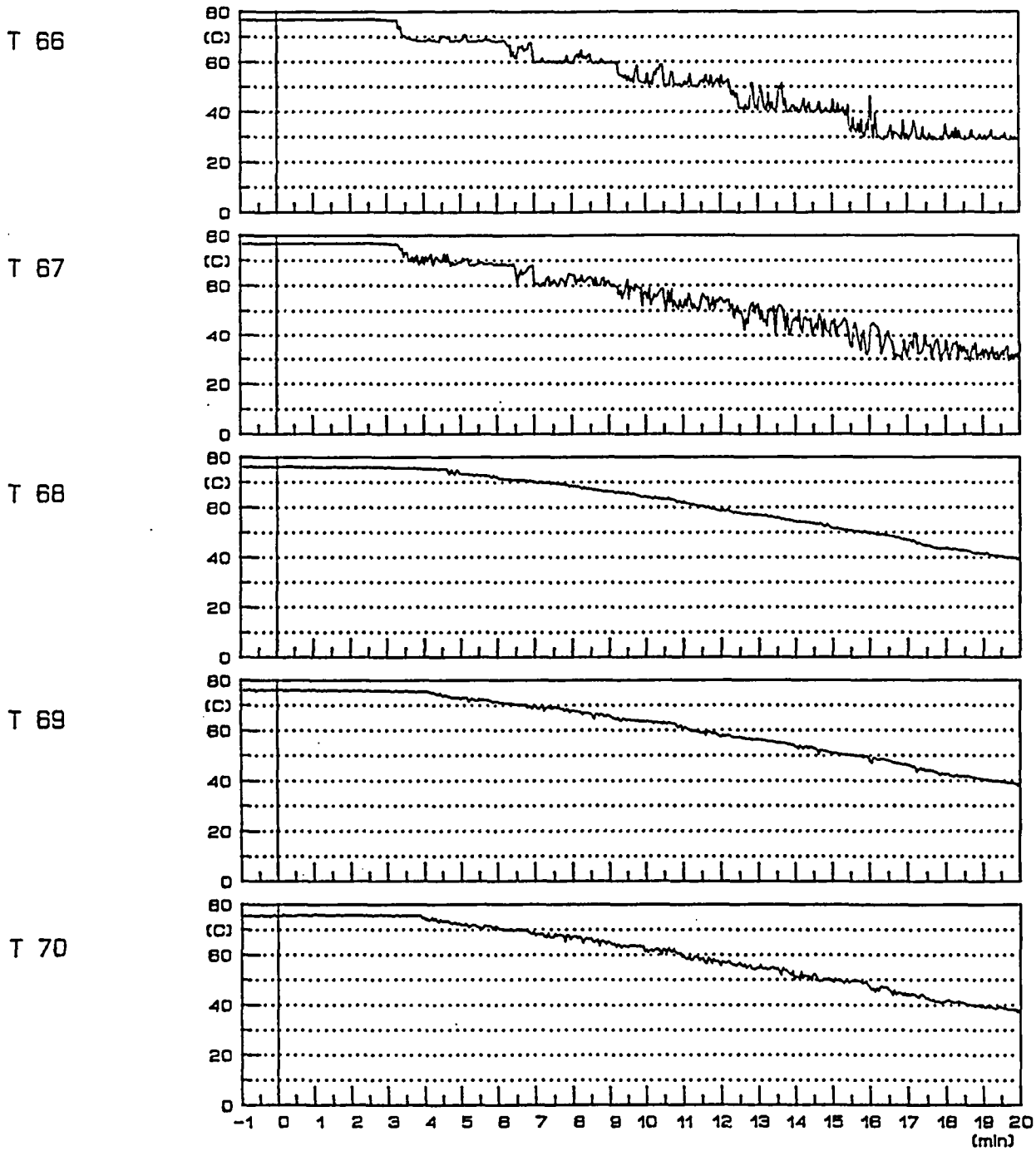
Test :	118	Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
						$Q_{HPI,C}$	=	0.00	dm^3/s
						ρ	=	1168.	kg/m^3



18.10.1985

FLUID AND THERMAL MIXING TESTS

Test :	118	Q_C =	4.2	dm^3/s	$Q_{HPI,A}$ =	.42	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	0.00	dm^3/s
					ρ =	1168.	kg/m^3

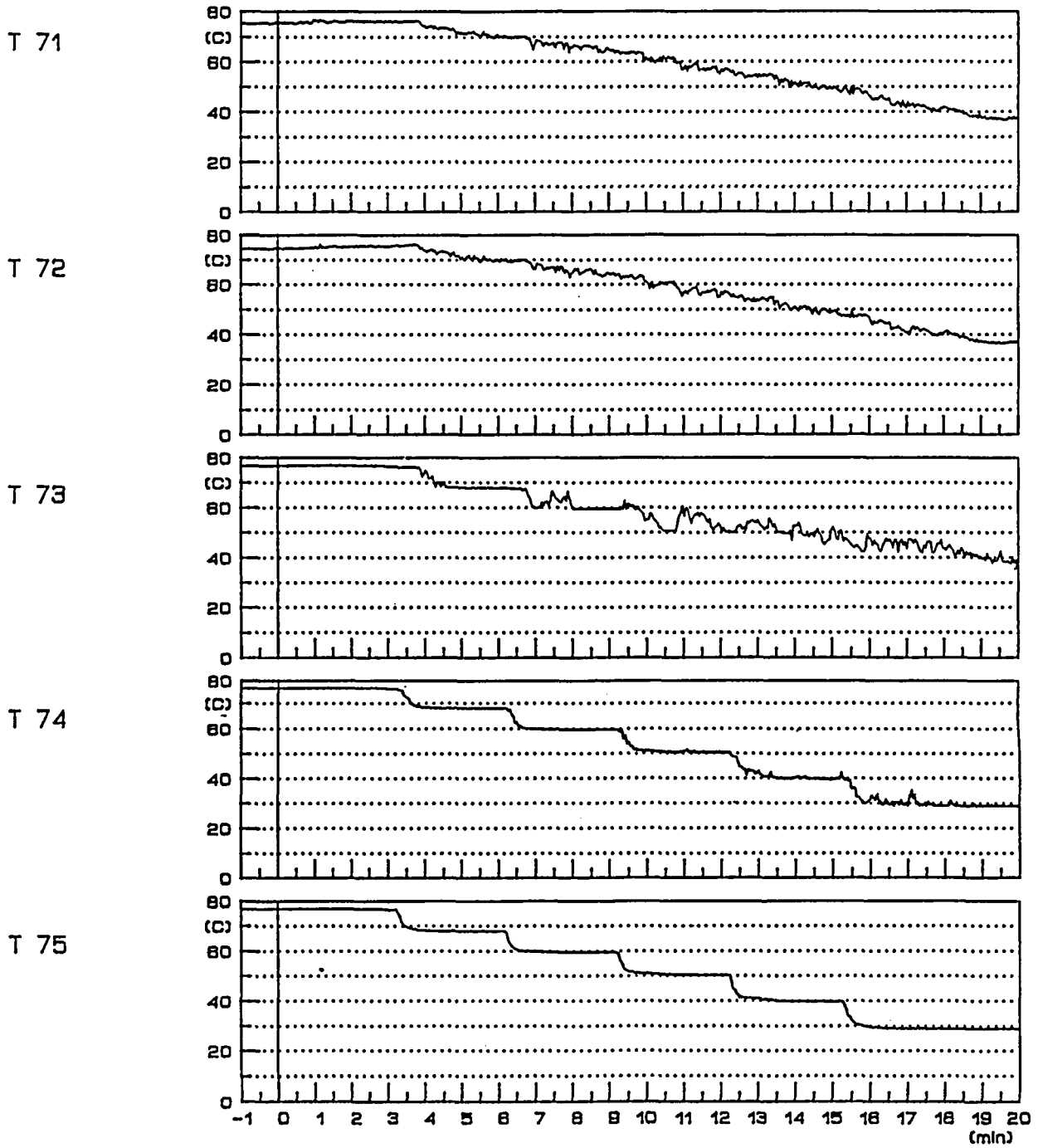


18.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 118

Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1168.	kg/m^3

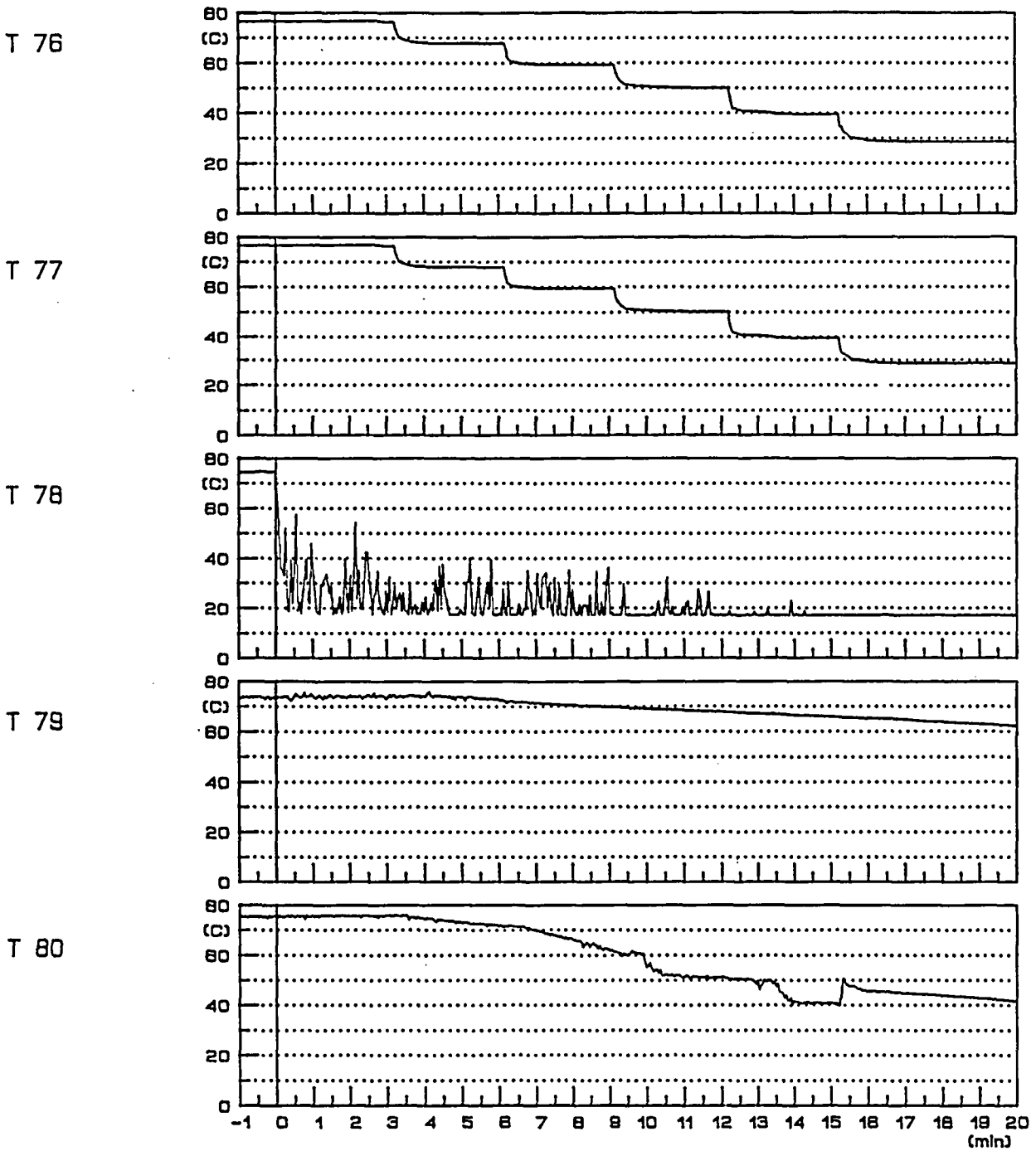


18.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 118

Q_c	=	4.2	dm^3/s	$Q_{HPI,A}$	=	.42	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	0.00	dm^3/s
				ρ	=	1168.	kg/m^3

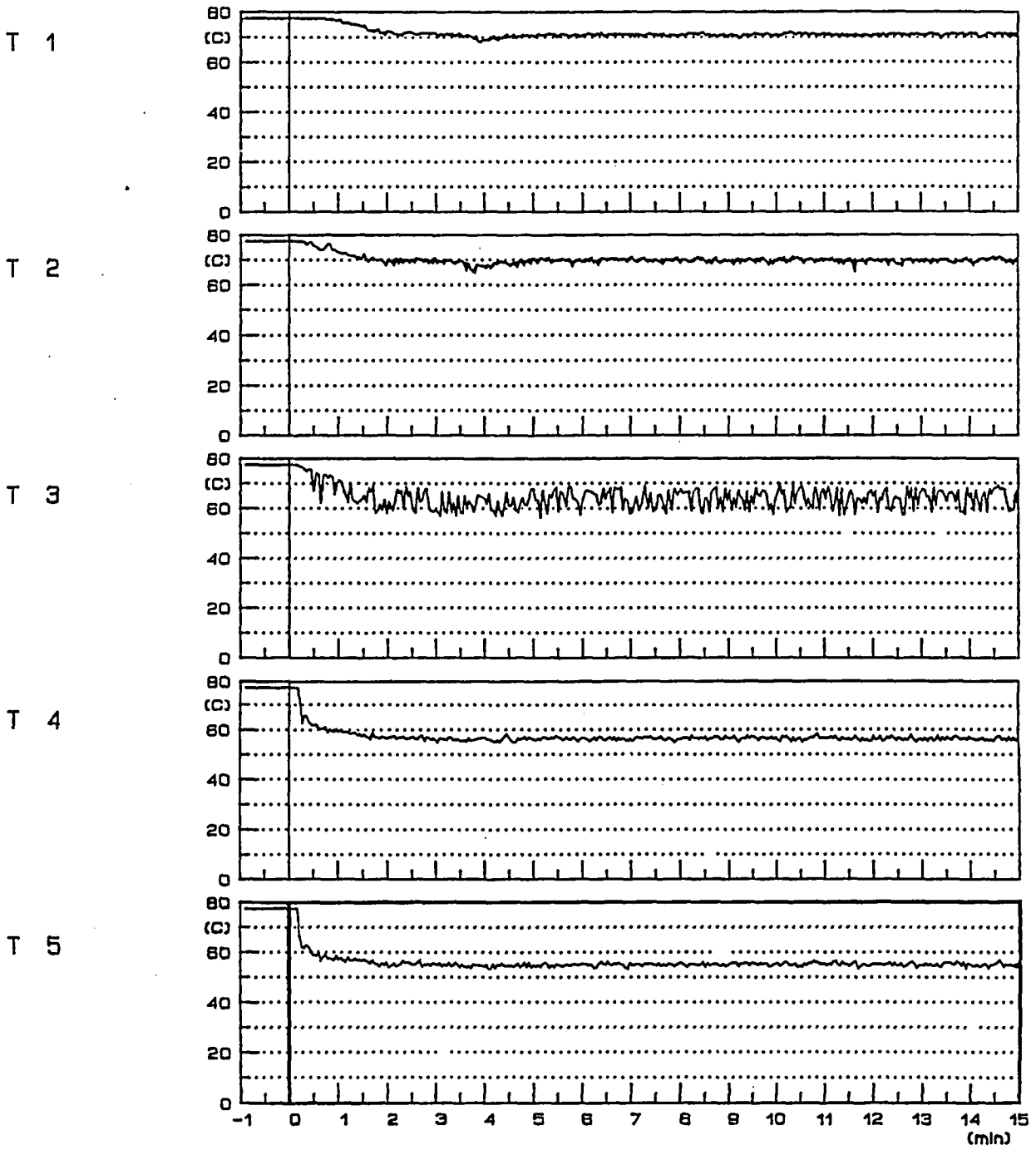


28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3

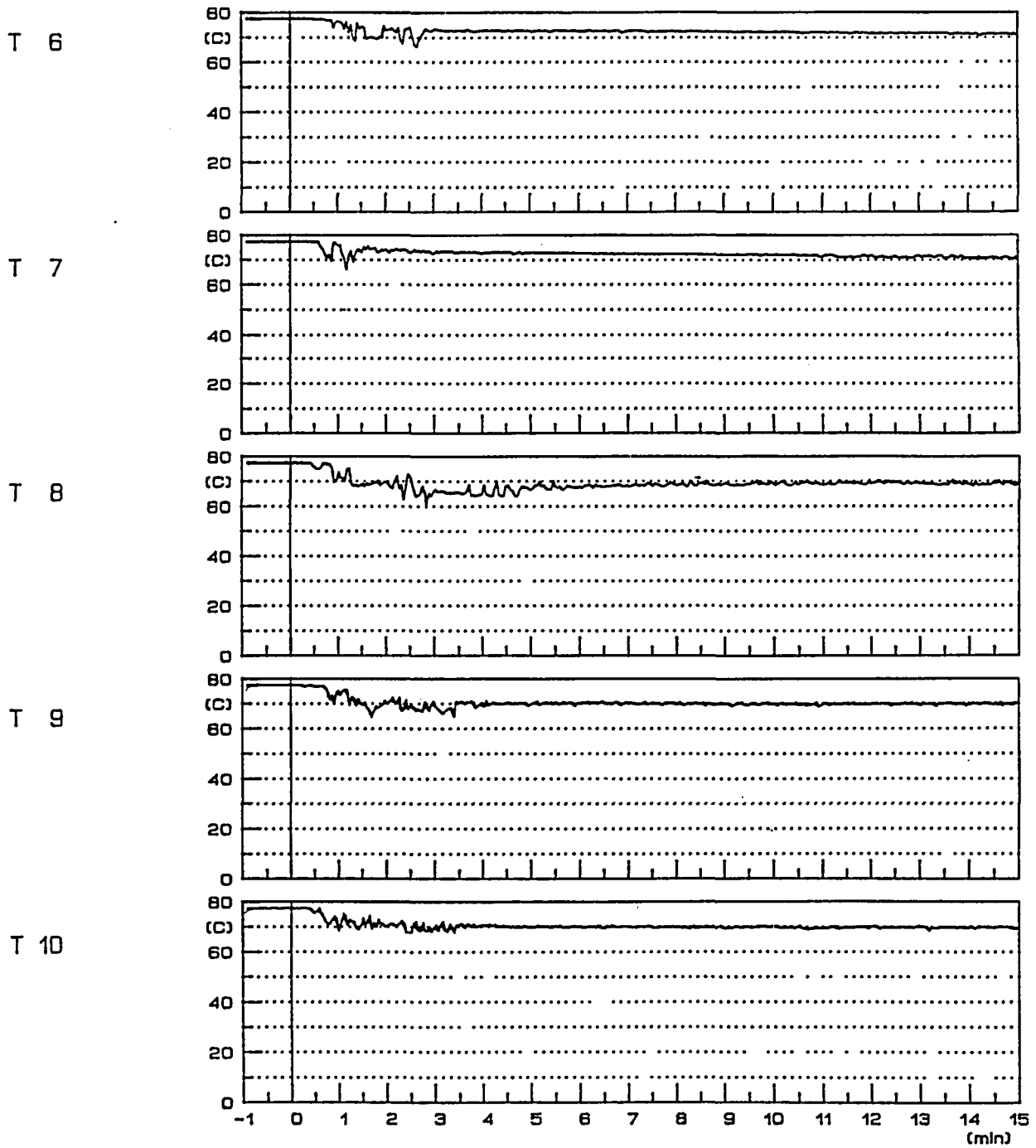


28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3

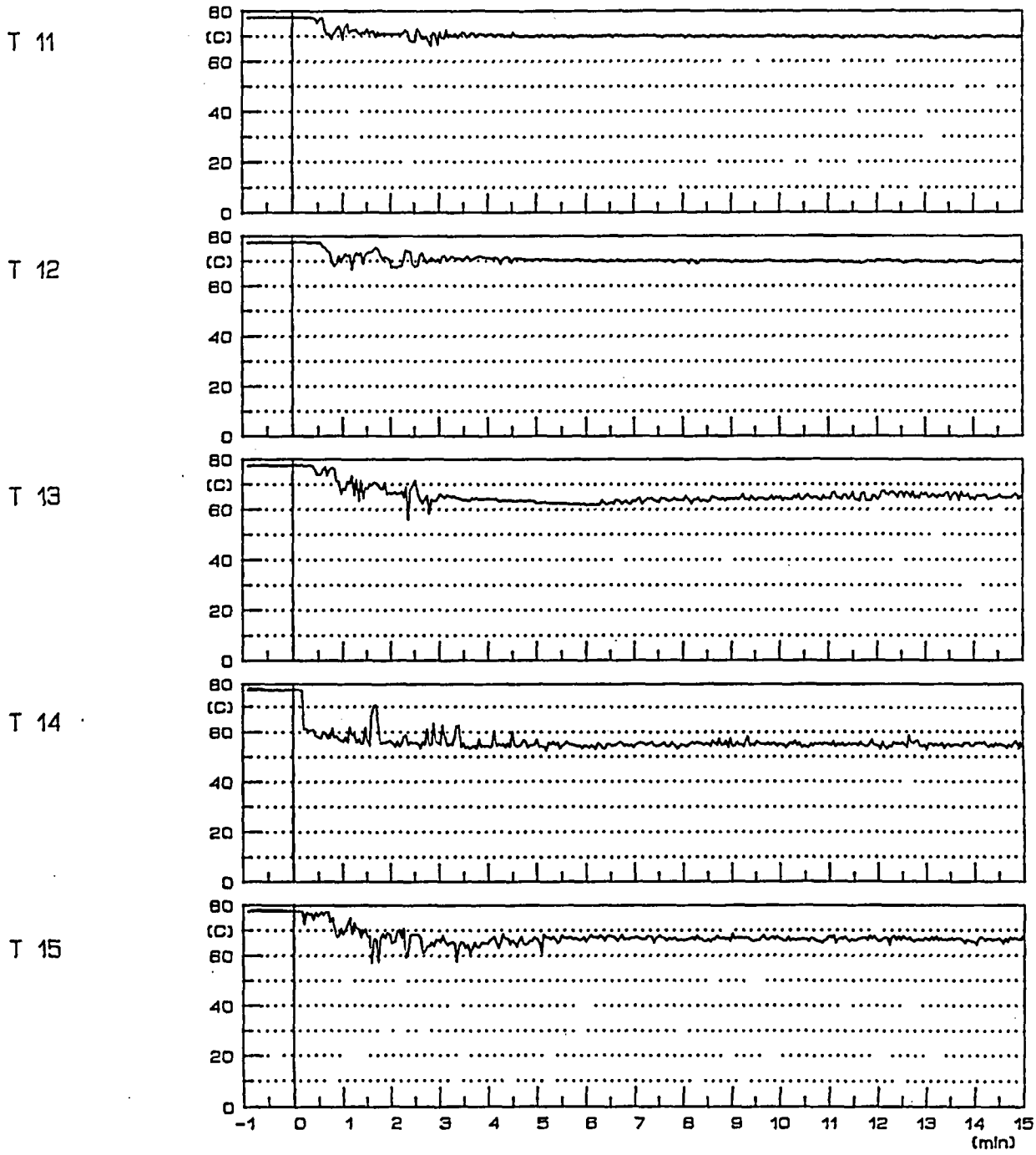


28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

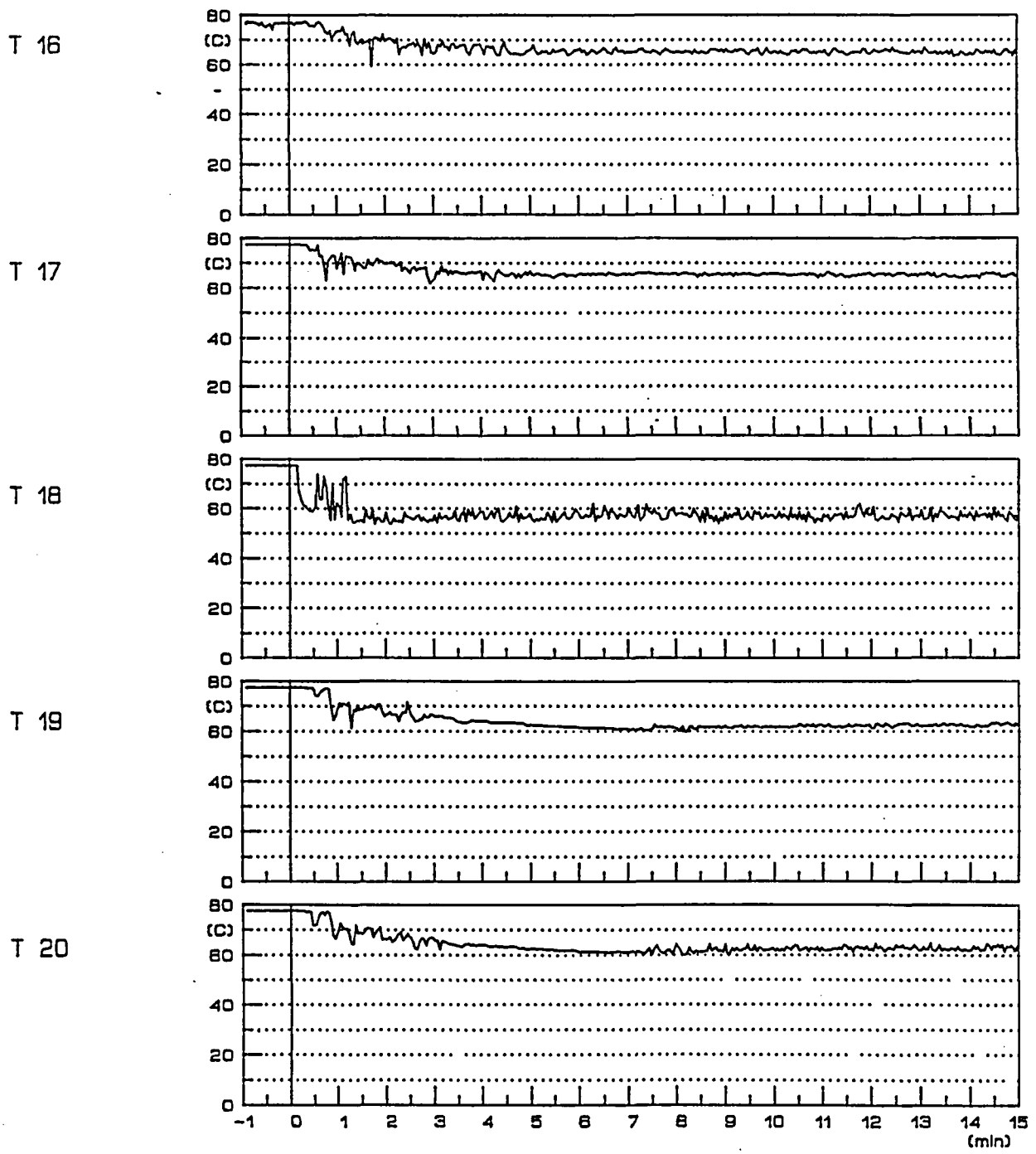
$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3



28.10.1985

FLUID AND THERMAL MIXING TESTS

Test :	119	Q_{AC} =	4.2	dm^3/s	$Q_{HPI,A}$ =	1.04	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	0.00	dm^3/s
					$Q_{HPI,C}$ =	1.04	dm^3/s
					ρ =	1170.	kg/m^3

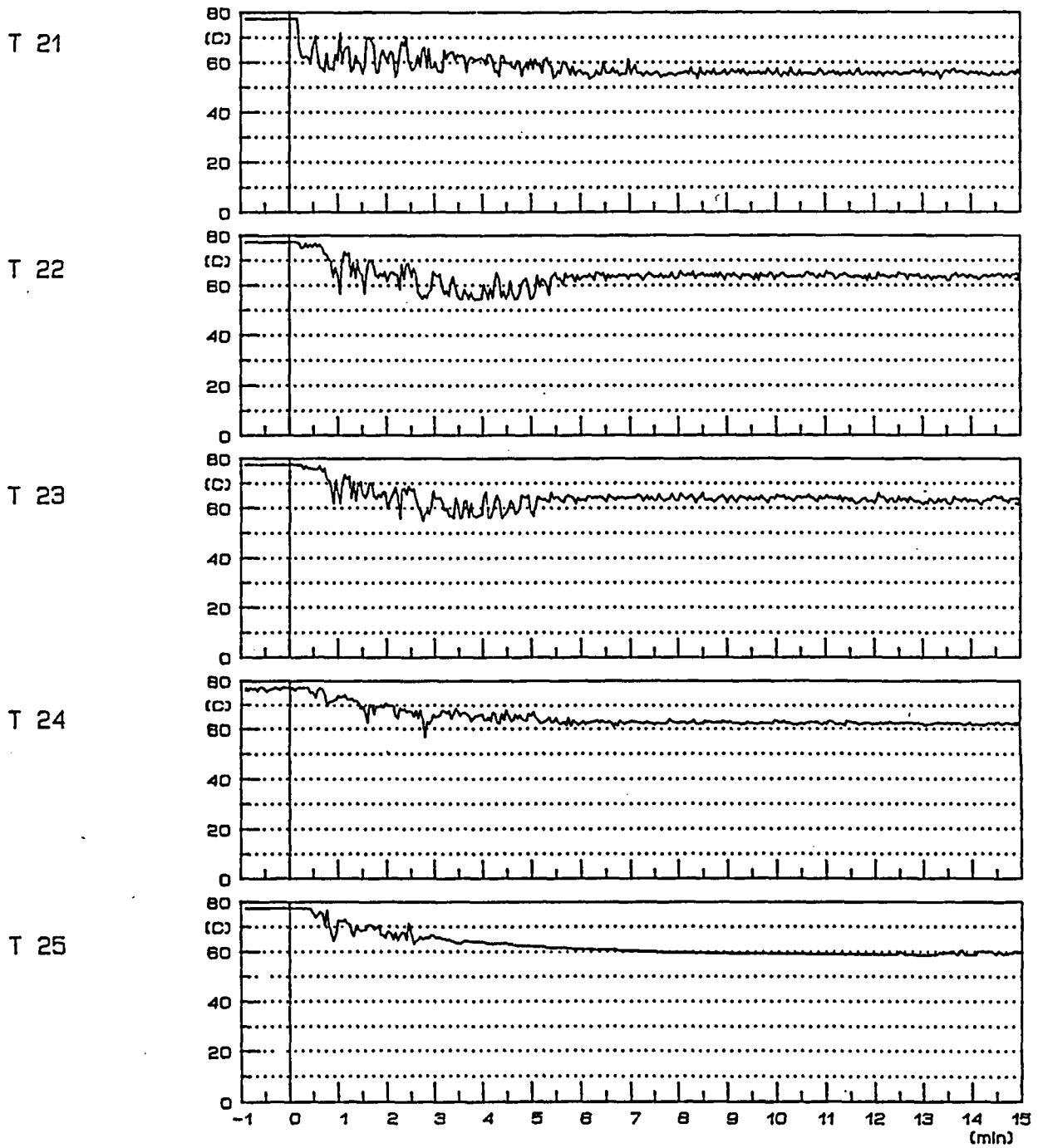


28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

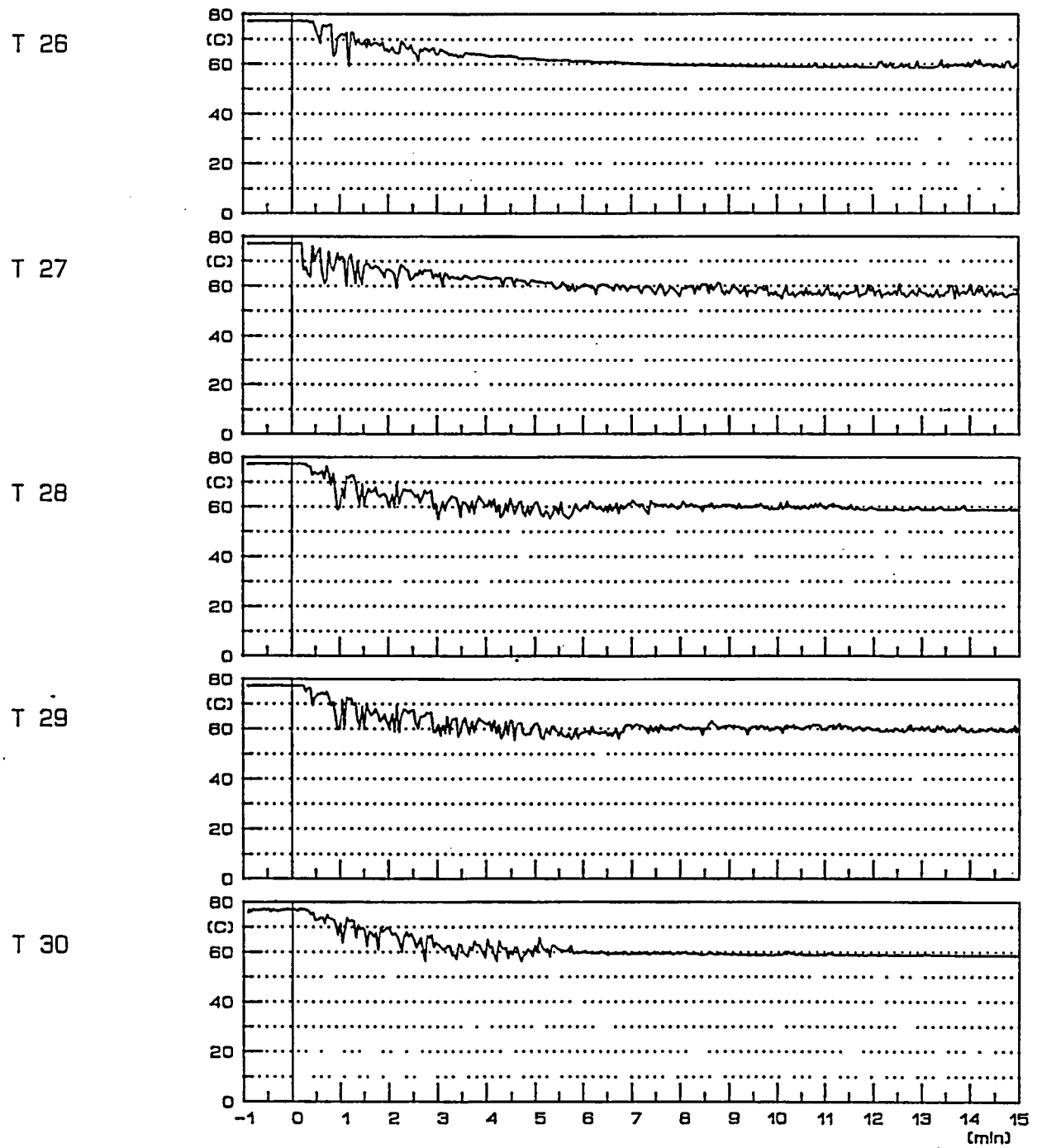
$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3

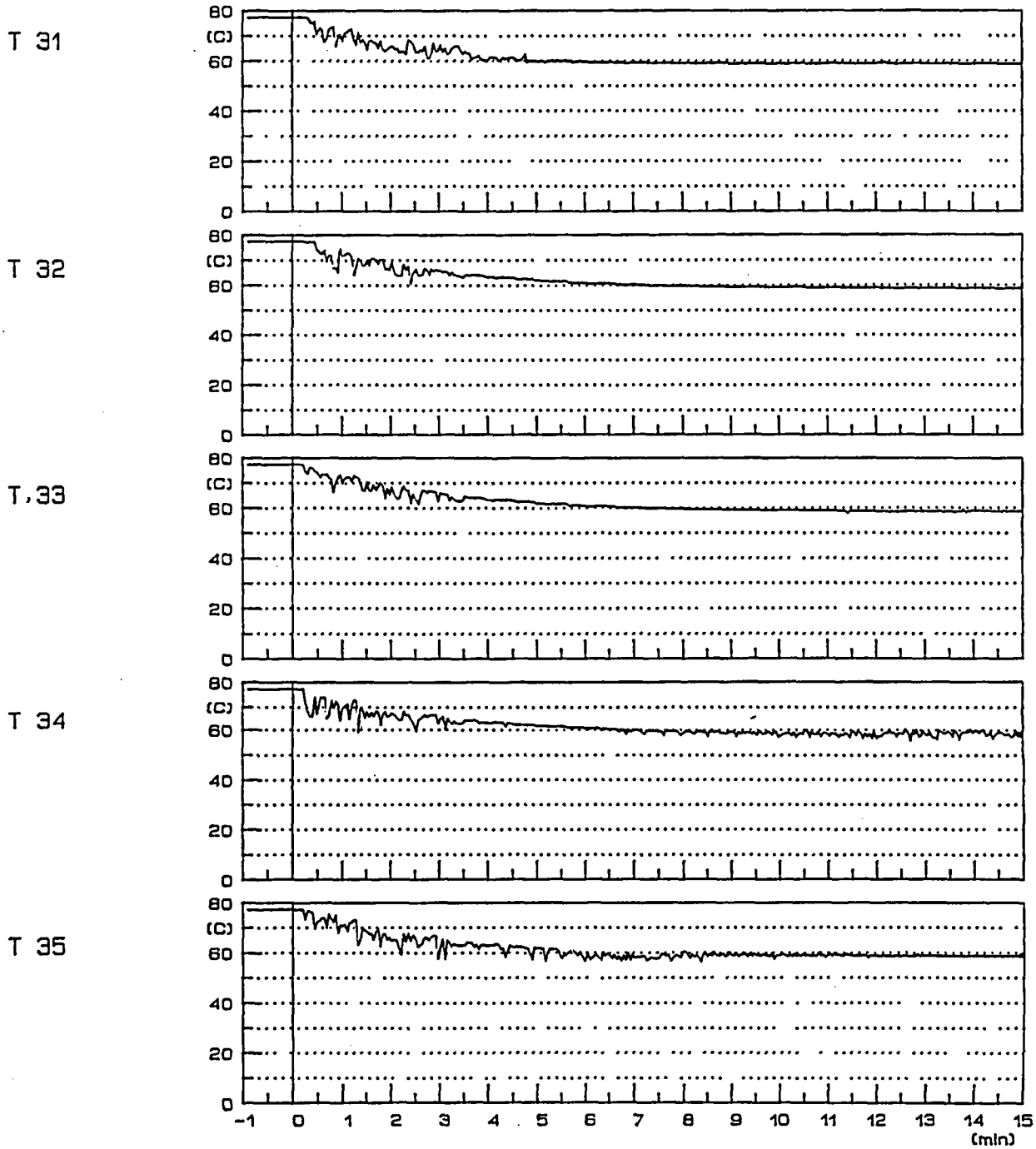


28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

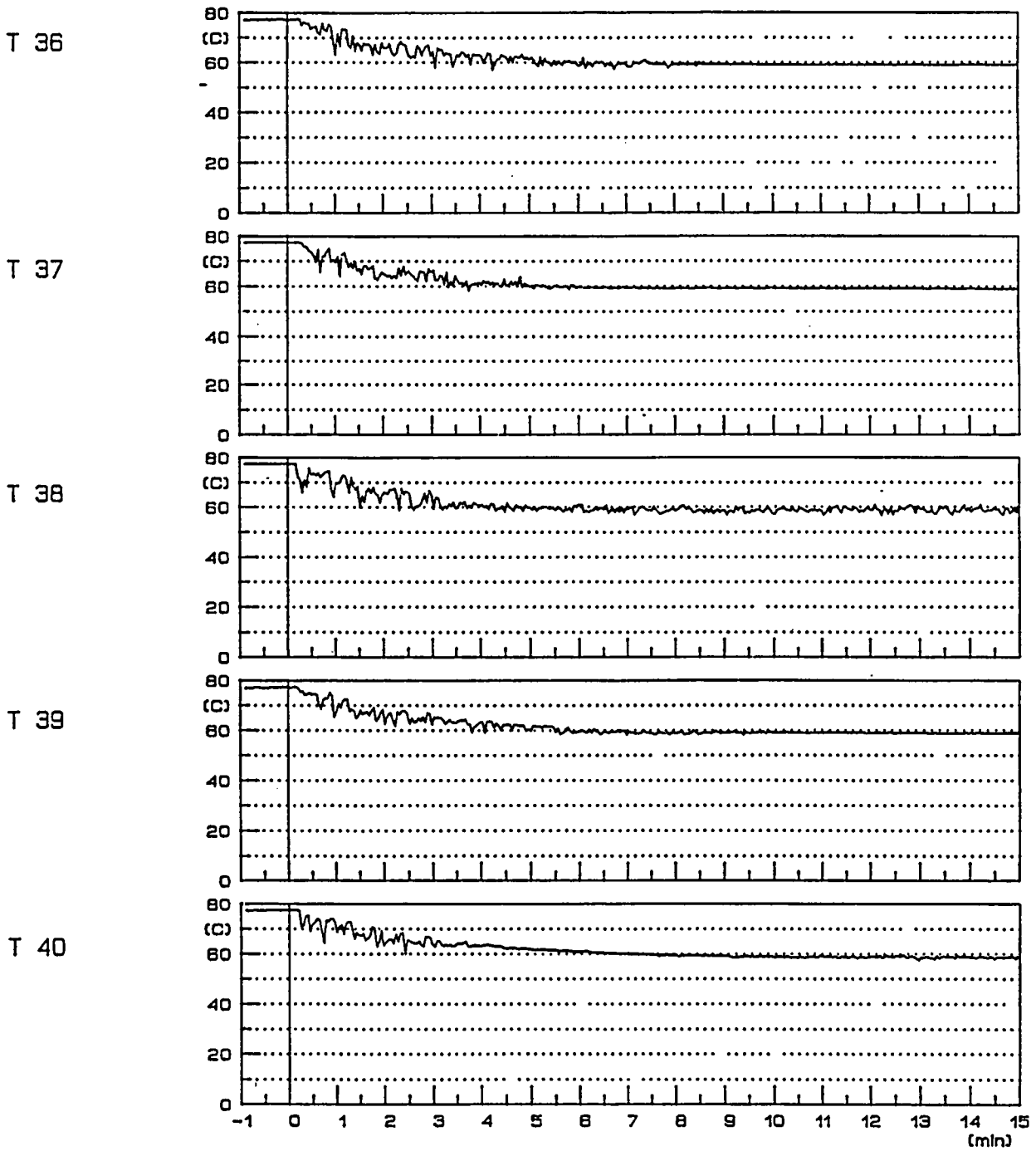
$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3

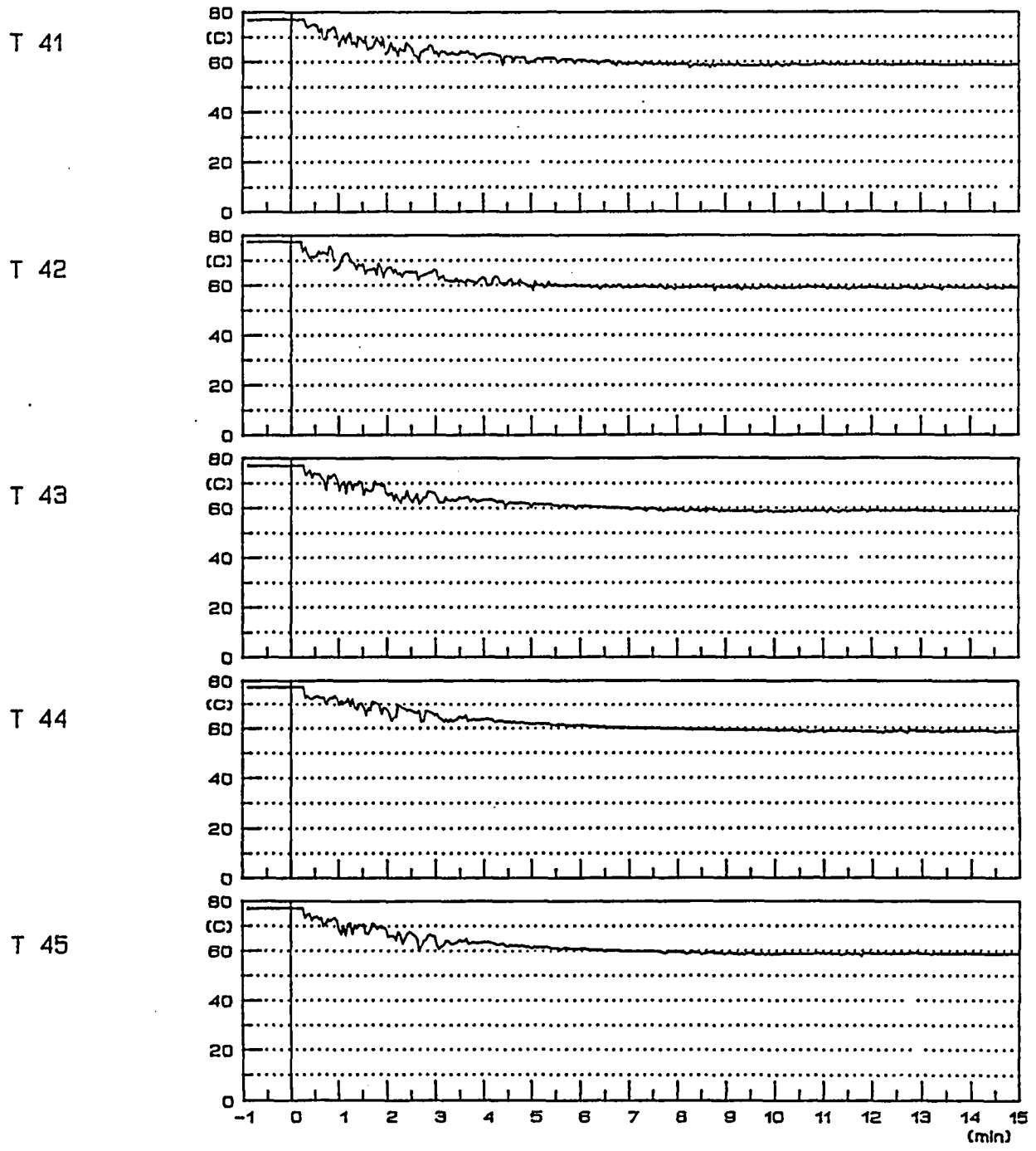


28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

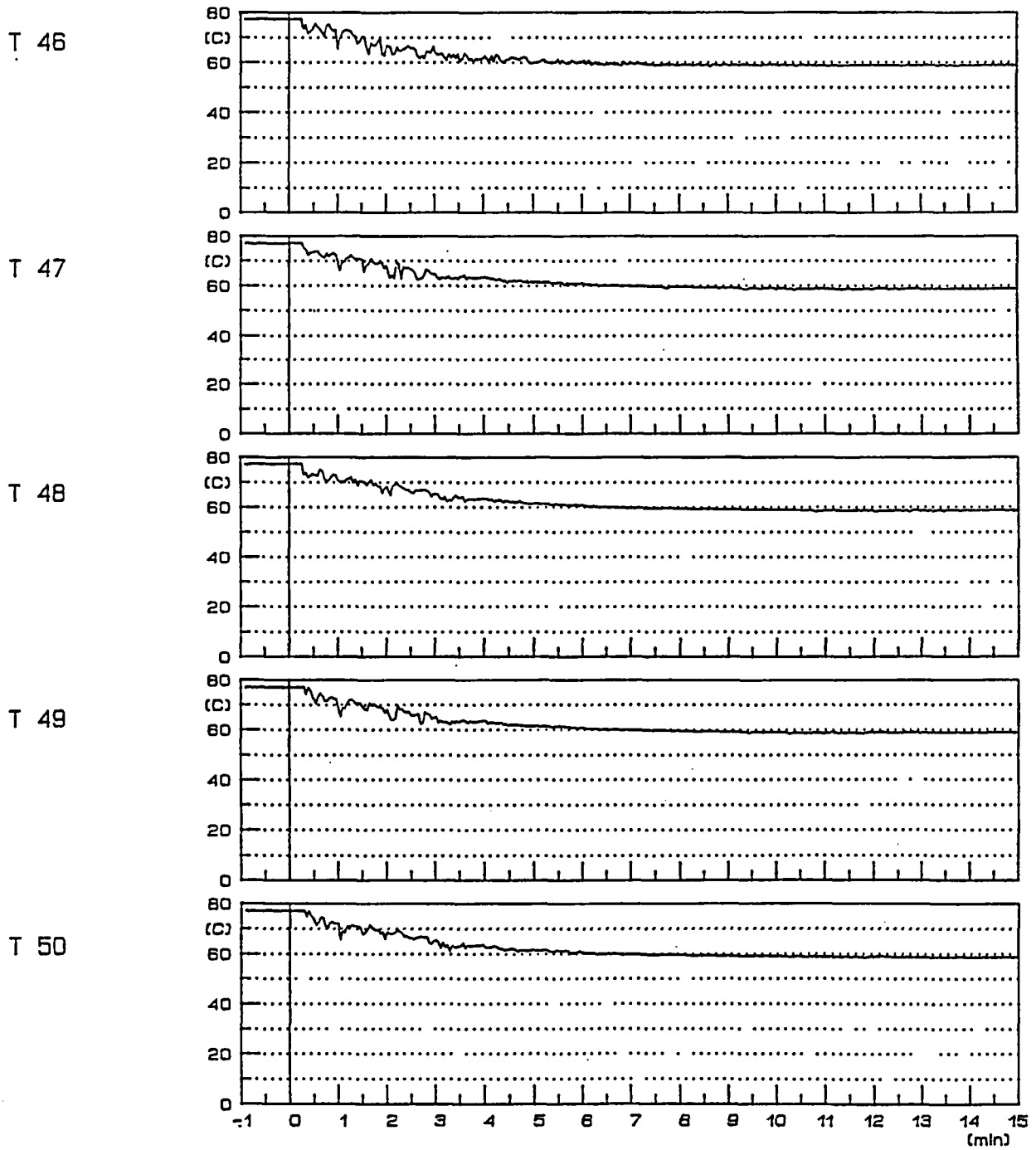
$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3



FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3

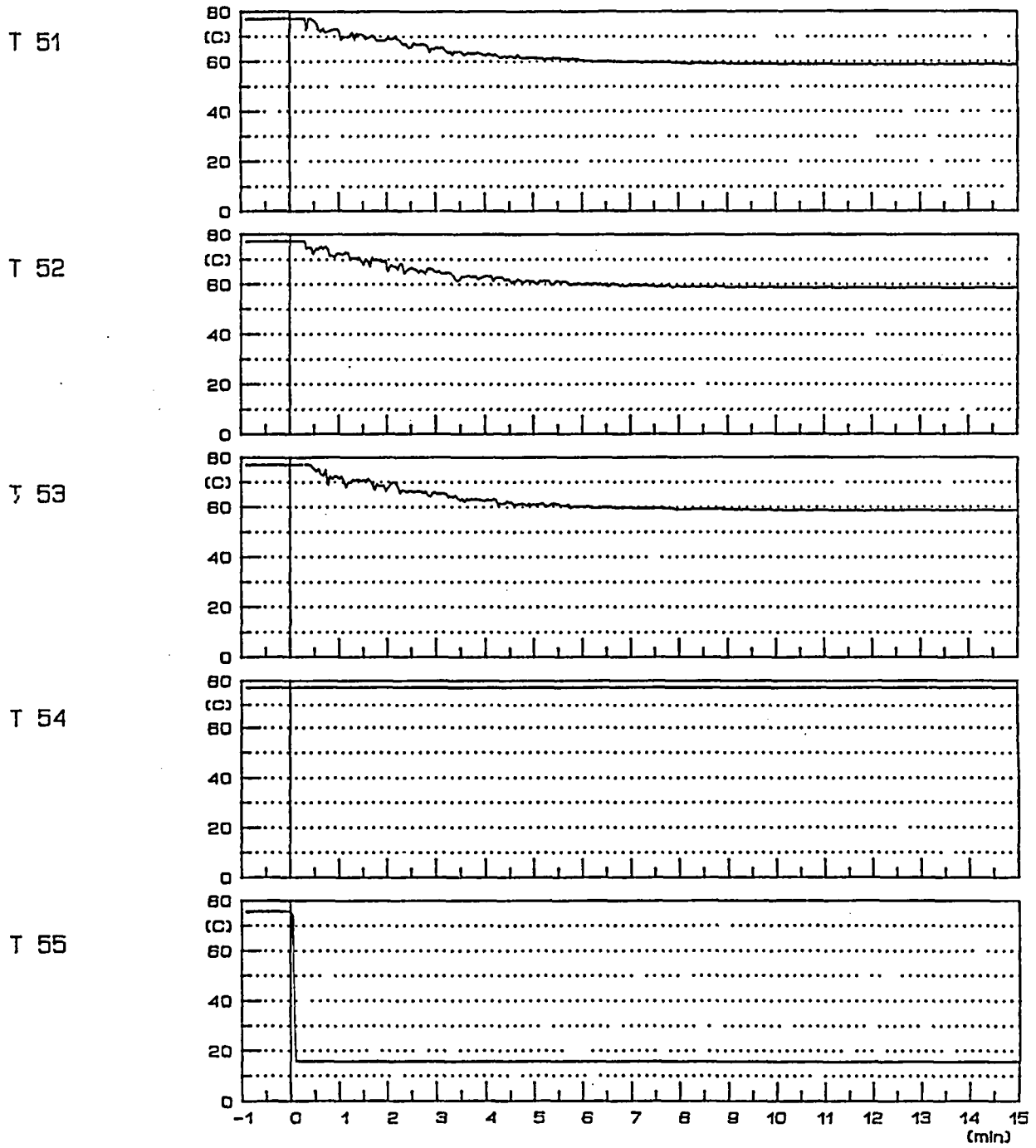


28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

Q_{AC}	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3



28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$ = 4.2 dm^3/s

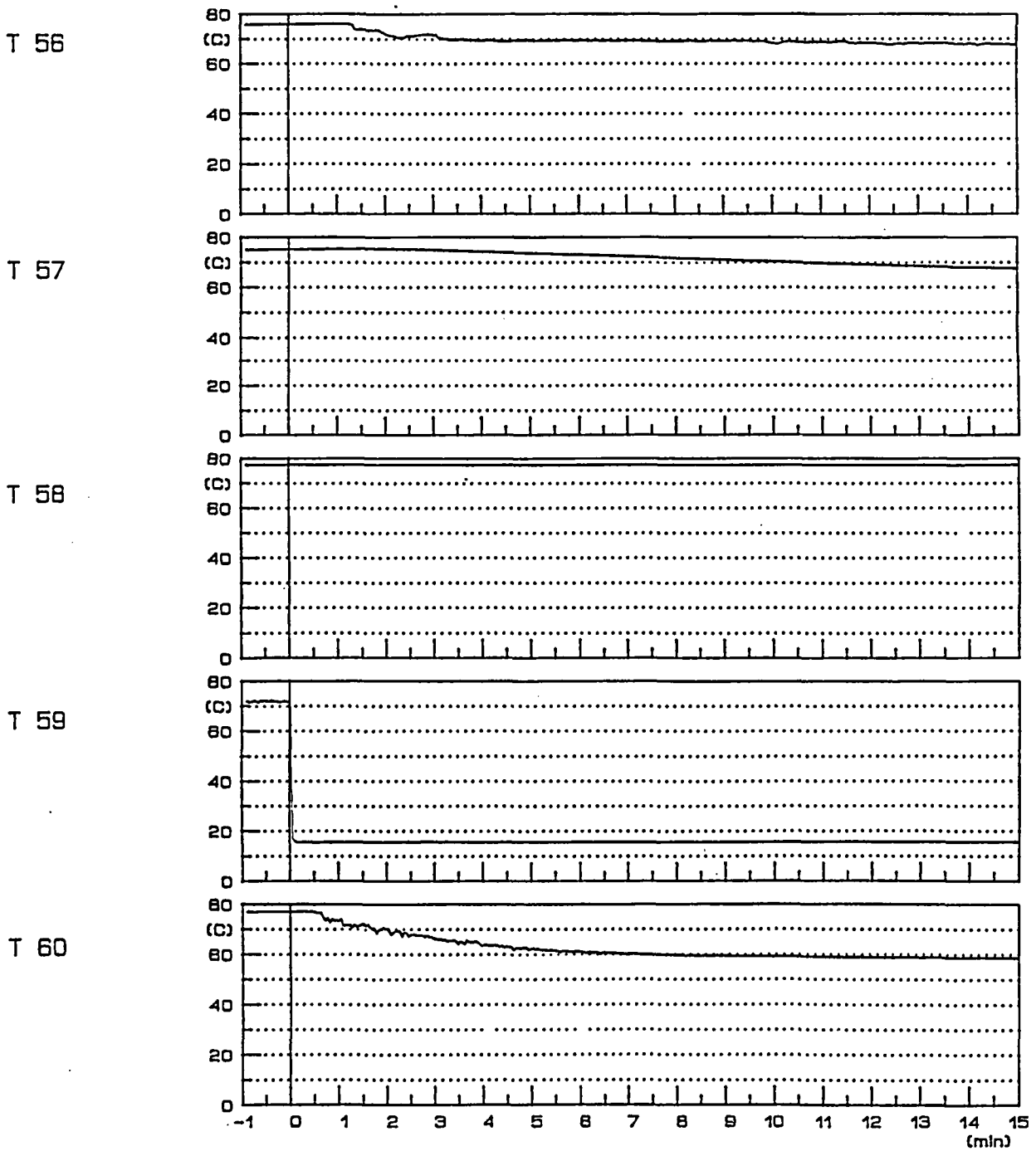
ρ = 978. kg/m^3

$Q_{HPI,A}$ = 1.04 dm^3/s

$Q_{HPI,B}$ = 0.00 dm^3/s

$Q_{HPI,C}$ = 1.04 dm^3/s

ρ = 1170. kg/m^3

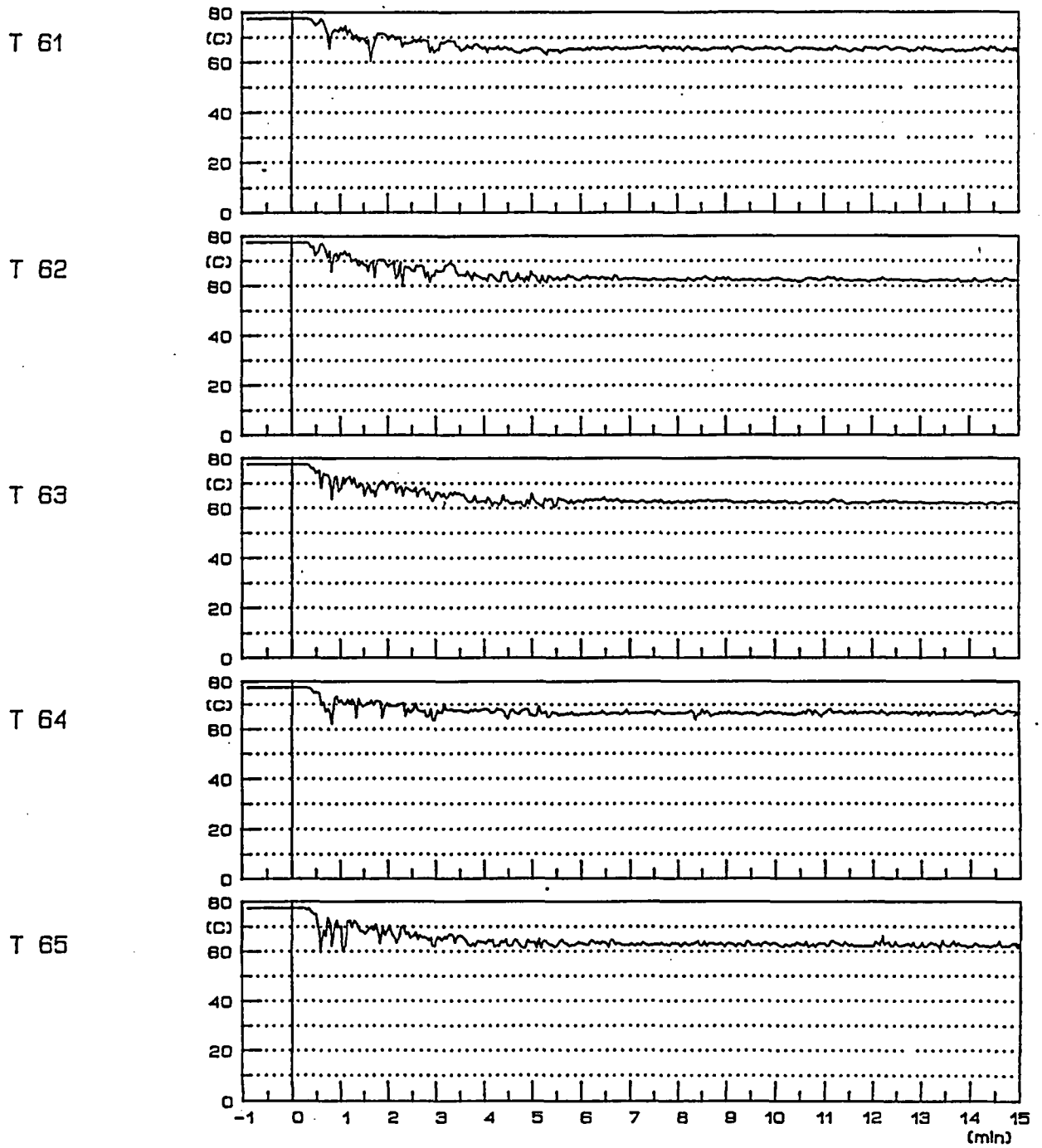


28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3



28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$ = 4.2 dm^3/s

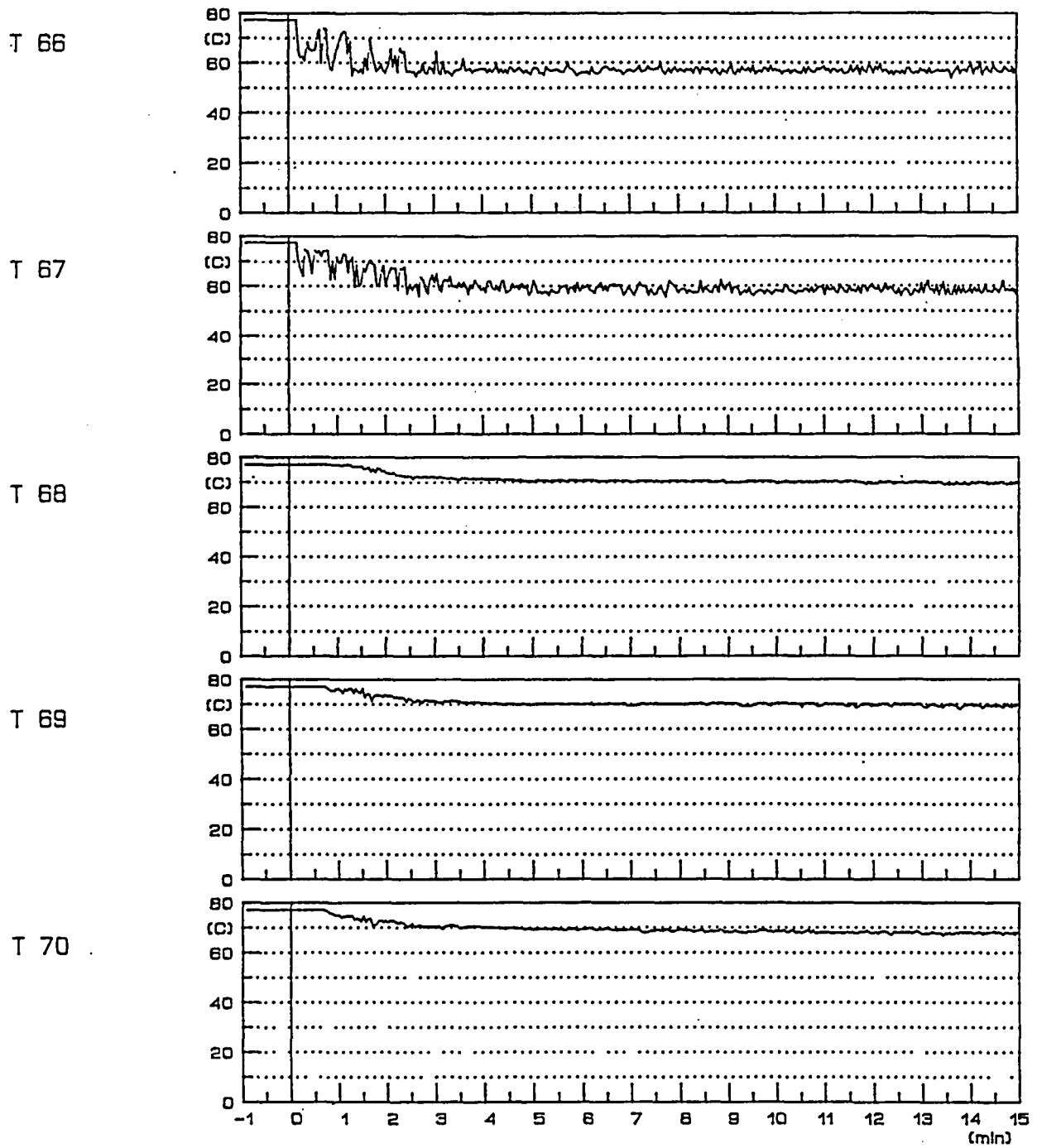
ρ = 978. kg/m^3

$Q_{HPI,A}$ = 1.04 dm^3/s

$Q_{HPI,B}$ = 0.00 dm^3/s

$Q_{HPI,C}$ = 1.04 dm^3/s

ρ = 1170. kg/m^3

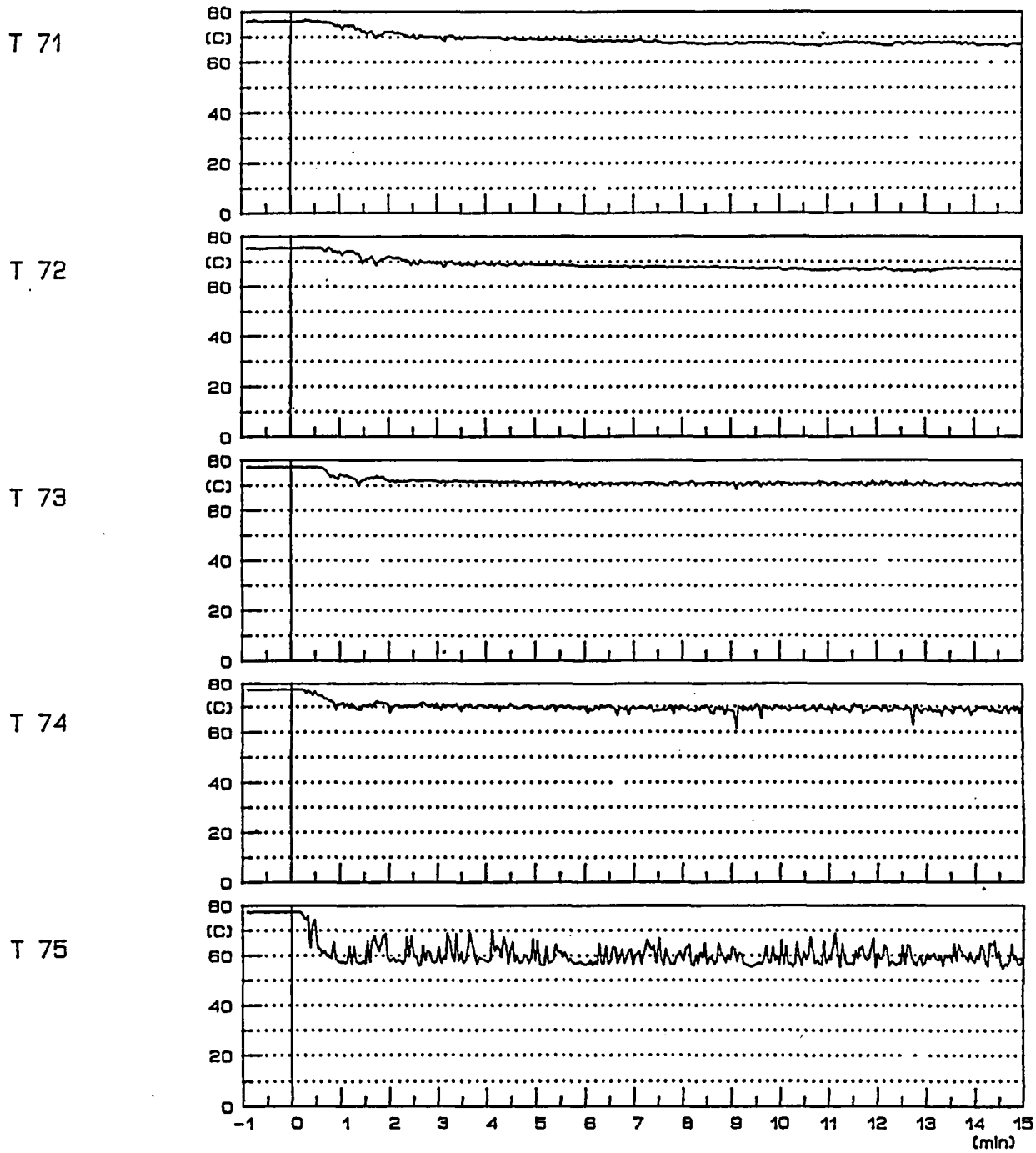


28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$	=	4.2	dm^3/s	$Q_{HPI,A}$	=	1.04	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	0.00	dm^3/s
				$Q_{HPI,C}$	=	1.04	dm^3/s
				ρ	=	1170.	kg/m^3



28.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 119

$Q_{A,C}$ = 4.2 dm^3/s

ρ = 978. kg/m^3

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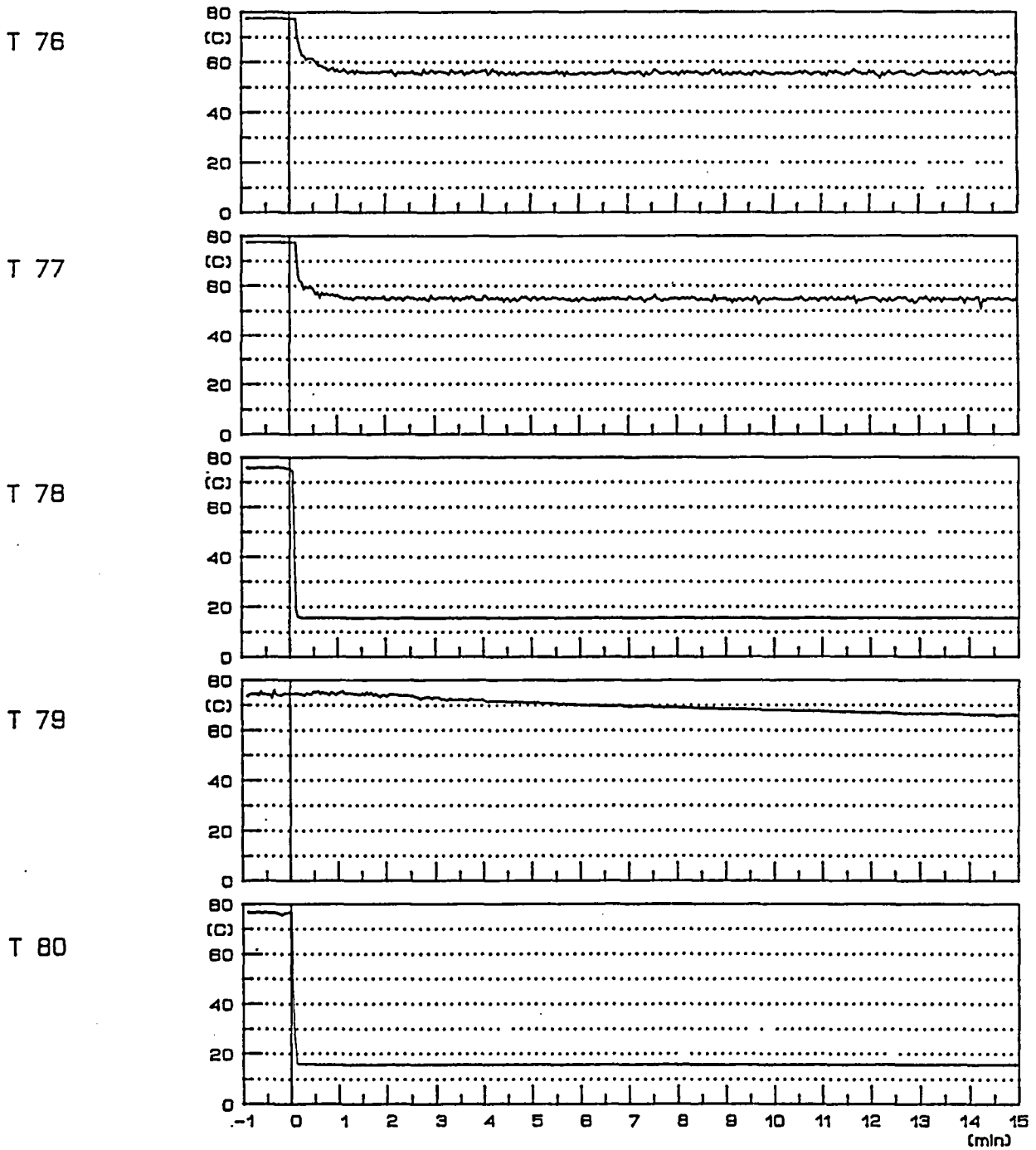
$Q_{HPI,C}$ = 1.04 dm^3/s

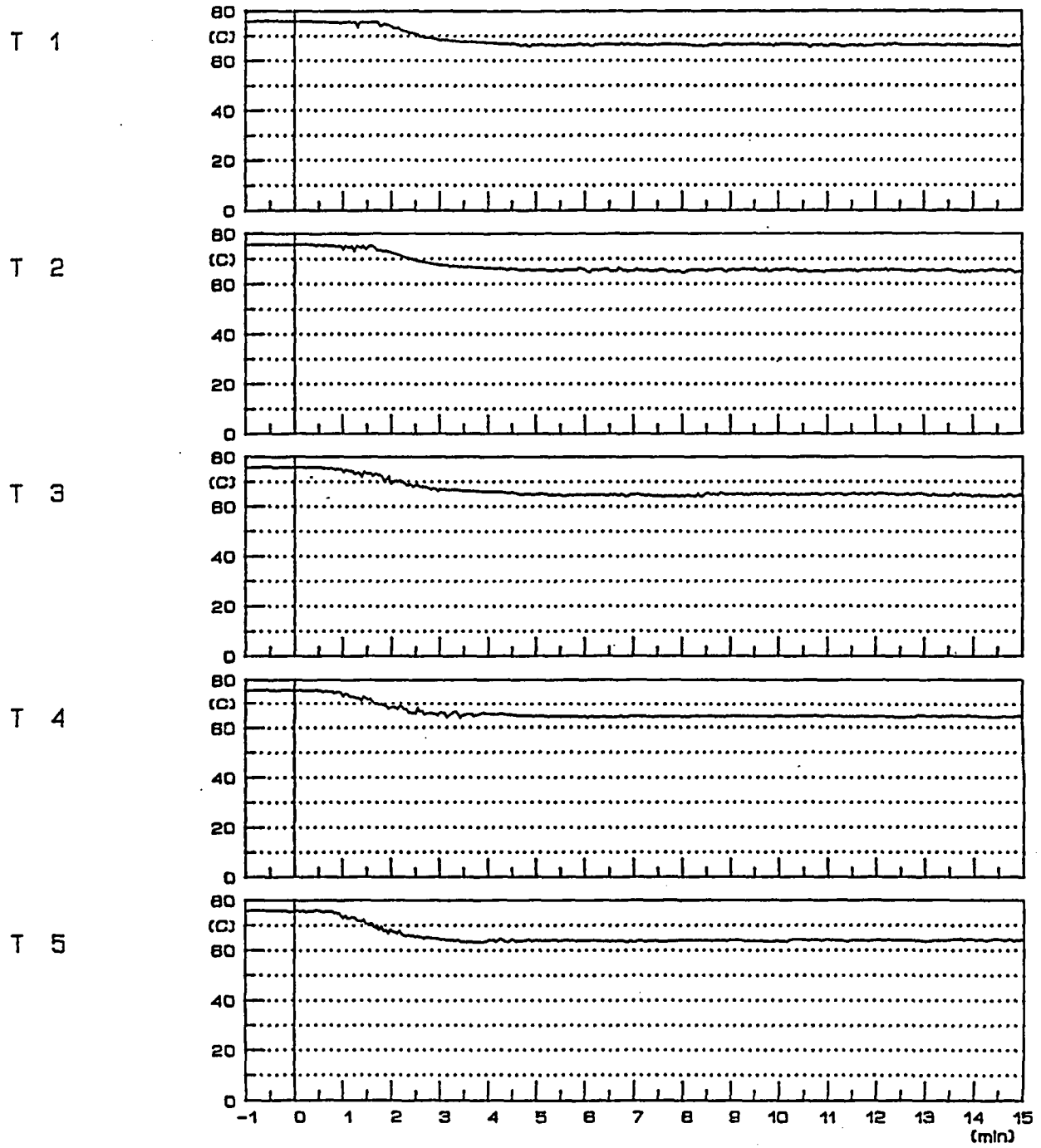
ρ = 1170. kg/m^3



31.10.1985

FLUID AND THERMAL MIXING TESTS

Test :	120	$Q_{B,C}$ =	5.9	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
		ρ =	978.	kg/m^3	$Q_{HPI,B}$ =	1.48	dm^3/s
					$Q_{HPI,C}$ =	1.48	dm^3/s
					ρ =	1168.	kg/m^3



31.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 120

$Q_{B,C}$ = 5.9 dm^3/s

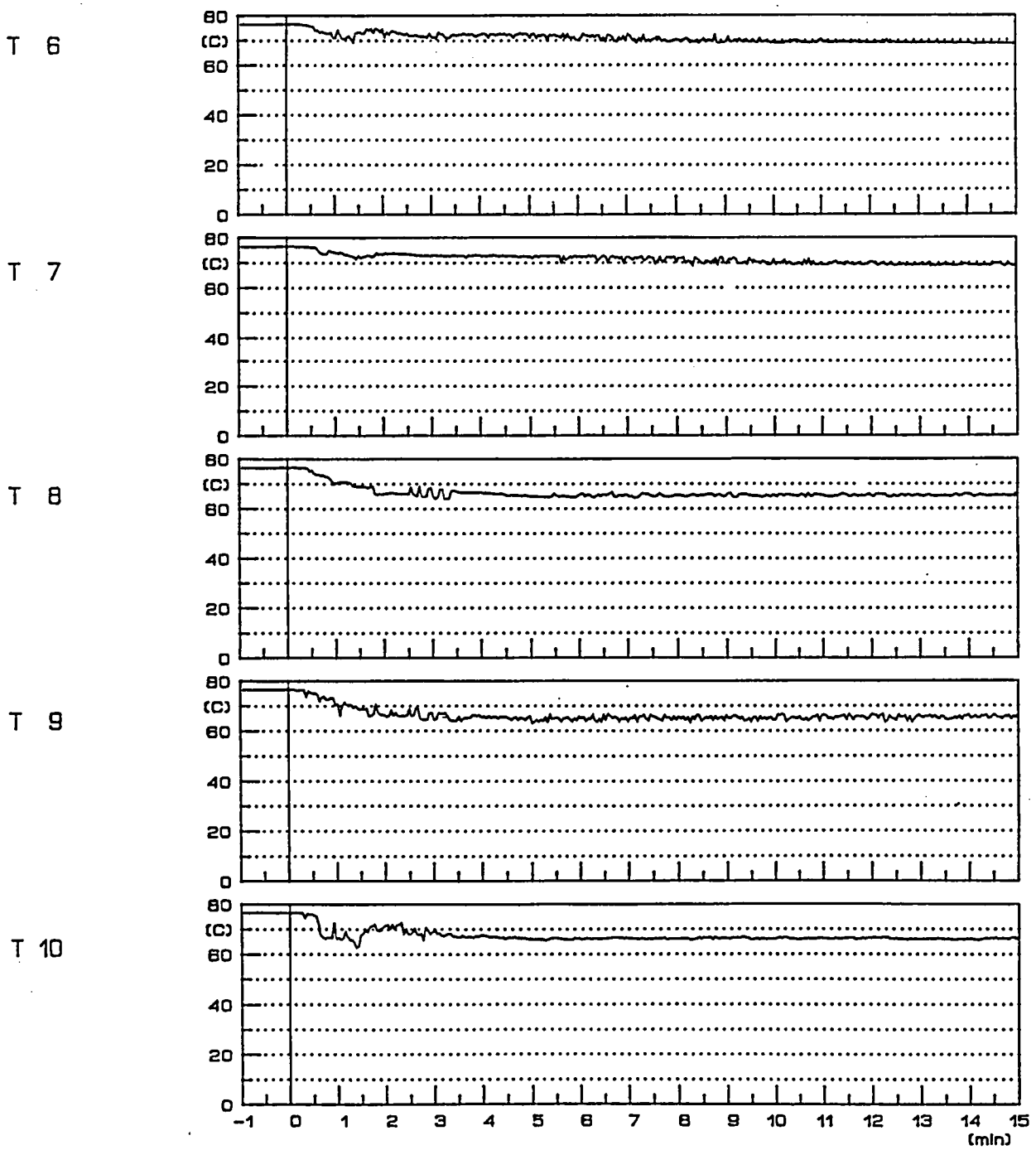
ρ = 978. kg/m^3

$Q_{HPI,A}$ = 0.00 dm^3/s

$Q_{HPI,B}$ = 1.48 dm^3/s

$Q_{HPI,C}$ = 1.48 dm^3/s

ρ = 1168. kg/m^3

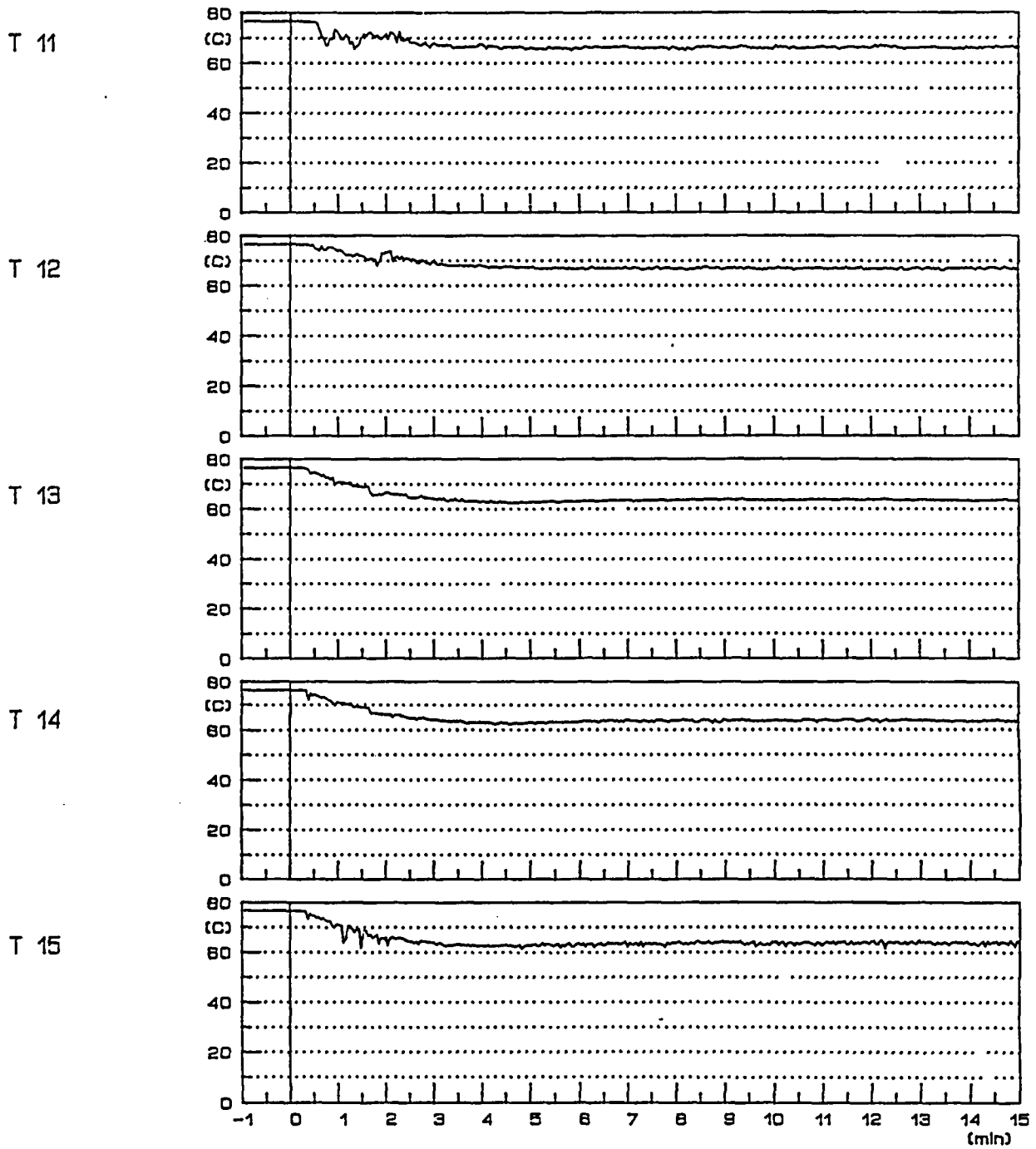


31.10.1985

FLUID AND THERMAL MIXING TESTS

Test : 120

$Q_{B,C}$	=	5.9	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



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$Q_{B,C}$ = 5.9 dm^3/s

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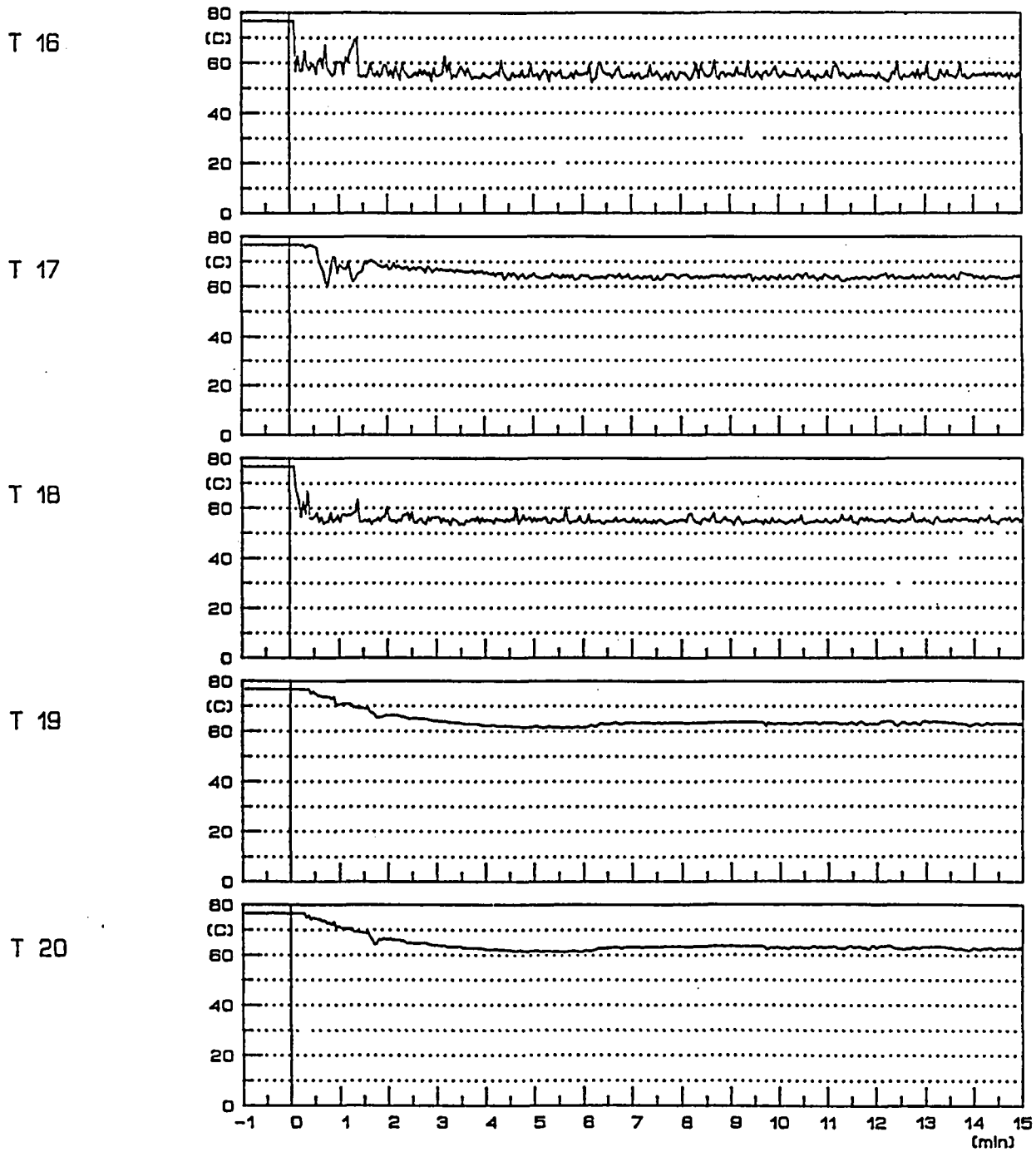
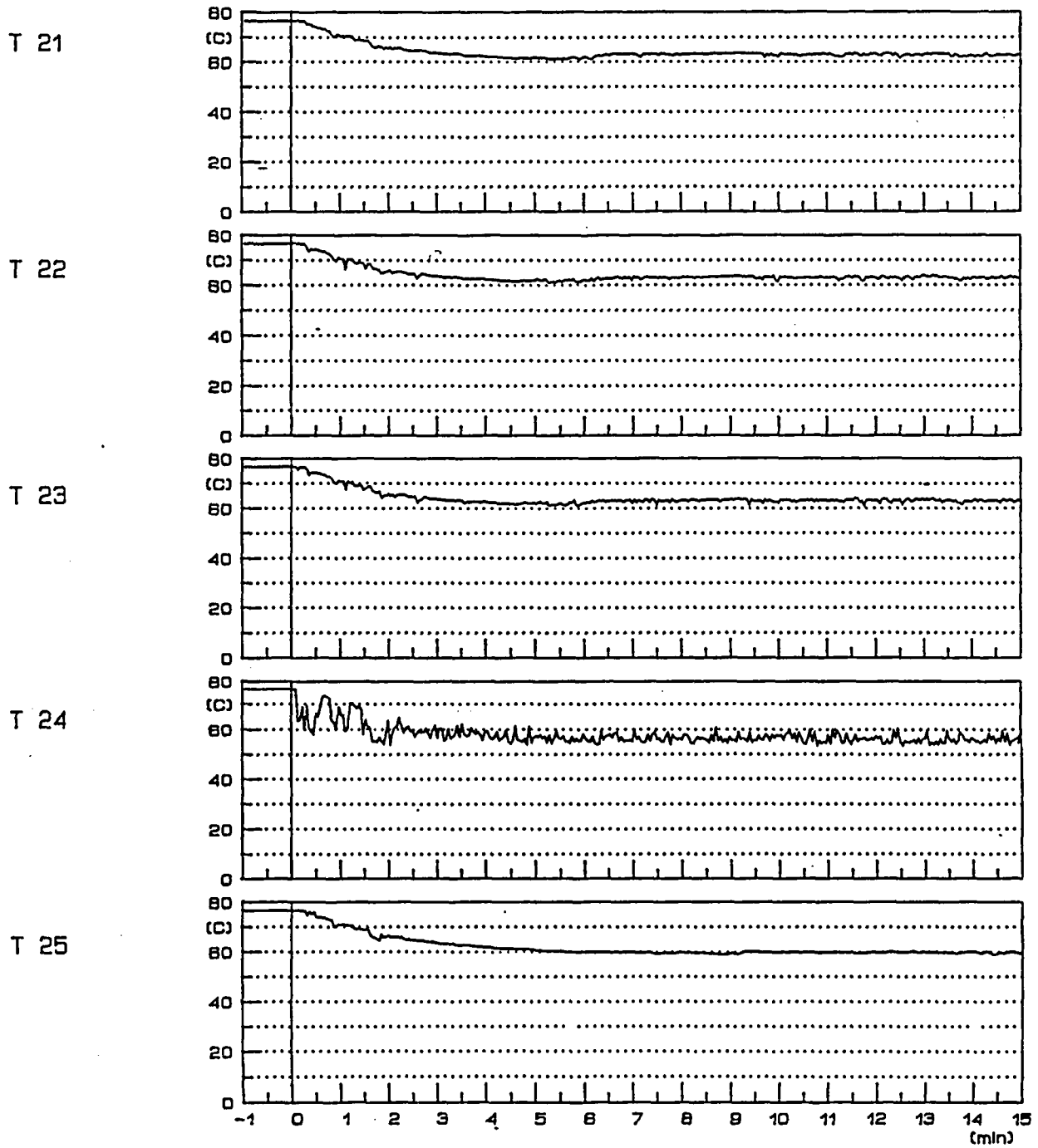
ρ = 1168. kg/m^3



31.10.1985

FLUID AND THERMAL MIXING TESTS

Test :	120	$Q_{B,C}$	=	5.9	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
		ρ	=	978.	kg/m^3	$Q_{HPI,B}$	=	1.48	dm^3/s
						$Q_{HPI,C}$	=	1.48	dm^3/s
						$\bar{\rho}$	=	1168.	kg/m^3



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FLUID AND THERMAL MIXING TESTS

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$Q_{B,C}$ = 5.9 dm^3/s

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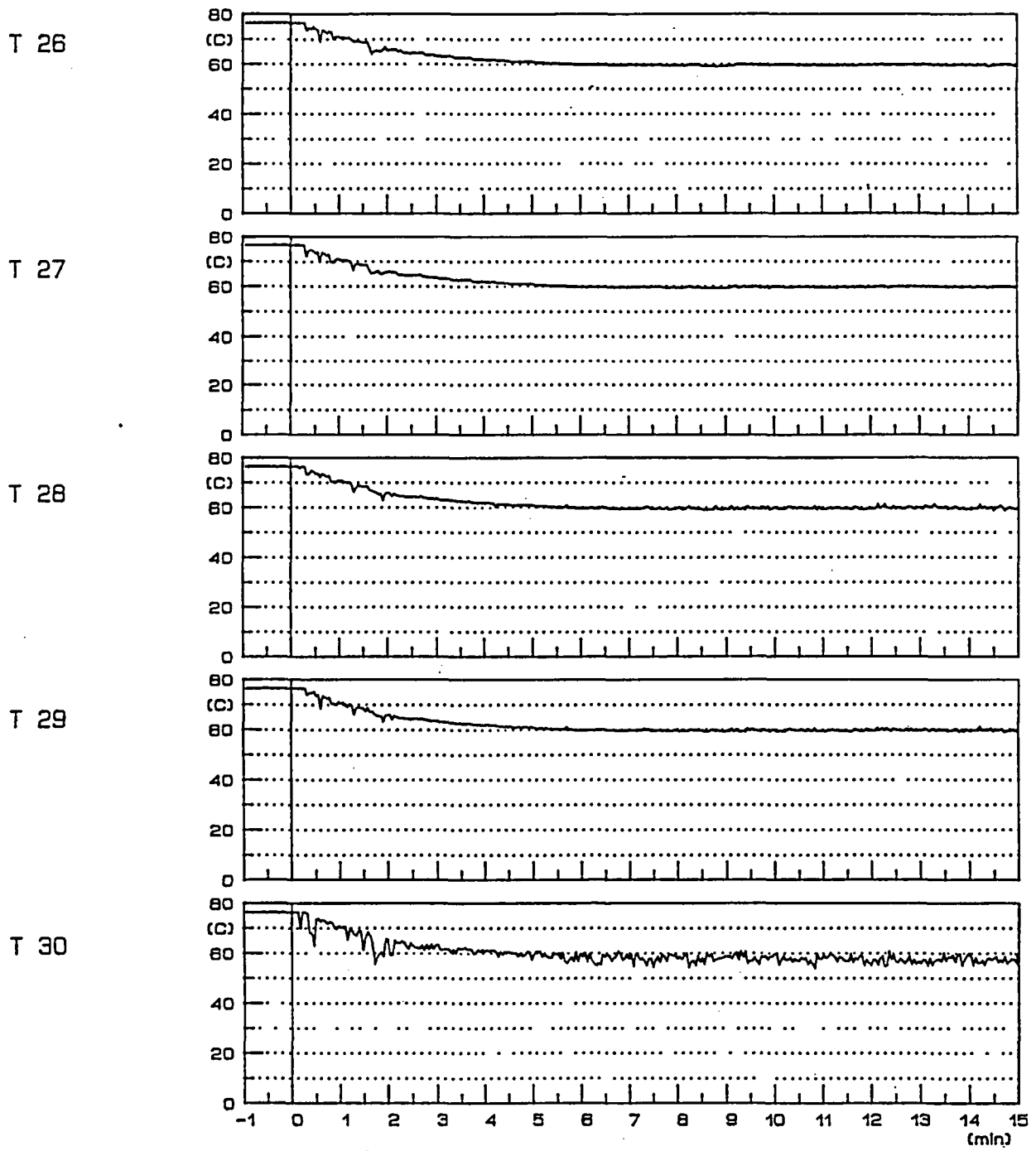

31.10.1985

FLUID AND THERMAL MIXING TESTS

Test :	120	$Q_{B,C}$ =	5.9	dm^3/s	$Q_{HPI,A}$ =	0.00	dm^3/s
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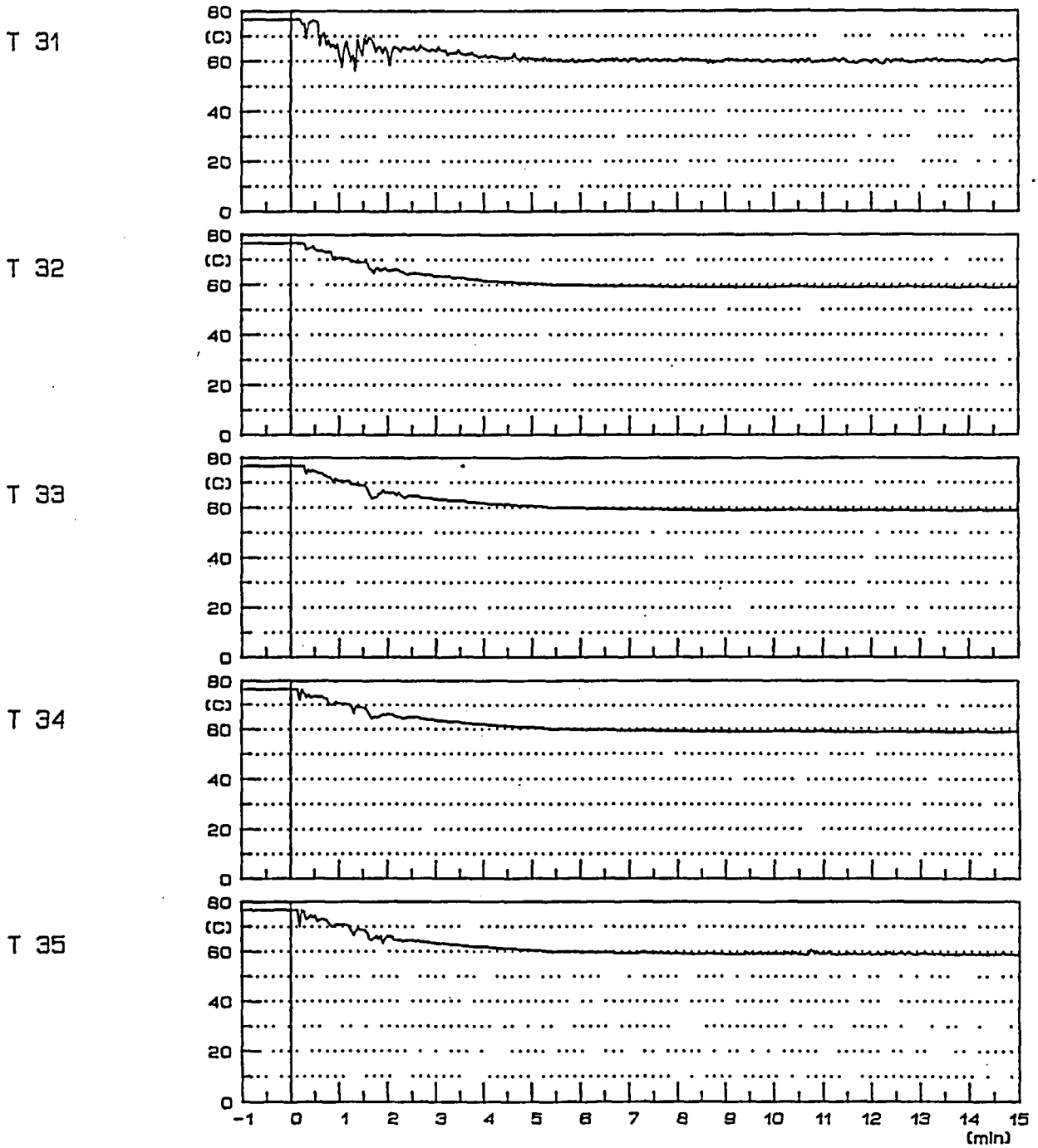

FLUID AND THERMAL MIXING TESTS

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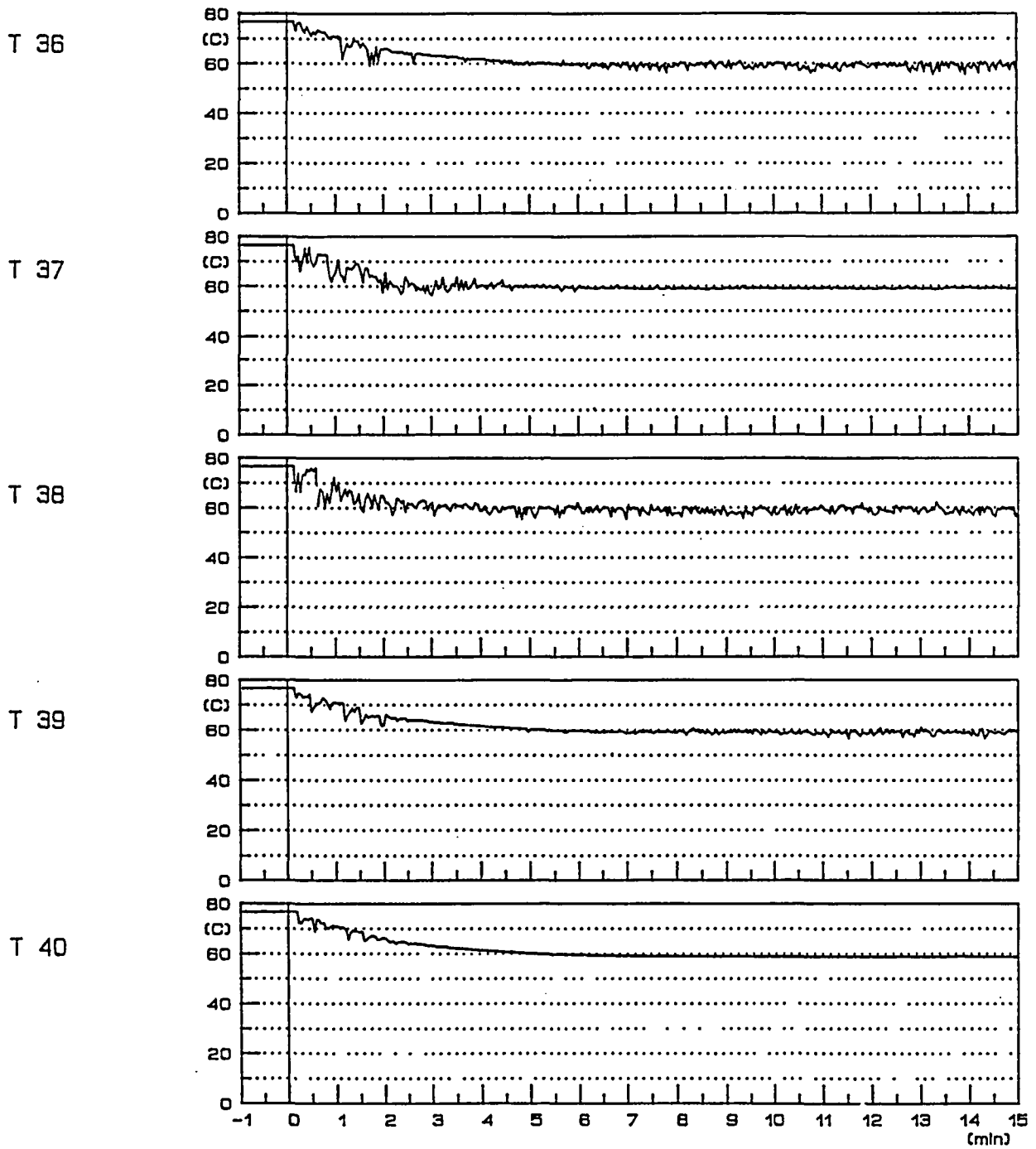

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FLUID AND THERMAL MIXING TESTS

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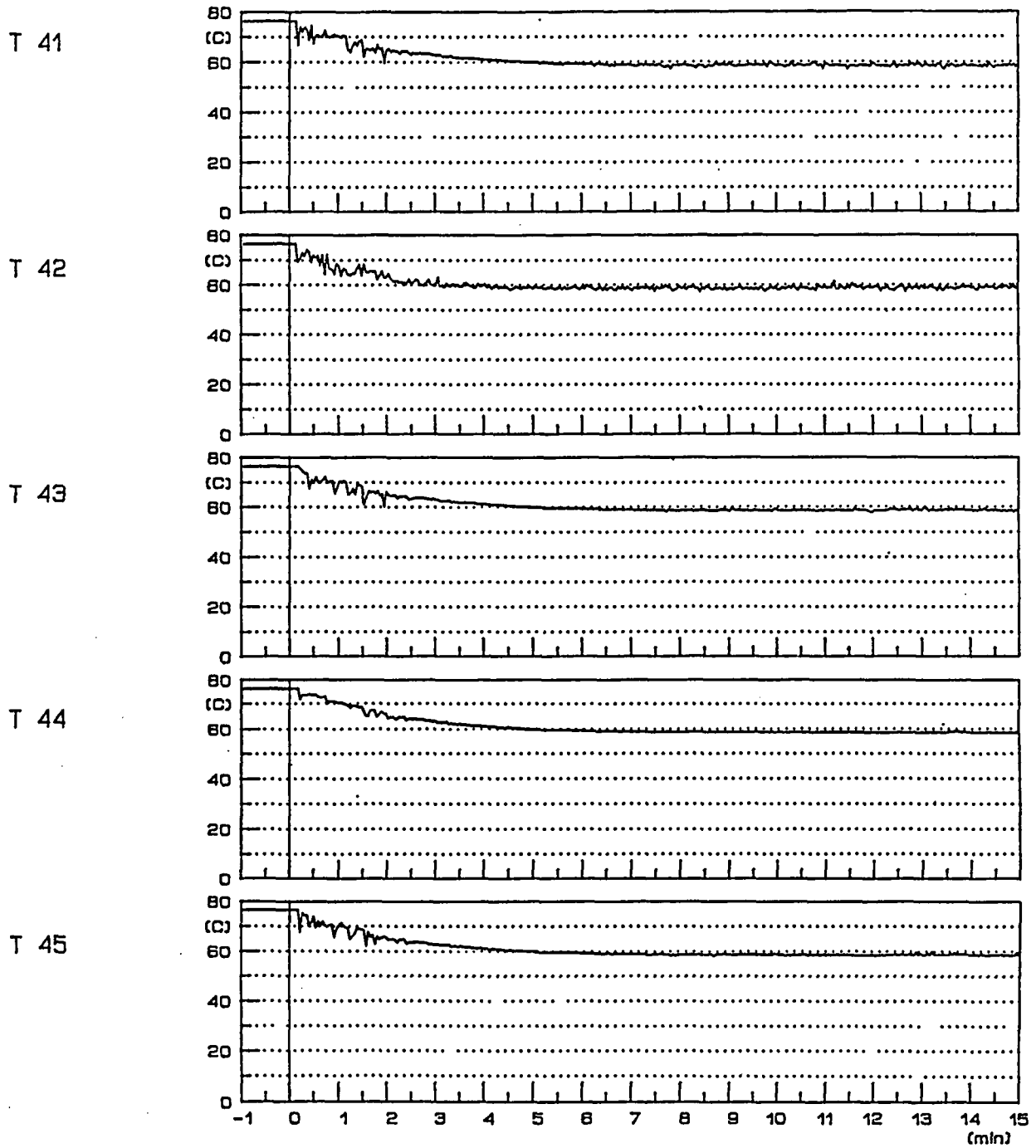

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FLUID AND THERMAL MIXING TESTS

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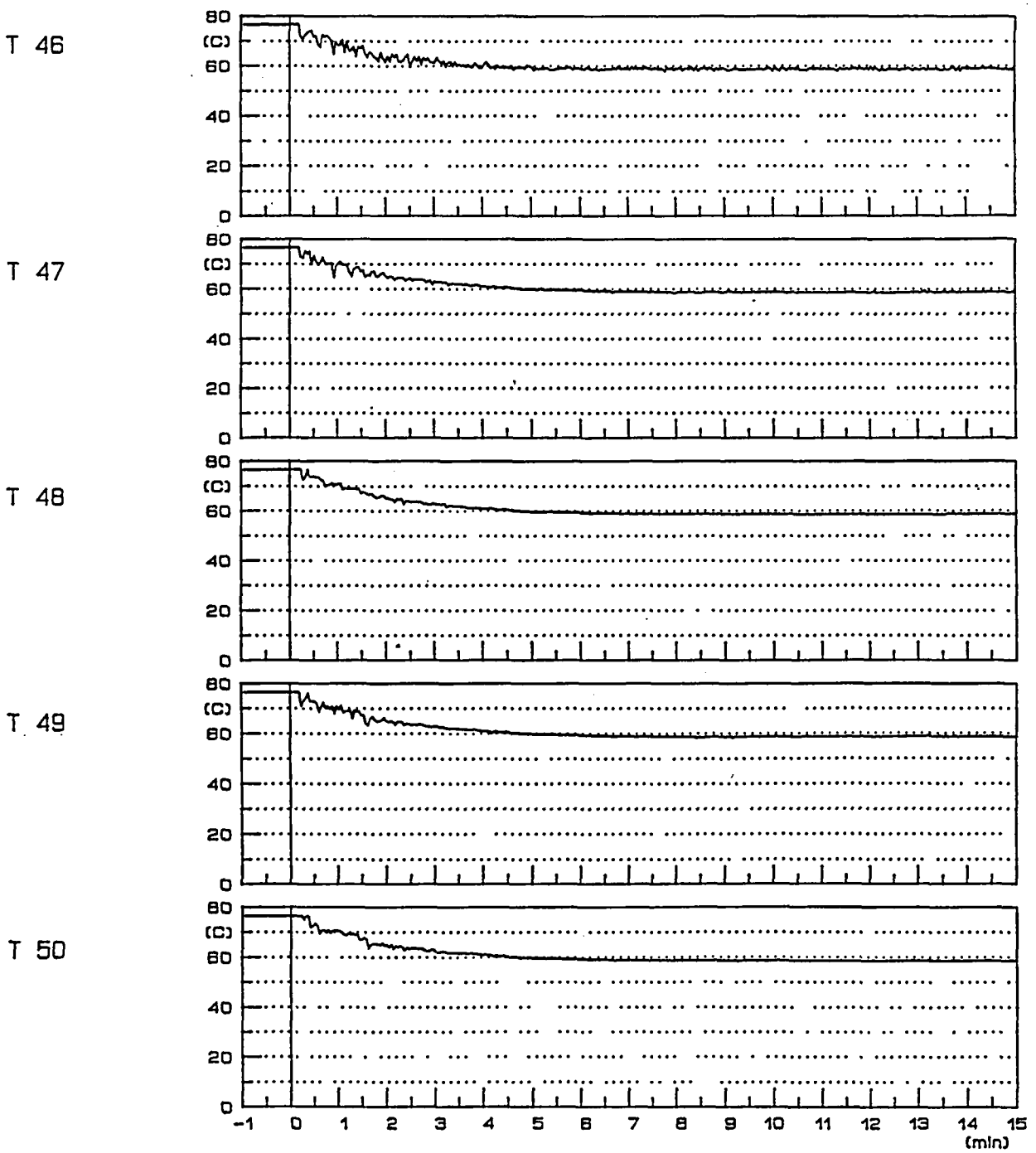

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FLUID AND THERMAL MIXING TESTS

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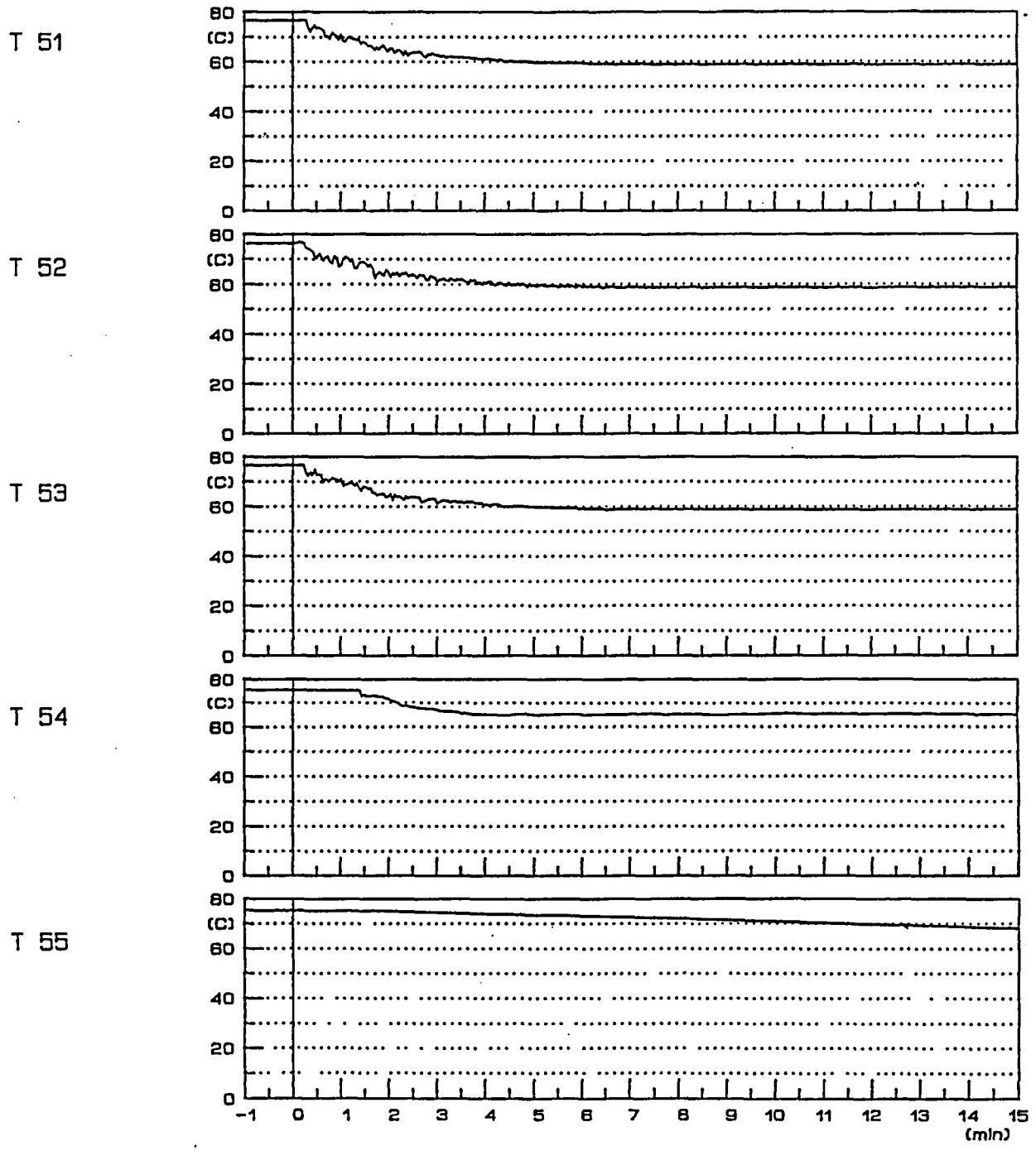

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$Q_{B,C}$	=	5.9	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
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				$Q_{HPI,C}$	=	1.48	dm^3/s
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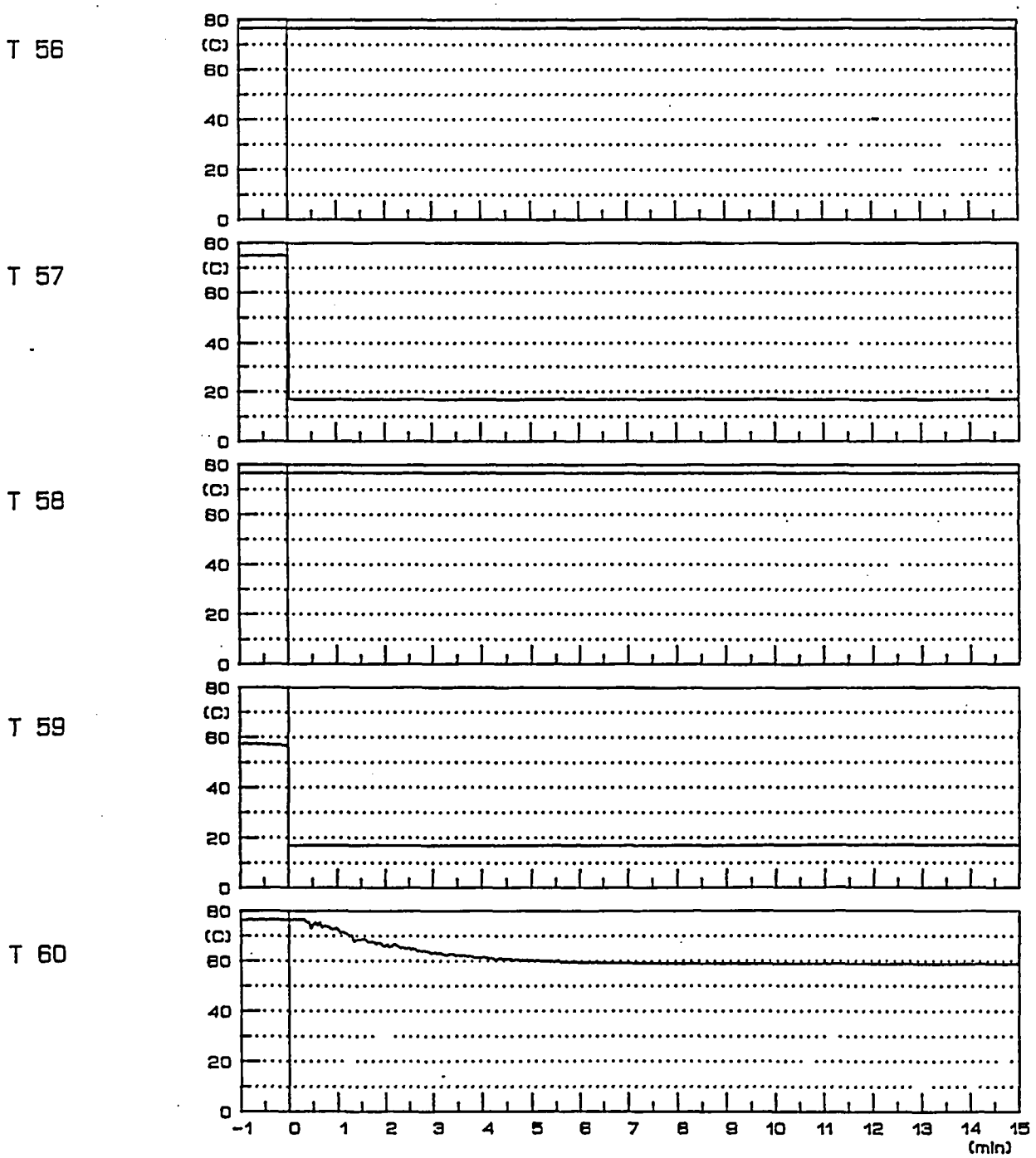

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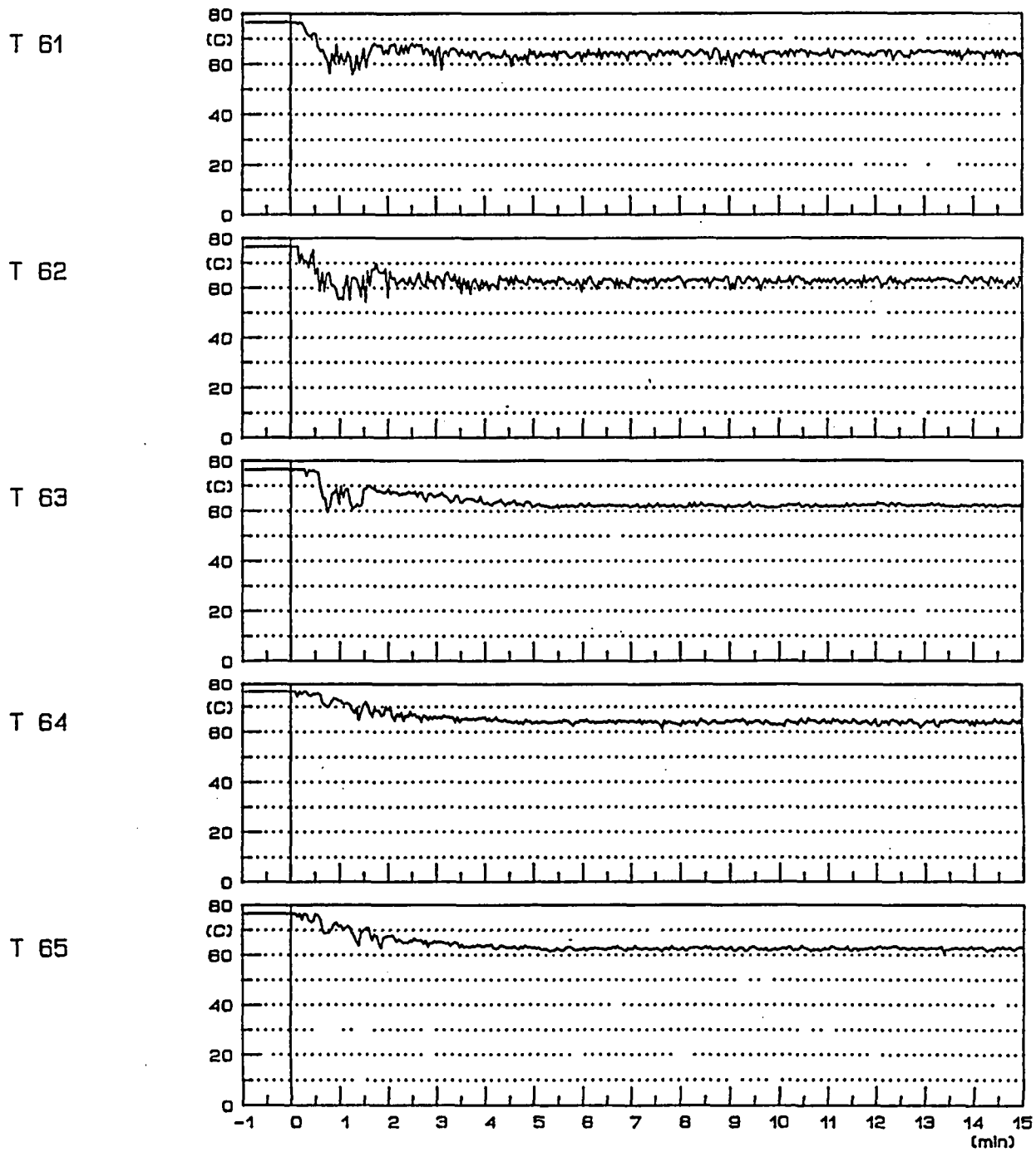
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



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Test : 120

$Q_{B,C}$	=	5.9	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
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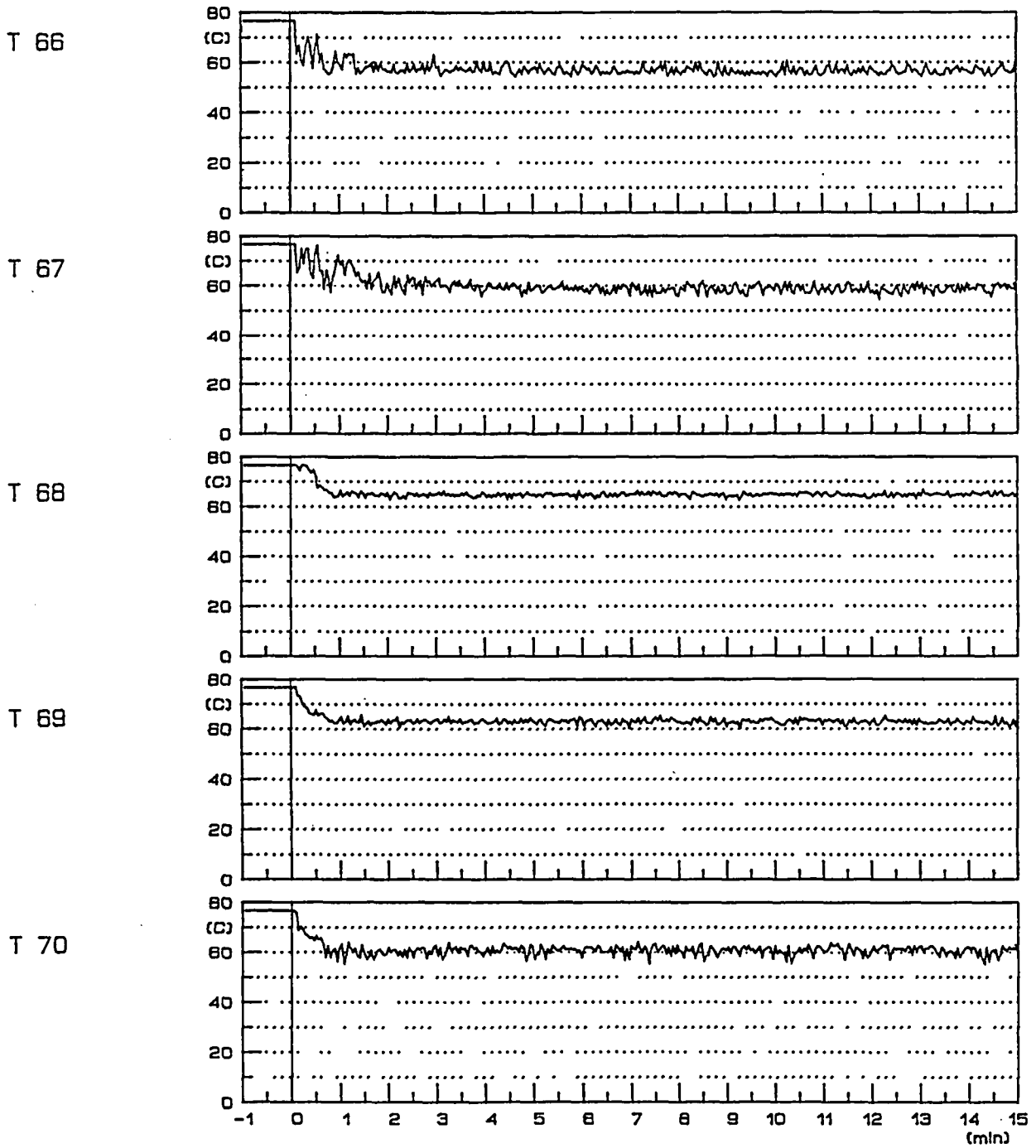
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



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$Q_{B,C}$	=	5.9	dm^3/s	$Q_{HPI,A}$	=	0.00	dm^3/s
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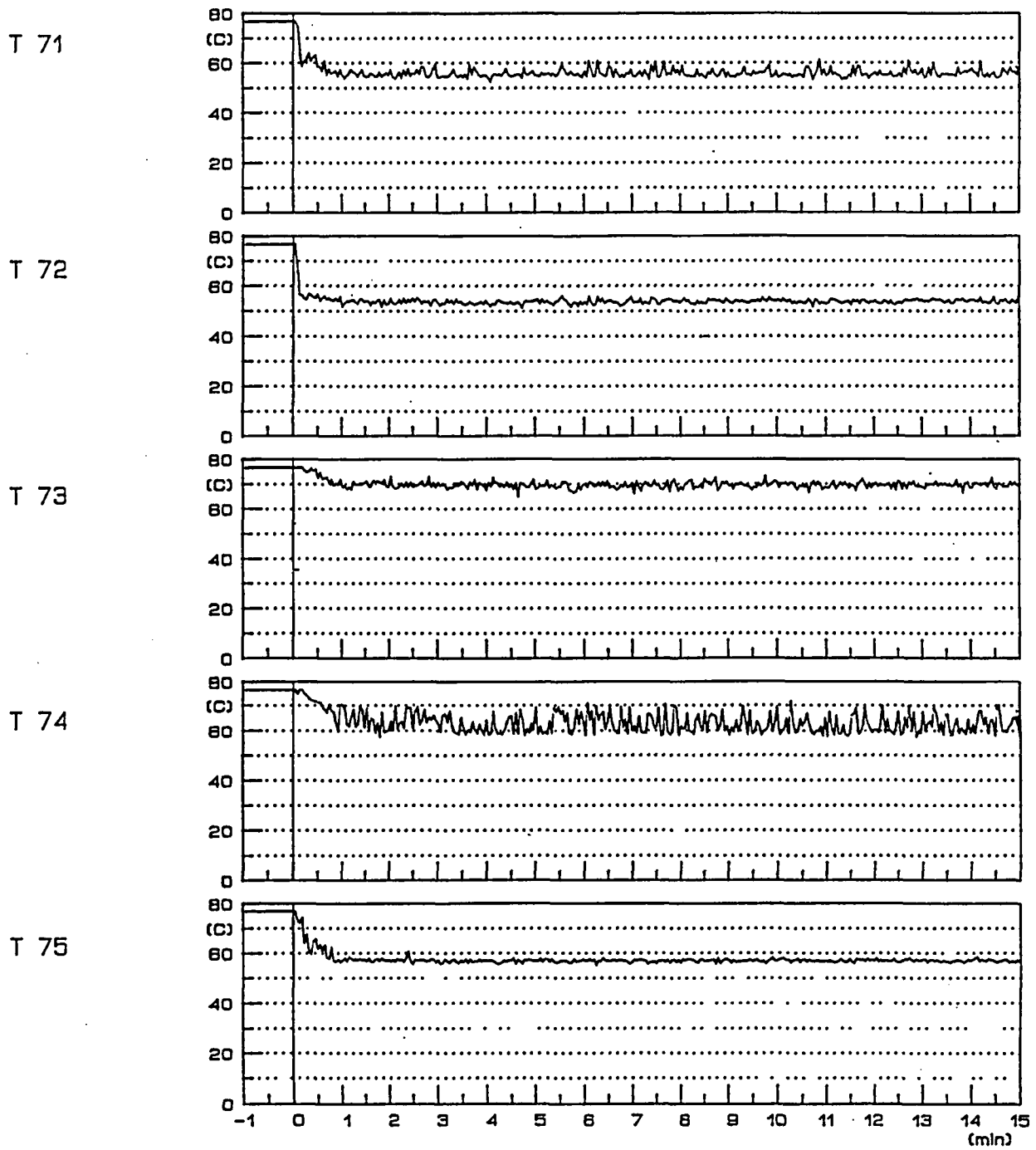
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



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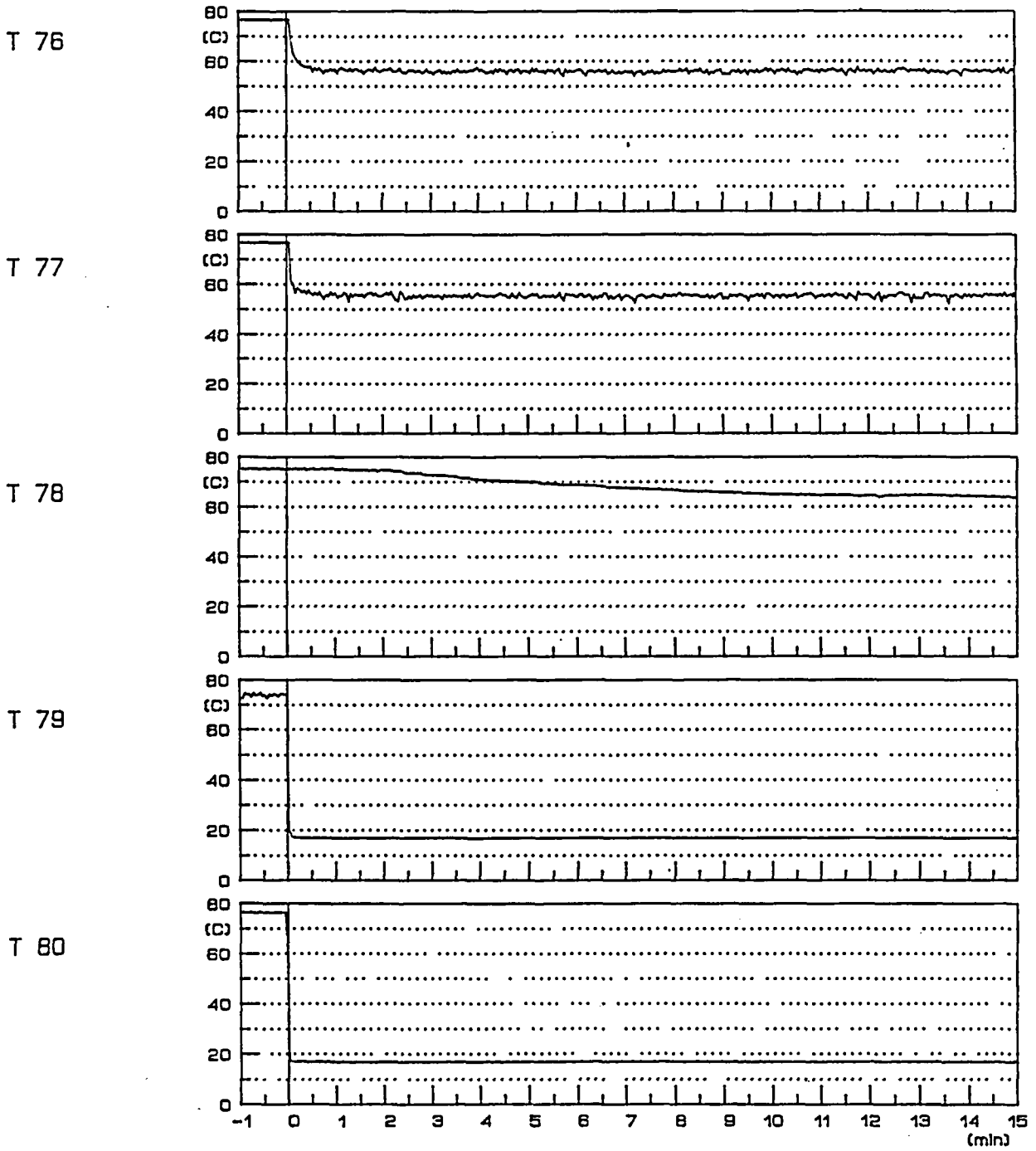
				$Q_{HPI,C}$	=	1.48	dm^3/s
				ρ	=	1168.	kg/m^3



NRC FORM 335 (2-84) NRCM 1102, 3201, 3202

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2 TITLE AND SUBTITLE

Thermal Mixing Tests in a Semiannular Downcomer With Interacting Flows From Cold Legs

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MONTH	YEAR

5 AUTHOR(S)

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October	1986

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11a TYPE OF REPORT

Technical

b PERIOD COVERED (Inclusive dates)

12 SUPPLEMENTARY NOTES

13 ABSTRACT (200 words or less)

This report describes the test facility and test program for studing thermal mixing of high-pressure injection (HPI) water in the two-fifths scale model of three cold legs, semiannular downcomer and lower plenum of a pressurized water reactor. This test series has been carried out by mutual agreement on the pressurized thermal shock (PTS) information exchange between the U. S. Nuclear Regulation Commission and Imatran Voima Oy

The test facility was originally designed to model the Finnish Loviisa plant but it redesigned and modified for this test program. The facility can be operated at atmospheric pressure with loop and HPI flows from different cold legs in the area of interest to PTS. Transparent materials were used to allow flow visualization during the tests. The choice of transparent materials limit the upper temperature to 75 °C. The full buoyancy effect was induced by salt addition and the HPI temperature was used as a tracer.

The test matrix consists of 20 tests. The varied parameters were flow rates and the number and configuration of cold legs with HPI and loop flows. Four test were done with decreasing loop flow temperature to simulate primary flows during steam line breaks.

14 DOCUMENT ANALYSIS – a KEYWORDS/DESCRIPTORS

High Pressure Injection (HPI), Pressurized Thermal Shocks (PTS), Thermal Mixing, ICAP, IVD

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