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## OPTIMASS

Concentration Handbook

- 1000 Series Twin Straight Tube Coriolis Mass Flowmeter
- 3000 Series Single Z Tube Coriolis Mass Flowmeter
- 7000 Series Single Straight Tube Coriolis Mass Flowmeter
- 8000/9000 Series Twin U Tube Coriolis Mass Flowmeter
- MFC 300 Mass Flow Converter

**KROHNE**

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## Explanation of Symbols Used

The following is a guide to the meaning of the symbols used in this handbook. The symbols fall into two types. The rectangular symbols with blue background draw the reader's attention to general points of information. The triangular symbols with yellow background draw the reader's attention to hazards or hazardous situations.

	<b>General Information</b>	Information is important to the installation/operation of the meter.
	<b>General Warning</b>	Risk of damage to the meter or installation.
	<b>EX - Hazardous Area Warning</b>	Instruction <b>MUST</b> be observed in order to comply with Hazardous Areas Certification.
	<b>High Voltage</b>	Risk of electric shock.
	<b>General Hazard</b>	Non specific hazard that could result in injury.
	<b>Hot Surface or High Temperature</b>	Risk of burning.
	<b>Heavy Item</b>	Risk of injury.

- Do not install, operate or maintain this device without reading, understanding and following the factory-supplied handbook. Failure to do so, may result in injury or damage.
- Read these instructions carefully before starting installation and save them for future reference.
- Observe all warnings and instructions marked on the device.
- You **MUST** only use a power supply that has a protective earth.
- Do not use the device with covers removed!
- You **MUST** follow the installation instructions in the handbook, paying particular attention to
  - Handling
  - Lifting
  - Supporting and fixing the meter
  - Cabling and connections.
- If the product does not operate normally, refer to the handbook or consult a qualified KROHNE service engineer. There are no operator-serviceable parts inside the product.



These terms may appear in this manual or on the instrument:

**Warning statement:** Identify conditions or practice that could result in injury or loss of life.

or

**Caution statement:** Identify conditions or practice that could result in damage to the instrument or other property.

**Disclaimer:**

- This document contains important information on the device. KROHNE attempts to be as accurate and up-to-date as possible but assumes no responsibility for errors or omissions. Nor does KROHNE make any commitment to update the information contained herein. This manual and all other documents are subject to change without prior notice.
- KROHNE will not be liable for any damage of any kind by using this device, including, but not limited to: direct; indirect; incidental; punitive and consequential damages.
- Any device purchased from KROHNE is warranted in accordance with the relevant product documentation and our Terms and Conditions of Sale.
- KROHNE reserves the right to alter the content of its documents, including this disclaimer in any way, at any time, for any reason, without prior notification and will not be liable in any way for possible consequences of such changes.

**Product liability and Warranty**

- Responsibility for suitability and intended use of this device rests solely with the user. Improper installation and operation of the device may lead to loss of warranty.
- In addition, the Terms and Conditions of Sale are applicable and are the basis for the purchase contract.
- If a device needs to be returned to KROHNE, please note the information given at the back of the Handbook. KROHNE regrets that they cannot repair or service a device unless accompanied by the completed form

This instrument has been developed and manufactured by:

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For information, maintenance or service, please contact your nearest local KROHNE representative.

See [www.krohne.com](http://www.krohne.com)

**WARNING**

No changes may be made to the devices. Unauthorized changes might affect the explosion safety of the devices. Be sure to follow these instructions!



**IMPORTANT**

- The prescriptions, regulations and electrical data described in the EC type examination certificate MUST be obeyed.
- In addition to the general regulations for low-voltage installations (e.g. HD384) the regulations laid down in the standard for electrical installations in gas hazardous areas (e.g. EN 60079-14) or dust hazardous areas (e.g. EN 50 281-1-2) MUST be complied with.
- Installation, commissioning, utilization and maintenance must be carried out only by personnel trained in explosion safety.
- This manual must be read in conjunction with the OPTIMASS / OPTIGAS Handbooks.



When measuring process fluid, the standard MFC300 Mass Flow Converters enable the direct measurement of:

- Overall Mass Flow
- Mass Total
- Density
- Temperature

From the mass flow and density measurements, it is possible to calculate additional values for:

- Volume Flow
- Volume Total.

### Mixed Fluids

If the process fluid is a mixture of two components the individual data of those components, together with the measured density, can be used to calculate the relative proportions.

Where the two components have the same (or similar) individual densities, the mixture will also have the same density, regardless of the relative proportions of the components. In such situations, concentration calculations will not be possible. As the difference between the component densities increases, it becomes easier to accurately determine the relative proportions of the components.

The MFC300 converters with concentration measurement enabled, can calculate the concentrations of the solid/solute components within various mixtures. Typical mixtures include:

**Solid / Liquid suspensions or slurries**

**Oil / water emulsions**

**Dissolved solids in water or other solven**

The diverse physical and chemical properties of such a range of mixtures means that no single concentration equation can be used for all applications. For this reason, seven industry standard concentration modes are available in the MFC 300 converter:

Concentration Mode	Details	Application
General Concentration (% Mass or % Volume)	This is a freely programmable algorithm for mixtures of two immiscible components	oil / water emulsions or solid / liquid slurries
°Brix	Concentration of sucrose in pure water measured in °BRIX	Mainly in fruit juice, wine making & the sugar industry
°Plato	Concentration of sucrose in pure water measured in °PLATO.	Used primarily in the brewing industry
Baumé Rational (144.3)	Concentration of sucrose in pure water measured in °BAUMÉ.	used mainly in the Europe
Baumé Commercial (145.0)		used mainly in the USA
Sodium hydroxide (NaOH) Concentration	Concentration of aqueous sodium hydroxide (NaOH) solutions.	
API	API Gravity is the measure of specific gravity defined by the American Petroleum Institute	measuring the relative density of various petroleum liquids



The concentration measurements require a stable and reliable density measurement.

For this reason, it is recommended that the process should be operated at a stable temperature and the density measurements should be site calibrated at that temperature. Sudden changes in temperature should be avoided

Concentration measurement on the MFC300 is an optional extra and if specified on the order, is enabled during manufacture. However, this option can also be purchased at any time after delivery. Once enabled, the customer is able to switch between any of the concentration modes

The concentration status can be checked by entering the programming menu and viewing C2.1. If "Conc Password" is displayed the concentration measurement is NOT enabled. Please contact your KROHNE representative to purchase this option.

After purchasing the concentration option, an enabling code will be supplied and Section 2.1 describes how this code is used to enable concentration measurement.

### **2.1 Enabling Concentration Measurement**

If the concentration measurement option has been purchased after delivery, an activation code is supplied and is entered in Menu option C2.1.

Once the concentration option is enabled, the user can select from the available concentration modes.

## 2.2 Concentration Menu

Ref	Display	Description & Settings
C2.1	Conc. Data Sel.	Define which set of general concentration parameters are active. Select from: Conc. Data 1 Conc. Data 2
C2.2	Concentration 1	Defines the function of the concentration measurement. In the following description, x=2 for Concentration 1 settings, and x=3 for Concentration 2 settings
C2.3	Concentration 2	
C2.x.1	Conc Function	Sets the concentration measurement required. Select from: OFF, BRIX, %MASS, %VOLUME, Baume 144, Baume 145, %NaOH, Plato, API
C2.x.2	Conc Offset	Sets an additional offset for the concentration measurement. Can be used to correct for differences between the measured Range: -10.000 ... +10.000%
C2.x.3	Conc Product	Defines which general concentration product is display Select from: % of Product A % of Product B
C2.4	Conc. Data 1	Defines the concentration coefficients used for concentration parameter sets 1 & 2. In the following description, y=4 for Conc. Data 1 settings, and y=5 for Conc. Data 2 settings.
C2.5	Conc. Data 2	
C2.y.1	CCF01	Defines the whether the concentration measurement use the linear or non-linear coefficients Select from: Linear Non-Linear
C2.y.2	CCF02	Density of product A in g/cm3
C2.y.3	CCF03	Temperature coeffiecient for Product A
C2.y.4	CCF04	Temperature coeffiecient squared for Product A
C2.y.5	CCF05	Defines Product B type. Select from: Pure Water Town Water Other
C2.y.6	CCF06	Density of Product B in g/cm3 (if CCF05 = OTHER)
C2.y.7	CCF07	Temperature coeffiecient squared for Product B (if CCF05 = OTHER)
C2.y.8	CCF08	Defines non-linear equation if CCF01 is set to NON-LINEAR.
C2.y.9	CCF09	Defines non-linear equation if CCF01 is set to NON-LINEAR. Consult KROHNE for settings.
C2.y.10	CCF10	
C2.y.11	CCF11	
C2.y.12	CCF12	

## 2.3 Concentration Modes

The MFC300 has the ability to run two concentration modes at the same time, eg. Brix and % Volume.

It is also possible to view %Product A and %Product B in General Concentration mode by setting Concentration 1 and Concentration 2 accordingly.

For applications where multiple products are used, the MFC300 can be programmed with two sets of general concentration parameters in C2.4 and C2.5. This allows the user to measure e.g. Product A in Product X or Product B in Product Z simply by selecting which parameter set is utilised. The working parameter set is defined in menu C2.1

## 2.4 C2.x.2 Concentration Offset

In all concentration modes it is possible to correct the concentration if there is an offset between the value measured by the Optimass and the measurements taken in a laboratory.

This is useful for fixed concentration modes like Brix measurement. If the meter's concentration value is 1% too low, enter the value of 1% into the menu OFFSET option: C2.2.2 or C2.3.2. This will add 1% to the calculated concentration value and can be used to correct in situations where the customer data does not fit well with the algorithms, or where there are differences between the standard Brix values and the customer's concentration. A good example is where pure water is not the carrier fluid. allowing for the use of additives, fruit juices etc. Please refer to section 3.2.

### 3.1 °Brix

°Brix is the concentration [by mass] of sucrose in pure water: a 10% solution has a value of 10 °Brix. The °Brix value of a solution does not vary with temperature, therefore if a 100 g solution contains 10g of sucrose it will still contain 10g whether the temperature is 10, 20 or 30°C

°Brix is defined by:

°Brix = 261.3 x (1 – 1/g), where g is the specific gravity of the solution at 20°C

The Concentration Flow is given by the equation

$$\text{Concentration Flow} = \frac{\text{°Brix}}{100} \times \text{Mass Flow}$$

Concentration Total is the accumulation of Concentration Flow over time.

### 3.2 °Brix Accuracy

In practice, very few companies work with pure sucrose solutions but they still use a refractometer to measure °Brix. In the case of soft drinks manufacturers their product will contain other components in addition to sucrose: glucose, fructose, fruit acids, proteins, suspended particulates etc. Many of these other components may affect the product's overall refractive index. Consequently, the refractometer reading becomes only an approximation of the actual sugar content.

Optimass flowmeters measure density and temperature. From these measurements, and the known characteristics of sucrose solutions, a °Brix value can be calculated. As with the refractometer, if there are any other components present in the product, then the displayed Brix value will be only an approximation. This approximation cannot be expected to match exactly the refractometer approximation. This is because the impurities will not necessarily have the same effect on refractive index as they do on density. Solid particles in the product will not effect how light is refracted passing through the rest of the liquid, but they will affect its density.

For this reason it is possible to correct the Brix measurement by using menu C2.2.2 or C2.3.2 OFFSET.

This is a simple addition to the calculated Brix Value. See section 2.4.

### 3.3 °Plato

°Plato is the concentration [by mass] of sucrose in pure water. A 10% solution has a value of 10 °Plato. A solution's °Plato value does not vary with temperature, therefore if a 100 g solution contains 10 g of sucrose it will still contain 10 g whether the temperature is 10, 20 or 30°C

°Plato is defined by:

°Plato = 260 x (1 – 1/g) ,where g is the specific gravity of the solution at 17.5°C

The Concentration Flow is given by the equation

$$\text{Concentration Flow} = \frac{\text{°Plato}}{100} \times \text{Mass Flow Rate}$$

Concentration Total is the accumulation of Concentration Flow over time.

### 3.4 °Baumé

This is a concentration scale for sugar or starch in water. It is based on the specific gravity of sucrose solutions  $d_{15}^{15}$  relative to water at 60°F, measured at 60°F. The concentration is then given by:

$$\text{°Baume} = K_B \left( 1 - \frac{1}{d_{15}^{15}} \right) \text{°Be}$$

There are two °Baumé scales:

°Baumé Commercial (US)      KB = 145.0

°Baumé Rational                      KB = 144.3

The Concentration Flow is given by the equation

$$\text{Concentration Flow} = \frac{\text{°Baume}}{100} \times \text{Mass Flow Rate}$$

Concentration Total is the accumulation of Concentration Flow over time.

### 3.5 Sodium Hydroxide (NaOH)

The NaOH algorithm fits the true characteristics of the product to one decimal place ( $\pm 0.1$ ).

However the range of the fit is limited to 10 to 40°C and 0 to 50% solutions. This is also suitable for the Titanium OPTIMASS 70, as higher concentrations and temperature would corrode the flow tube.

Concentration Total is the accumulation of Concentration Flow over time.

### 3.6 API Definition

API Gravity is a measure of specific gravity developed by the American Petroleum Institute (API) for measuring the relative density of various petroleum liquids.

The formula used is:

$$\text{API Gravity} = (141.5 / \text{SG}_{15^\circ\text{C}}) - 131.5$$

$\text{SG}_{15^\circ\text{C}}$  is derived from the measured density and temperature and corrected to 15°C using a general correction method for oil products. This may result in an error for specific products, but this can be corrected using the offset value in Menu C2.2.2 or C2.3.2 Please consult KROHNE for further information if required.

### 3.7 General Concentration Measurement

All of the other concentration modes in the MFC300 are for industry standard solutions. The general concentration mode allows the concentration to match the customer's product.

For general concentration we use the terms Product A and Product B to describe the two parts of the solution.

There are 3 main types of solution:

- 1) Suspension - Solids suspended in a liquid, for example slurries.
- 2) Emulsion - Mixtures of two immiscible non-compressible components. In this case the two components do not mix/interact with each other. An example of this is the mixture of oil and water.
- 3) Solution - In this case the two components mix or interact with each other. An example of this is Coffee dissolved in water

It is possible to calculate the percentage of each product either by MASS or by VOLUME depending on the selection in Menu C2.x.1

### 3.8 Concentration By Mass formula

A mixture or solution with total mass,  $M_T$ , contains mass,  $M_A$ , of one component. The concentration by mass,  $C_M$ , of that component is:

$$\text{Concentration by Mass} = \frac{M_A}{M_T} \times 100$$

Note that the concentration by mass will not vary with temperature

Using a continuous process it is not possible to use the equation in its current form, as we cannot determine individual mass components. We can however continuously measure the density of the mixture and calculate the concentration using the known density characteristics of the two components.

Using the equation:

$$\text{Mass} = \text{Density} \times \text{Volume}$$

The Concentration By Mass equation can be rearranged to produce the formula

$$\text{Concentration by Mass} = \frac{\rho_A}{\rho_M} \times \frac{\rho_M - \rho_B}{\rho_A - \rho_B} \times 100$$

Where

$$\text{Total Mass (MT)} = \text{Mass of Product A (MA)} + \text{Mass of Product B (MB)}$$

$\rho_A$  is the density of Product A

$\rho_B$  is the density of Product B

$\rho_M$  is the density of the Mixture

### 3.9 Concentration Flow Formula

Concentration Flow is calculated by the equation

$$\text{Concentration Flow} = \frac{\text{Concentration by Mass}}{100} \times \text{Mass Flow Rate}$$

Concentration Total is the accumulation of Concentration Flow over time.

In all general concentration modes it is possible to select which product's concentration to measure. This is selected by menu C2.2.3 or C2.3.3.

### 3.10 Product A & Product B formulas

The concentration equations defined in the previous sections require the densities of both Product A and Product B. As the density of a Product normally changes with temperature the equations for Product A and Product B have a temperature and temperature-squared term to model this behaviour.

Product A is calculated by using the equation:

$$\text{Product A} = \text{Density of Product}_A \text{ at } 20^\circ\text{C} + \text{Temperature coefficient}_A \times (\text{Temperature} - 20) + \text{Temperature squared coefficient}_A \times (\text{Temperature} - 20)^2$$

Where

CCF2 = Density of Product A at 20

CCF3 = Temperature Coefficient A

CCF4 = Temperature squared coefficient A

The density of product B depends on the type of product.

For ease of programming the values of water are included in the software. If Product B is Pure water or Town water then no data for Product B is required. Select either Pure Water or Town Water in menu C2.4.5 or C2.5.5.

If the Product B is not water, the select "Other" in menu C2.4.5 or C2.5.5. The equation below is used to calculate the products density with changes in temperature:

$$\text{Product B} = \text{Density of Product}_B \text{ at } 20^\circ\text{C} + \text{Temperature coefficient}_B \times (\text{Temperature} - 20) + \text{Temperature squared coefficient}_B \times (\text{Temperature} - 20)^2$$

Where

CCF6 = Density of Product B at 20°C

CCF7 = Temperature Coefficient B

CCF8 = Temperature squared coefficient B

### 3.11 Suspension - Solid Suspended in a Liquid

In this case the Solid is suspended in a carrier. The Solid does not dissolve into the carrier, and the density does not change with temperature. As product B (Carrier) can be set to water the solid density should be entered as Product A.

#### Programming the converter when Product B is water (PURE or TOWN).

Ref	Display	Setting	Comments
C2.x.1	Conc Function	% Mass or % Volume	
C2.x.2	Conc Offset	0	If the concentration is incorrect by a stable offset then it can be corrected here.
C2.x.3	Conc Product	% of Product A or % of Product B	Select required product to be measured
C2.y.1	CCF01	Linear	
C2.y.2	CCF02	Density Product A (Solid) in g/cm <sup>3</sup>	
C2.y.3	CCF03	0	No change with temperature
C2.y.4	CCF04	0	No change with temperature
C2.y.5	CCF05	PURE WATER or TOWN WATER	

#### Programming the converter when Product B is not water.

In this case the data required to generate the coefficients are:-

- Density of Product B (Carrier), at between 2 to 5 different temperatures.
- See section 3.14 to describe how to generate the Concentration Coefficients.

Ref	Display	Setting	Comments
C2.x.1	Conc Function	% Mass or % Volume	
C2.x.2	Conc Offset	0	If the concentration is incorrect by a stable offset then it can be corrected here.
C2.x.3	Conc Product	% of Product A or % of Product B	Select required product to be measured
C2.y.1	CCF01	Linear	
C2.y.2	CCF02	Density Product A (Solid) in g/cm <sup>3</sup>	
C2.y.3	CCF03	0	No change with temperature
C2.y.4	CCF04	0	No change with temperature
C2.y.5	CCF05	OTHER	
C2.y.6	CCF06	Density Product B in g/cm <sup>3</sup>	
C2.y.7	CCF07	Product B Temperature term	
C2.y.8	CCF08	Product B Temperature squared term	

### 3.12 Emulsion - Mixtures of two Immiscible & Non-Compressible Components

In this solution the two products do not mix or interact with each other. E.g. Oil / Water emulsions. If one of the products is water this should be entered as Product B.

In this case the data required to generate the coefficients are:-

- Density of Product A at between 2 to 5 different temperatures
- If Product B is not water then the Density of Product B at between 2 to 5 different temperatures are required to generate the concentration coefficients.
- See section 3.14 to describe how to generate the Concentration Coefficients.

Ref	Display	Setting	Comments
C2.x.1	Conc Function	% Mass or % Volume	
C2.x.2	Conc Offset	0	If the concentration is incorrect by a stable offset then it can be corrected here.
C2.x.3	Conc Product	% of Product A or % of Product B	Select required product to be measured
C2.y.1	CCF01	Linear	
C2.y.2	CCF02	Density Product A at 20°C in g/cm <sup>3</sup>	
C2.y.3	CCF03	Product A Temperature term	
C2.y.4	CCF04	Product A Temperature squared term	
C2.y.5	CCF05	PURE WATER TOWN WATER OTHER	
C2.y.6	CCF06	Density Product B in g/cm <sup>3</sup>	If CCF05 = OTHER
C2.y.7	CCF07	Product B Temperature term	If CCF05 = OTHER
C2.y.8	CCF08	Product B Temperature squared term	If CCF05 = OTHER

### 3.13 Solution - Concentration of Miscible Liquids

When two liquids mix or dissolve together they are said to be miscible. The two components may also have a strong chemical interaction. Therefore using the densities of the two products will only give an approximate value. As the equation does not take into account any interaction.

There are two methods to fit the data.

- 1) The simple case is to match the density of Product A and Product B to the required concentration.

Two density / concentration points are required at between 2 to 5 different temperatures. The three temperatures should cover the normal operation range of the process and the concentration points should be chosen to match the normal operating span of concentrations over which the maximum accuracy is required.

- 2) The concentration software has another nonlinear concentration equation to deal with this case. This can be used to describe the interaction between the two products. This feature can only be used when there is a complex interaction between the two products and a large amount of data is available. If this feature is required please contact your local KROHNE representative to arrange generation of these coefficients.

### 3.14 Generating Concentration Coefficients

The easiest method of generating the coefficients is to use the supplied windows program.

This program is called "MFC05x Concentration Coefficient Generator" and is compatible with Windows 98, NT, 2000, ME and XP.

The data required to generate these coefficients depends on the type of products. Please refer to section 3.11, 3.12 and 3.13 to decide which concentration type your products fall into.

This program will give the results of all the values that need to be programmed into the concentration menus.

The program will give a solution using the program notation for the MFC05x. Use the following table to relate that to the MFC300.

MFC05x		MFC300	
Menu	Setting/Comment	Menu	Setting/Comment
3.3.1 Conc Mode	GEN CONC	C2.x.1 Conc Function	% Mass or %Volume
3.3.2 Offset		C2.x.2 Conc Offset	
3.3.3 Conc Type	Linear	C2.y.1 CCF01	Linear
3.3.4 Conc CF1	0 = Product A 1 = Product B	C2.x.3 Conc Product	% of Product A % of Product B
3.3.5 Conc CF2		C2.y.2 CCF02	
3.3.6 Conc CF3		C2.y.3 CCF03	
3.3.7 Conc CF4		C2.y.4 CCF04	
3.3.8 Conc CF5	0 = Pure Water 1 = Town Water 2 = OTHER	C2.y.5 CCF05	Pure Water Town Water Other
3.3.9 Conc CF6		C2.y.6 CCF06	
3.3.10 Conc CF7		C2.y.7 CCF07	
3.3.11 Conc CF8		C2.y.8 CCF08	

### 3.15 Fitting the Concentration Algorithms to the Data

Most applications generate a reasonable fit of the concentration algorithms to the supplied data. Please be aware that the concentration calculation program only calculates the coefficients within the limits of the entered data. Outside of these values, errors may occur.

The concentration coefficient generator program can be used to verify the quality of the fit of the data.

Sometimes it is not possible to get a "good" fit of the Linear concentration algorithms to the customer data. The data may be better suited using a non-linear algorithm. To calculate the coefficients in this case, please consult KROHNE.

When using concentration measurement, there are various practical considerations

### 4.1 Accuracy of Concentration Estimation

The results of the concentration estimation depend on the accuracy of the density measurements and on the "fit" of the algorithm used to infer the concentration value. Of the two factors the density measurement itself is obviously the most critical. In order to assess the effect of inaccuracies in the density measurement it is necessary to consider the amount density will change over a given range of interest. The concentration accuracy is given by the equation.

$$\text{Concentration Accuracy} = \pm \frac{\text{Change in Concentration}}{\text{Change in Density}} \times \text{Density Accuracy}$$

For instance, it is required to measure concentrations in the range 5 to 10% by mass. Over this range density varies from 1.018 to 1.038 g/cm<sup>3</sup>, a change of 0.020 g/cm<sup>3</sup>. If the density accuracy of the flow meter is 0.002g/cm<sup>3</sup>, then, assuming that the variation of density with concentration is linear, the approximate accuracy of the measurement will be:

$$\text{Concentration Accuracy} = \pm \frac{5}{0.02} \times 0.002 = \pm 0.5$$

Obviously this simple calculation takes no account of temperature, or of the fit of the algorithm, but it very quickly gives an indication of what is achievable with any given density meter.

There are other factors that also limit the ability of the meter to read an accurate density figure.

- Air / Gas Inclusions. If the process fluid has significant gas content this will cause the Coriolis meter to under-read density. This is not a fault of the meter but a problem with the application. If it is not possible to prevent air getting into the fluid various measures can be taken to try to minimise the effect. The meter should be installed vertically to prevent air collecting within it (this may not help with bent tube instruments). Try pressurising the line to try to collapse any air bubbles.

To ensure a good density measurement:

- Ensure the meter is properly installed and supported.
- The product must be free from air bubbles (see above).
- On-Site calibration of the density measurement, preferably at the process' normal operating temperature, as described in the standard operating manual.

A Brix Values v. Density & Temp.

Density g/cc	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
0.958	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0.960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.52
0.962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.06	1.07
0.964	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.61	1.62
0.966	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.20	1.15	2.17	
0.968	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.74	1.69	2.72	
0.970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.37	1.28	2.23	3.26	
0.972	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.91	1.81	2.77	3.79	
0.974	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.59	1.44	2.35	3.30	4.33	
0.976	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.30	1.12	1.98	2.88	3.84	4.86	
0.978	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	0.84	1.66	2.51	3.41	4.37	5.39	
0.980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.58	1.37	2.19	3.04	3.94	4.89	5.92	
0.982	-	-	-	-	-	-	-	-	-	-	-	-	-	0.38	1.11	1.90	2.71	3.56	4.46	5.42	6.45	
0.984	-	-	-	-	-	-	-	-	-	-	-	-	0.21	0.91	1.64	2.42	3.24	4.09	4.99	5.94	6.97	
0.986	-	-	-	-	-	-	-	-	-	-	-	0.07	0.74	1.44	2.17	2.95	3.77	4.61	5.51	6.46	7.49	
0.988	-	-	-	-	-	-	-	-	-	-	-	0.61	1.27	1.97	2.69	3.47	4.29	5.13	6.03	6.98	8.00	
0.990	-	-	-	-	-	-	-	-	-	-	0.51	1.13	1.80	2.50	3.22	4.00	4.81	5.65	6.54	7.50	8.52	
0.992	-	-	-	-	-	-	-	-	-	0.46	1.03	1.66	2.33	3.02	3.74	4.52	5.33	6.17	7.06	8.01	9.03	
0.994	-	-	-	-	-	-	-	-	0.46	0.99	1.56	2.19	2.85	3.54	4.26	5.03	5.85	6.68	7.57	8.52	9.54	
0.996	-	-	-	-	-	-	0.08	0.51	0.99	1.51	2.08	2.71	3.37	4.06	4.78	5.55	6.36	7.19	8.09	9.03	10.05	
0.998	-	-	-	-	-	0.25	0.60	1.03	1.51	2.03	2.60	3.23	3.89	4.58	5.29	6.07	6.87	7.71	8.59	9.54	10.55	
1.000	0.03	-	0.00	0.12	0.46	0.77	1.12	1.56	2.03	2.55	3.12	3.75	4.41	5.10	5.81	6.58	7.39	8.22	9.10	10.04	11.06	
1.002	0.53	0.50	0.52	0.65	0.98	1.29	1.64	2.08	2.55	3.07	3.64	4.27	4.93	5.61	6.32	7.09	7.90	8.72	9.61	10.55	11.56	
1.004	1.03	1.01	1.04	1.18	1.49	1.80	2.16	2.59	3.07	3.59	4.16	4.78	5.44	6.13	6.83	7.60	8.40	9.23	10.11	11.05	12.05	
1.006	1.53	1.52	1.56	1.71	2.01	2.31	2.67	3.11	3.59	4.10	4.67	5.30	5.96	6.64	7.34	8.11	8.91	9.73	10.61	11.55	12.55	
1.008	2.03	2.02	2.07	2.23	2.52	2.83	3.18	3.62	4.10	4.62	5.18	5.81	6.47	7.15	7.85	8.61	9.41	10.23	11.11	12.05	13.04	
1.010	2.52	2.53	2.58	2.75	3.03	3.34	3.70	4.13	4.61	5.13	5.69	6.32	6.98	7.65	8.36	9.12	9.92	10.73	11.61	12.54	13.54	
1.012	3.02	3.03	3.09	3.27	3.53	3.84	4.21	4.64	5.12	5.64	6.20	6.83	7.48	8.16	8.86	9.62	10.42	11.23	12.11	13.03	14.03	
1.014	3.51	3.53	3.60	3.79	4.04	4.35	4.71	5.15	5.63	6.14	6.71	7.33	7.99	8.67	9.36	10.12	10.92	11.73	12.60	13.52	14.51	
1.016	4.00	4.03	4.10	4.30	4.54	4.85	5.22	5.66	6.14	6.65	7.22	7.84	8.49	9.17	9.86	10.62	11.41	12.23	13.09	14.01	15.00	
1.018	4.48	4.52	4.61	4.81	5.04	5.36	5.72	6.16	6.64	7.15	7.72	8.34	9.00	9.67	10.36	11.12	11.91	12.72	13.58	14.50	15.48	
1.020	4.97	5.02	5.11	5.32	5.54	5.86	6.23	6.67	7.14	7.66	8.22	8.84	9.50	10.17	10.86	11.61	12.40	13.21	14.07	14.99	15.96	
1.022	5.45	5.51	5.61	5.82	6.04	6.36	6.73	7.17	7.65	8.16	8.72	9.34	9.99	10.66	11.35	12.11	12.90	13.70	14.56	15.47	16.44	
1.024	5.94	6.00	6.10	6.32	6.54	6.85	7.22	7.67	8.15	8.66	9.22	9.84	10.49	11.16	11.85	12.60	13.39	14.19	15.05	15.95	16.92	
1.026	6.42	6.49	6.60	6.82	7.03	7.35	7.72	8.17	8.64	9.15	9.72	10.34	10.99	11.65	12.34	13.09	13.87	14.67	15.53	16.43	17.39	
1.028	6.90	6.97	7.09	7.32	7.53	7.85	8.22	8.66	9.14	9.65	10.21	10.83	11.48	12.15	12.83	13.58	14.36	15.16	16.01	16.91	17.87	
1.030	7.37	7.46	7.58	7.82	8.02	8.34	8.71	9.16	9.63	10.14	10.71	11.32	11.97	12.64	13.32	14.07	14.85	15.64	16.49	17.39	18.34	
1.032	7.85	7.94	8.07	8.31	8.51	8.83	9.20	9.65	10.13	10.63	11.20	11.81	12.46	13.12	13.81	14.55	15.33	16.12	16.97	17.86	18.81	
1.034	8.32	8.42	8.56	8.80	9.00	9.32	9.69	10.14	10.62	11.12	11.69	12.30	12.95	13.61	14.29	15.03	15.81	16.60	17.45	18.33	19.28	
1.036	8.80	8.90	9.04	9.29	9.48	9.81	10.18	10.63	11.11	11.61	12.18	12.79	13.43	14.10	14.78	15.52	16.29	17.08	17.92	18.80	19.74	
1.038	9.27	9.38	9.52	9.78	9.97	10.29	10.67	11.11	11.59	12.10	12.66	13.28	13.92	14.58	15.26	16.00	16.77	17.55	18.39	19.27	20.21	
1.040	9.74	9.86	10.00	10.26	10.45	10.78	11.16	11.60	12.08	12.59	13.15	13.76	14.40	15.06	15.74	16.48	17.25	18.03	18.86	19.74	20.67	
1.042	10.20	10.33	10.48	10.74	10.93	11.26	11.64	12.08	12.56	13.07	13.63	14.24	14.88	15.54	16.22	16.95	17.72	18.50	19.33	20.21	21.13	
1.044	10.67	10.80	10.96	11.22	11.41	11.74	12.12	12.57	13.05	13.55	14.11	14.72	15.36	16.02	16.70	17.43	18.20	18.97	19.80	20.67	21.59	

Density g/cc	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
1.046	11.14	11.27	11.43	11.70	11.89	12.22	12.60	13.05	13.53	14.03	14.59	15.20	15.84	16.50	17.17	17.90	18.67	19.44	20.27	21.13	22.05
1.048	11.60	11.74	11.91	12.18	12.37	12.70	13.08	13.53	14.01	14.51	15.07	15.68	16.32	16.97	17.65	18.37	19.14	19.91	20.73	21.59	22.50
1.050	12.06	12.21	12.38	12.65	12.84	13.17	13.56	14.00	14.48	14.99	15.55	16.16	16.79	17.45	18.12	18.85	19.61	20.38	21.20	22.05	22.95
1.052	12.52	12.68	12.85	13.12	13.31	13.65	14.03	14.48	14.96	15.46	16.03	16.63	17.26	17.92	18.59	19.31	20.07	20.84	21.66	22.51	23.41
1.054	12.98	13.14	13.31	13.59	13.79	14.12	14.51	14.95	15.43	15.94	16.50	17.10	17.74	18.39	19.06	19.78	20.54	21.30	22.12	22.97	23.86
1.056	13.44	13.60	13.78	14.06	14.26	14.59	14.98	15.43	15.91	16.41	16.97	17.58	18.21	18.86	19.53	20.25	21.00	21.76	22.57	23.42	24.31
1.058	13.89	14.06	14.24	14.53	14.72	15.06	15.45	15.90	16.38	16.88	17.44	18.04	18.67	19.33	19.99	20.71	21.46	22.22	23.03	23.87	24.75
1.060	14.35	14.52	14.71	14.99	15.19	15.53	15.92	16.37	16.85	17.35	17.91	18.51	19.14	19.79	20.46	21.18	21.92	22.68	23.49	24.32	25.20
1.062	14.80	14.98	15.17	15.45	15.66	16.00	16.39	16.84	17.31	17.82	18.38	18.98	19.61	20.26	20.92	21.64	22.38	23.14	23.94	24.77	25.64
1.064	15.25	15.44	15.63	15.91	16.12	16.46	16.85	17.30	17.78	18.29	18.84	19.44	20.07	20.72	21.38	22.10	22.84	23.59	24.39	25.22	26.09
1.066	15.70	15.89	16.08	16.37	16.58	16.93	17.32	17.77	18.25	18.75	19.31	19.91	20.53	21.18	21.84	22.55	23.30	24.05	24.84	25.67	26.53
1.068	16.15	16.34	16.54	16.83	17.04	17.39	17.78	18.23	18.71	19.21	19.77	20.37	20.99	21.64	22.30	23.01	23.75	24.50	25.29	26.11	26.97
1.070	16.60	16.79	16.99	17.28	17.50	17.85	18.24	18.69	19.17	19.68	20.23	20.83	21.45	22.10	22.76	23.47	24.20	24.95	25.74	26.55	27.41
1.072	17.04	17.24	17.45	17.74	17.96	18.31	18.70	19.15	19.63	20.14	20.69	21.29	21.91	22.55	23.21	23.92	24.65	25.40	26.18	27.00	27.84
1.074	17.49	17.69	17.90	18.19	18.42	18.77	19.16	19.61	20.09	20.59	21.15	21.74	22.36	23.01	23.67	24.37	25.10	25.85	26.63	27.44	28.28
1.076	17.93	18.14	18.35	18.64	18.87	19.22	19.62	20.07	20.55	21.05	21.61	22.20	22.82	23.46	24.12	24.82	25.55	26.29	27.07	27.88	28.71
1.078	18.37	18.58	18.79	19.09	19.33	19.68	20.08	20.52	21.00	21.51	22.06	22.65	23.27	23.91	24.57	25.27	26.00	26.74	27.51	28.31	29.15
1.080	18.81	19.03	19.24	19.53	19.78	20.13	20.53	20.98	21.46	21.96	22.52	23.11	23.72	24.36	25.02	25.72	26.44	27.18	27.95	28.75	29.58
1.082	19.25	19.47	19.68	19.98	20.23	20.58	20.98	21.43	21.91	22.41	22.97	23.56	24.17	24.81	25.47	26.16	26.89	27.62	28.39	29.18	30.01
1.084	19.69	19.91	20.13	20.42	20.68	21.03	21.43	21.88	22.36	22.87	23.42	24.01	24.62	25.26	25.91	26.61	27.33	28.06	28.83	29.62	30.43
1.086	20.13	20.35	20.57	20.86	21.12	21.48	21.88	22.33	22.81	23.32	23.87	24.46	25.07	25.71	26.36	27.05	27.77	28.50	29.26	30.05	30.86
1.088	20.56	20.79	21.01	21.30	21.57	21.93	22.33	22.78	23.26	23.76	24.32	24.90	25.51	26.15	26.80	27.49	28.21	28.94	29.70	30.48	31.29
1.090	21.00	21.22	21.45	21.74	22.02	22.37	22.78	23.23	23.70	24.21	24.76	25.35	25.96	26.59	27.24	27.93	28.65	29.37	30.13	30.91	31.71
1.092	21.43	21.66	21.88	22.18	22.46	22.82	23.22	23.67	24.15	24.66	25.21	25.79	26.40	27.03	27.68	28.37	29.08	29.80	30.56	31.34	32.13
1.094	21.86	22.09	22.32	22.61	22.90	23.26	23.67	24.11	24.59	25.10	25.65	26.23	26.84	27.47	28.12	28.81	29.52	30.24	30.99	31.76	32.56
1.096	22.29	22.53	22.75	23.05	23.34	23.70	24.11	24.56	25.04	25.54	26.09	26.67	27.28	27.91	28.56	29.24	29.95	30.67	31.42	32.19	32.98
1.098	22.72	22.96	23.19	23.48	23.78	24.14	24.55	25.00	25.48	25.98	26.53	27.11	27.72	28.35	29.00	29.68	30.38	31.10	31.84	32.61	33.40
1.100	23.14	23.39	23.62	23.91	24.22	24.58	24.99	25.44	25.92	26.42	26.97	27.55	28.15	28.79	29.43	30.11	30.81	31.53	32.27	33.03	33.81
1.102	23.57	23.81	24.05	24.34	24.65	25.02	25.43	25.88	26.35	26.86	27.41	27.99	28.59	29.22	29.86	30.54	31.24	31.95	32.69	33.45	34.23
1.104	23.99	24.24	24.48	24.77	25.09	25.46	25.87	26.31	26.79	27.30	27.85	28.42	29.02	29.65	30.30	30.97	31.67	32.38	33.12	33.87	34.65
1.106	24.42	24.67	24.91	25.20	25.52	25.89	26.30	26.75	27.23	27.73	28.28	28.86	29.46	30.08	30.73	31.40	32.10	32.80	33.54	34.29	35.06
1.108	24.84	25.09	25.33	25.62	25.96	26.32	26.74	27.18	27.66	28.17	28.72	29.29	29.89	30.51	31.16	31.83	32.52	33.23	33.96	34.71	35.47
1.110	25.26	25.51	25.76	26.05	26.39	26.76	27.17	27.62	28.09	28.60	29.15	29.72	30.32	30.94	31.58	32.26	32.95	33.65	34.38	35.12	35.88
1.112	25.68	25.94	26.18	26.47	26.82	27.19	27.60	28.05	28.52	29.03	29.58	30.15	30.74	31.37	32.01	32.68	33.37	34.07	34.79	35.54	36.30
1.114	26.10	26.36	26.60	26.89	27.24	27.62	28.03	28.48	28.95	29.46	30.01	30.58	31.17	31.80	32.43	33.10	33.79	34.49	35.21	35.95	36.70
1.116	26.52	26.78	27.02	27.31	27.67	28.04	28.46	28.91	29.38	29.89	30.44	31.01	31.60	32.22	32.86	33.52	34.21	34.91	35.63	36.36	37.11
1.118	26.93	27.19	27.44	27.73	28.10	28.47	28.89	29.33	29.81	30.32	30.86	31.43	32.02	32.64	33.28	33.95	34.63	35.32	36.04	36.77	37.52
1.120	27.35	27.61	27.86	28.15	28.52	28.90	29.31	29.76	30.24	30.75	31.29	31.86	32.45	33.07	33.70	34.36	35.04	35.74	36.45	37.18	37.93
1.122	27.76	28.03	28.28	28.57	28.94	29.32	29.74	30.18	30.66	31.17	31.71	32.28	32.87	33.49	34.12	34.78	35.46	36.15	36.86	37.59	38.33a
1.124	28.18	28.44	28.69	28.99	29.37	29.74	30.16	30.61	31.08	31.59	32.13	32.70	33.29	33.91	34.54	35.20	35.87	36.56	37.27	38.00	38.73
1.126	28.59	28.85	29.11	29.40	29.79	30.17	30.58	31.03	31.51	32.02	32.56	33.12	33.71	34.32	34.96	35.61	36.29	36.97	37.68	38.40	39.14
1.128	29.00	29.27	29.52	29.81	30.21	30.59	31.00	31.45	31.93	32.44	32.98	33.54	34.12	34.74	35.37	36.03	36.70	37.38	38.09	38.81	39.54
1.130	29.41	29.68	29.93	30.23	30.62	31.01	31.42	31.87	32.35	32.86	33.40	33.96	34.54	35.16	35.79	36.44	37.11	37.79	38.49	39.21	39.94
1.132	29.82	30.09	30.34	30.64	31.04	31.42	31.84	32.29	32.76	33.27	33.81	34.37	34.96	35.57	36.20	36.85	37.52	38.20	38.90	39.61	40.34
1.134	30.22	30.50	30.75	31.05	31.46	31.84	32.26	32.70	33.18	33.69	34.23	34.79	35.37	35.98	36.61	37.26	37.93	38.60	39.30	40.01	40.73

Density g/cc	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
1.136	30.63	30.90	31.16	31.46	31.87	32.25	32.67	33.12	33.60	34.11	34.64	35.20	35.78	36.40	37.02	37.67	38.33	39.01	39.70	40.41	41.13
1.138	31.03	31.31	31.57	31.86	32.28	32.67	33.09	33.53	34.01	34.52	35.06	35.62	36.19	36.81	37.43	38.08	38.74	39.41	40.10	40.81	41.53
1.140	31.44	31.71	31.98	32.27	32.69	33.08	33.50	33.95	34.42	34.93	35.47	36.03	36.60	37.21	37.84	38.48	39.14	39.81	40.50	41.21	41.92
1.142	31.84	32.12	32.38	32.68	33.10	33.49	33.91	34.36	34.84	35.35	35.88	36.44	37.01	37.62	38.24	38.89	39.54	40.22	40.90	41.60	42.31
1.144	32.24	32.52	32.79	33.08	33.51	33.90	34.33	34.77	35.25	35.76	36.29	36.85	37.42	38.03	38.65	39.29	39.95	40.61	41.30	42.00	42.71
1.146	32.64	32.92	33.19	33.48	33.92	34.31	34.73	35.18	35.66	36.17	36.70	37.25	37.83	38.43	39.05	39.69	40.35	41.01	41.70	42.39	43.10
1.148	33.04	33.32	33.59	33.89	34.33	34.72	35.14	35.59	36.06	36.57	37.11	37.66	38.23	38.84	39.46	40.09	40.74	41.41	42.09	42.78	43.49
1.150	33.44	33.72	33.99	34.29	34.74	35.13	35.55	36.00	36.47	36.98	37.51	38.07	38.64	39.24	39.86	40.49	41.14	41.81	42.49	43.18	43.88
1.152	33.84	34.12	34.39	34.69	35.14	35.53	35.96	36.40	36.88	37.39	37.92	38.47	39.04	39.64	40.26	40.89	41.54	42.20	42.88	43.57	44.26
1.154	34.23	34.52	34.79	35.09	35.54	35.94	36.36	36.81	37.28	37.79	38.32	38.87	39.44	40.04	40.66	41.29	41.93	42.60	43.27	43.96	44.65
1.156	34.63	34.92	35.19	35.49	35.95	36.34	36.76	37.21	37.68	38.19	38.72	39.27	39.84	40.44	41.05	41.69	42.33	42.99	43.66	44.34	45.04
1.158	35.02	35.31	35.59	35.89	36.35	36.74	37.17	37.61	38.09	38.60	39.13	39.67	40.24	40.84	41.45	42.08	42.72	43.38	44.05	44.73	45.42
1.160	35.42	35.71	35.98	36.28	36.75	37.14	37.57	38.01	38.49	39.00	39.53	40.07	40.64	41.24	41.85	42.48	43.11	43.77	44.44	45.12	45.81
1.162	35.81	36.10	36.38	36.68	37.15	37.54	37.97	38.41	38.89	39.40	39.93	40.47	41.04	41.63	42.24	42.87	43.50	44.16	44.82	45.50	46.19
1.164	36.20	36.49	36.77	37.07	37.54	37.94	38.37	38.81	39.29	39.80	40.32	40.87	41.43	42.03	42.63	43.26	43.89	44.55	45.21	45.89	46.57
1.166	36.59	36.88	37.16	37.47	37.94	38.34	38.76	39.21	39.68	40.19	40.72	41.26	41.83	42.42	43.03	43.65	44.28	44.93	45.59	46.27	46.95
1.168	36.98	37.27	37.55	37.86	38.33	38.73	39.16	39.61	40.08	40.59	41.12	41.66	42.22	42.81	43.42	44.04	44.67	45.32	45.98	46.65	47.33
1.170	37.37	37.66	37.95	38.25	38.73	39.13	39.56	40.00	40.48	40.98	41.51	42.05	42.61	43.20	43.81	44.43	45.06	45.70	46.36	47.03	47.71
1.172	37.76	38.05	38.34	38.64	39.12	39.52	39.95	40.40	40.87	41.38	41.90	42.44	43.00	43.59	44.19	44.81	45.44	46.09	46.74	47.41	48.09
1.174	38.14	38.44	38.72	39.03	39.51	39.92	40.34	40.79	41.26	41.77	42.30	42.84	43.39	43.98	44.58	45.20	45.83	46.47	47.12	47.79	48.46
1.176	38.53	38.82	39.11	39.42	39.91	40.31	40.74	41.18	41.66	42.16	42.69	43.23	43.78	44.37	44.97	45.58	46.21	46.85	47.50	48.17	48.84
1.178	38.91	39.21	39.50	39.81	40.30	40.70	41.13	41.57	42.05	42.55	43.08	43.61	44.17	44.76	45.35	45.97	46.59	47.23	47.88	48.54	49.21
1.180	39.30	39.59	39.89	40.20	40.68	41.09	41.52	41.96	42.44	42.94	43.46	44.00	44.56	45.14	45.74	46.35	46.97	47.61	48.26	48.92	49.59
1.182	39.68	39.98	40.27	40.59	41.07	41.48	41.91	42.35	42.82	43.33	43.85	44.39	44.94	45.53	46.12	46.73	47.35	47.99	48.63	49.29	49.96
1.184	40.06	40.36	40.66	40.97	41.46	41.86	42.29	42.74	43.21	43.72	44.24	44.77	45.33	45.91	46.50	47.11	47.73	48.36	49.01	49.66	50.33
1.186	40.44	40.74	41.04	41.36	41.84	42.25	42.68	43.13	43.60	44.10	44.62	45.16	45.71	46.29	46.88	47.49	48.11	48.74	49.38	50.04	50.70
1.188	40.82	41.12	41.42	41.74	42.23	42.64	43.07	43.51	43.98	44.49	45.01	45.54	46.09	46.67	47.26	47.87	48.48	49.11	49.75	50.41	51.07
1.190	41.20	41.50	41.80	42.12	42.61	43.02	43.45	43.90	44.37	44.87	45.39	45.92	46.47	47.05	47.64	48.25	48.86	49.49	50.13	50.78	51.44
1.192	41.58	41.88	42.18	42.51	42.99	43.40	43.83	44.28	44.75	45.26	45.77	46.31	46.85	47.43	48.02	48.62	49.23	49.86	50.50	51.15	51.81
1.194	41.96	42.26	42.56	42.89	43.38	43.79	44.22	44.66	45.13	45.64	46.15	46.69	47.23	47.81	48.39	49.00	49.60	50.23	50.87	51.51	52.17
1.196	42.33	42.64	42.94	43.27	43.76	44.17	44.60	45.04	45.52	46.02	46.53	47.07	47.61	48.19	48.77	49.37	49.98	50.60	51.24	51.88	52.54
1.198	42.71	43.01	43.32	43.65	44.14	44.55	44.98	45.42	45.90	46.40	46.91	47.44	47.99	48.56	49.14	49.74	50.35	50.97	51.60	52.25	52.90
1.200	43.08	43.39	43.70	44.03	44.51	44.93	45.36	45.80	46.27	46.78	47.29	47.82	48.36	48.94	49.52	50.11	50.72	51.34	51.97	52.61	53.27
1.202	43.46	43.76	44.07	44.41	44.89	45.30	45.73	46.18	46.65	47.15	47.67	48.20	48.74	49.31	49.89	50.49	51.09	51.71	52.34	52.98	53.63
1.204	43.83	44.14	44.45	44.79	45.27	45.68	46.11	46.56	47.03	47.53	48.04	48.57	49.11	49.68	50.26	50.85	51.45	52.07	52.70	53.34	53.99
1.206	44.20	44.51	44.83	45.16	45.64	46.06	46.49	46.94	47.41	47.91	48.42	48.94	49.49	50.05	50.63	51.22	51.82	52.44	53.06	53.70	54.35
1.208	44.57	44.88	45.20	45.54	46.02	46.43	46.86	47.31	47.78	48.28	48.79	49.32	49.86	50.42	51.00	51.59	52.19	52.80	53.43	54.06	54.71
1.210	44.94	45.25	45.57	45.91	46.39	46.81	47.24	47.68	48.16	48.66	49.17	49.69	50.23	50.79	51.37	51.96	52.55	53.17	53.79	54.42	55.07
1.212	45.31	45.63	45.94	46.29	46.76	47.18	47.61	48.06	48.53	49.03	49.54	50.06	50.60	51.16	51.73	52.32	52.92	53.53	54.15	54.78	55.43
1.214	45.68	46.00	46.32	46.66	47.14	47.55	47.98	48.43	48.90	49.40	49.91	50.43	50.97	51.53	52.10	52.69	53.28	53.89	54.51	55.14	55.78
1.216	46.05	46.36	46.69	47.04	47.51	47.92	48.35	48.80	49.27	49.77	50.28	50.80	51.34	51.90	52.46	53.05	53.64	54.25	54.87	55.50	56.14
1.218	46.41	46.73	47.06	47.41	47.88	48.29	48.72	49.17	49.64	50.14	50.65	51.17	51.70	52.26	52.83	53.41	54.00	54.61	55.23	55.85	56.49
1.220	46.78	47.10	47.43	47.78	48.24	48.66	49.09	49.54	50.01	50.51	51.01	51.53	52.07	52.63	53.19	53.78	54.36	54.97	55.58	56.21	56.85
1.222	47.15	47.47	47.79	48.15	48.61	49.03	49.46	49.91	50.38	50.88	51.38	51.90	52.44	52.99	53.55	54.14	54.72	55.33	55.94	56.56	57.20
1.224	47.51	47.83	48.16	48.52	48.98	49.40	49.83	50.28	50.75	51.24	51.75	52.27	52.80	53.35	53.92	54.50	55.08	55.68	56.29	56.92	57.55

Density g/cc	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
1.226	47.87	48.20	48.53	48.89	49.35	49.76	50.19	50.64	51.11	51.61	52.11	52.63	53.16	53.71	54.28	54.86	55.44	56.04	56.65	57.27	57.90
1.228	48.24	48.56	48.89	49.26	49.71	50.13	50.56	51.01	51.48	51.97	52.48	52.99	53.52	54.08	54.64	55.21	55.79	56.39	57.00	57.62	58.25
1.230	48.60	48.92	49.26	49.63	50.07	50.49	50.92	51.37	51.84	52.34	52.84	53.35	53.89	54.44	54.99	55.57	56.15	56.75	57.35	57.97	58.60
1.232	48.96	49.28	49.62	49.99	50.44	50.86	51.29	51.74	52.21	52.70	53.20	53.72	54.25	54.79	55.35	55.93	56.50	57.10	57.71	58.32	58.95
1.234	49.32	49.65	49.99	50.36	50.80	51.22	51.65	52.10	52.57	53.06	53.56	54.08	54.61	55.15	55.71	56.28	56.86	57.45	58.06	58.67	59.29
1.236	49.68	50.01	50.35	50.73	51.16	51.58	52.01	52.46	52.93	53.42	53.92	54.44	54.96	55.51	56.06	56.64	57.21	57.80	58.41	59.02	59.64
1.238	50.04	50.37	50.71	51.09	51.52	51.94	52.37	52.82	53.29	53.78	54.28	54.79	55.32	55.87	56.42	56.99	57.56	58.15	58.75	59.37	59.98
1.240	50.39	50.73	51.07	51.46	51.88	52.30	52.73	53.18	53.65	54.14	54.64	55.15	55.68	56.22	56.77	57.34	57.91	58.50	59.10	59.71	60.33
1.242	50.75	51.09	51.44	51.82	52.24	52.66	53.09	53.54	54.01	54.50	55.00	55.51	56.03	56.58	57.12	57.69	58.26	58.85	59.45	60.06	60.67
1.244	51.11	51.44	51.79	52.18	52.60	53.02	53.45	53.90	54.37	54.86	55.35	55.86	56.39	56.93	57.48	58.04	58.61	59.20	59.80	60.40	61.01
1.246	51.46	51.80	52.15	52.54	52.95	53.37	53.81	54.26	54.72	55.21	55.71	56.22	56.74	57.28	57.83	58.39	58.96	59.55	60.14	60.74	61.35
1.248	51.82	52.16	52.51	52.90	53.31	53.73	54.16	54.61	55.08	55.57	56.06	56.57	57.10	57.63	58.18	58.74	59.31	59.89	60.48	61.09	61.70
1.250	52.17	52.51	52.87	53.27	53.67	54.09	54.52	54.97	55.44	55.92	56.42	56.93	57.45	57.98	58.53	59.09	59.66	60.24	60.83	61.43	62.03
1.252	52.52	52.87	53.23	53.63	54.02	54.44	54.87	55.32	55.79	56.28	56.77	57.28	57.80	58.33	58.88	59.44	60.00	60.58	61.17	61.77	62.37
1.254	52.88	53.22	53.58	53.98	54.37	54.79	55.23	55.68	56.14	56.63	57.12	57.63	58.15	58.68	59.22	59.78	60.35	60.93	61.51	62.11	62.71
1.256	53.23	53.57	53.94	54.34	54.73	55.15	55.58	56.03	56.50	56.98	57.47	57.98	58.50	59.03	59.57	60.13	60.69	61.27	61.85	62.45	63.05
1.258	53.58	53.93	54.29	54.70	55.08	55.50	55.93	56.38	56.85	57.33	57.83	58.33	58.85	59.38	59.92	60.47	61.03	61.61	62.19	62.78	63.38
1.260	53.93	54.28	54.65	55.06	55.43	55.85	56.28	56.73	57.20	57.68	58.17	58.68	59.20	59.73	60.26	60.82	61.38	61.95	62.53	63.12	63.72
1.262	54.28	54.63	55.00	55.41	55.78	56.20	56.63	57.08	57.55	58.03	58.52	59.03	59.54	60.07	60.61	61.16	61.72	62.29	62.87	63.46	64.05
1.264	54.63	54.98	55.35	55.77	56.13	56.55	56.98	57.43	57.90	58.38	58.87	59.37	59.89	60.42	60.95	61.50	62.06	62.63	63.21	63.79	64.38
1.266	54.97	55.33	55.70	56.12	56.48	56.90	57.33	57.78	58.25	58.73	59.22	59.72	60.24	60.76	61.29	61.84	62.40	62.97	63.54	64.13	64.71
1.268	55.32	55.68	56.05	56.48	56.82	57.25	57.68	58.13	58.59	59.07	59.56	60.06	60.58	61.10	61.64	62.19	62.74	63.31	63.88	64.46	65.04
1.270	55.67	56.03	56.40	56.83	57.17	57.59	58.03	58.48	58.94	59.42	59.91	60.41	60.92	61.45	61.98	62.53	63.08	63.64	64.22	64.79	65.37
1.272	56.01	56.37	56.75	57.18	57.52	57.94	58.37	58.82	59.29	59.76	60.25	60.75	61.27	61.79	62.32	62.86	63.42	63.98	64.55	65.12	65.70
1.274	56.36	56.72	57.10	57.53	57.86	58.28	58.72	59.17	59.63	60.11	60.60	61.10	61.61	62.13	62.66	63.20	63.75	64.32	64.88	65.46	66.03
1.276	56.70	57.06	57.45	57.88	58.21	58.63	59.06	59.51	59.98	60.45	60.94	61.44	61.95	62.47	63.00	63.54	64.09	64.65	65.22	65.79	66.36
1.278	57.05	57.41	57.80	58.23	58.55	58.97	59.40	59.86	60.32	60.80	61.28	61.78	62.29	62.81	63.33	63.88	64.42	64.98	65.55	66.12	66.68
1.280	57.39	57.75	58.14	58.58	58.89	59.32	59.75	60.20	60.66	61.14	61.62	62.12	62.63	63.15	63.67	64.21	64.76	65.32	65.88	66.44	67.01
1.282	57.73	58.10	58.49	58.93	59.24	59.66	60.09	60.54	61.00	61.48	61.96	62.46	62.97	63.49	64.01	64.55	65.09	65.65	66.21	66.77	67.33
1.284	58.07	58.44	58.84	59.28	59.58	60.00	60.43	60.88	61.34	61.82	62.30	62.80	63.31	63.82	64.34	64.88	65.43	65.98	66.54	67.10	67.66
1.286	58.41	58.78	59.18	59.62	59.92	60.34	60.77	61.22	61.69	62.16	62.64	63.14	63.65	64.16	64.68	65.22	65.76	66.31	66.87	67.42	67.98
1.288	58.75	59.12	59.52	59.97	60.26	60.68	61.11	61.56	62.02	62.50	62.98	63.47	63.98	64.49	65.01	65.55	66.09	66.64	67.19	67.75	68.30
1.290	59.09	59.47	59.87	60.31	60.60	61.02	61.45	61.90	62.36	62.83	63.32	63.81	64.32	64.83	65.35	65.88	66.42	66.97	67.52	68.07	68.62
1.292	59.43	59.81	60.21	60.66	60.94	61.36	61.79	62.24	62.70	63.17	63.65	64.15	64.65	65.16	65.68	66.21	66.75	67.30	67.85	68.40	68.94
1.294	59.76	60.14	60.55	61.00	61.27	61.70	62.13	62.58	63.04	63.51	63.99	64.48	64.99	65.50	66.01	66.54	67.08	67.63	68.17	68.72	69.26
1.296	60.10	60.48	60.89	61.34	61.61	62.03	62.46	62.92	63.37	63.84	64.32	64.81	65.32	65.83	66.34	66.88	67.41	67.95	68.50	69.04	69.58
1.298	60.44	60.82	61.23	61.68	61.95	62.37	62.80	63.25	63.71	64.18	64.66	65.15	65.65	66.16	66.67	67.20	67.74	68.28	68.82	69.36	69.89
1.300	60.77	61.16	61.57	62.03	62.28	62.70	63.13	63.59	64.04	64.51	64.99	65.48	65.99	66.49	67.00	67.53	68.07	68.61	69.15	69.68	70.21
1.302	61.11	61.49	61.91	62.37	62.62	63.04	63.47	63.92	64.38	64.85	65.33	65.81	66.32	66.82	67.33	67.86	68.39	68.93	69.47	70.00	70.52
1.304	61.44	61.83	62.24	62.70	62.95	63.37	63.80	64.26	64.71	65.18	65.66	66.14	66.65	67.15	67.66	68.19	68.72	69.26	69.79	70.32	70.84
1.306	61.77	62.16	62.58	63.04	63.28	63.71	64.14	64.59	65.04	65.51	65.99	66.47	66.98	67.48	67.99	68.52	69.05	69.58	70.11	70.64	71.15
1.308	62.10	62.50	62.91	63.38	63.62	64.04	64.47	64.92	65.38	65.84	66.32	66.80	67.31	67.81	68.32	68.84	69.37	69.90	70.43	70.96	71.46
1.310	62.44	62.83	63.25	63.72	63.95	64.37	64.80	65.25	65.71	66.17	66.65	67.13	67.64	68.14	68.64	69.17	69.70	70.23	70.75	71.27	71.77
1.312	62.77	63.16	63.58	64.05	64.28	64.70	65.13	65.58	66.04	66.50	66.98	67.46	67.96	68.46	68.97	69.49	70.02	70.55	71.07	71.59	72.09

Density g/cc	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
1.314	63.10	63.50	63.92	64.39	64.61	65.03	65.46	65.91	66.37	66.83	67.31	67.79	68.29	68.79	69.30	69.82	70.34	70.87	71.39	71.90	72.40
1.316	63.43	63.83	64.25	64.72	64.94	65.36	65.79	66.24	66.70	67.16	67.63	68.12	68.62	69.11	69.62	70.14	70.66	71.19	71.71	72.22	72.70
1.318	63.75	64.16	64.58	65.05	65.27	65.69	66.12	66.57	67.02	67.48	67.96	68.44	68.94	69.44	69.94	70.46	70.99	71.51	72.02	72.53	73.01
1.320	64.08	64.49	64.91	65.39	65.60	66.02	66.45	66.90	67.35	67.81	68.29	68.77	69.27	69.76	70.27	70.78	71.31	71.83	72.34	72.84	73.32
1.322	64.41	64.82	65.24	65.72	65.93	66.35	66.77	67.23	67.68	68.14	68.61	69.09	69.59	70.09	70.59	71.11	71.63	72.15	72.66	73.15	73.63
1.324	64.73	65.14	65.57	66.05	66.25	66.67	67.10	67.55	68.00	68.46	68.94	69.42	69.91	70.41	70.91	71.43	71.95	72.46	72.97	73.46	73.93
1.326	65.06	65.47	65.90	66.38	66.58	67.00	67.43	67.88	68.33	68.79	69.26	69.74	70.24	70.73	71.23	71.75	72.27	72.78	73.29	73.77	74.24
1.328	65.38	65.80	66.23	66.70	66.91	67.33	67.75	68.20	68.65	69.11	69.58	70.06	70.56	71.05	71.55	72.07	72.58	73.10	73.60	74.08	74.54
1.330	65.71	66.12	66.55	67.03	67.23	67.65	68.08	68.53	68.98	69.43	69.91	70.38	70.88	71.37	71.88	72.39	72.90	73.41	73.91	74.39	74.84
1.332	66.03	66.45	66.88	67.36	67.56	67.97	68.40	68.85	69.30	69.76	70.23	70.71	71.20	71.69	72.19	72.70	73.22	73.73	74.22	74.70	75.15
1.334	66.35	66.77	67.20	67.68	67.88	68.30	68.72	69.17	69.62	70.08	70.55	71.03	71.52	72.01	72.51	73.02	73.54	74.04	74.54	75.01	75.45
1.336	66.67	67.10	67.53	68.01	68.20	68.62	69.05	69.50	69.95	70.40	70.87	71.35	71.84	72.33	72.83	73.34	73.85	74.36	74.85	75.32	75.75
1.338	67.00	67.42	67.85	68.33	68.53	68.94	69.37	69.82	70.27	70.72	71.19	71.67	72.16	72.65	73.15	73.66	74.17	74.67	75.16	75.62	76.05
1.340	67.32	67.74	68.17	68.65	68.85	69.26	69.69	70.14	70.59	71.04	71.51	71.98	72.48	72.97	73.47	73.97	74.48	74.98	75.47	75.93	76.35
1.342	67.63	68.06	68.50	68.97	69.17	69.59	70.01	70.46	70.91	71.36	71.83	72.30	72.80	73.28	73.78	74.29	74.80	75.29	75.78	76.23	76.65
1.344	67.95	68.38	68.82	69.29	69.49	69.91	70.33	70.78	71.22	71.68	72.14	72.62	73.11	73.60	74.10	74.60	75.11	75.61	76.08	76.54	76.94
1.346	68.27	68.70	69.14	69.61	69.81	70.23	70.65	71.10	71.54	71.99	72.46	72.94	73.43	73.92	74.41	74.92	75.42	75.92	76.39	76.84	77.24
1.348	68.59	69.02	69.45	69.93	70.13	70.55	70.97	71.42	71.86	72.31	72.78	73.25	73.74	74.23	74.73	75.23	75.74	76.23	76.70	77.14	77.54
1.350	68.90	69.34	69.77	70.25	70.45	70.86	71.29	71.73	72.18	72.63	73.09	73.57	74.06	74.55	75.04	75.54	76.05	76.54	77.01	77.44	77.83
1.352	69.22	69.65	70.09	70.56	70.77	71.18	71.61	72.05	72.49	72.94	73.41	73.88	74.37	74.86	75.36	75.86	76.36	76.85	77.31	77.74	78.13
1.354	69.53	69.97	70.40	70.88	71.08	71.50	71.92	72.37	72.81	73.26	73.72	74.20	74.69	75.17	75.67	76.17	76.67	77.16	77.62	78.04	78.42
1.356	69.85	70.28	70.72	71.19	71.40	71.82	72.24	72.68	73.12	73.57	74.04	74.51	75.00	75.49	75.98	76.48	76.98	77.46	77.92	78.34	78.72
1.358	70.16	70.60	71.03	71.50	71.72	72.13	72.55	73.00	73.44	73.89	74.35	74.82	75.31	75.80	76.29	76.79	77.29	77.77	78.23	78.64	79.01
1.360	70.47	70.91	71.35	71.82	72.03	72.45	72.87	73.31	73.75	74.20	74.66	75.13	75.62	76.11	76.61	77.10	77.60	78.08	78.53	78.94	79.30
1.362	70.78	71.22	71.66	72.13	72.35	72.76	73.18	73.63	74.07	74.51	74.97	75.45	75.93	76.42	76.92	77.41	77.91	78.39	78.83	79.24	79.59
1.364	71.09	71.54	71.97	72.44	72.66	73.08	73.50	73.94	74.38	74.82	75.29	75.76	76.25	76.73	77.23	77.72	78.22	78.69	79.14	79.54	79.88
1.366	71.40	71.85	72.28	72.74	72.98	73.39	73.81	74.25	74.69	75.13	75.60	76.07	76.56	77.04	77.54	78.03	78.52	79.00	79.44	79.84	80.17
1.368	71.71	72.16	72.59	73.05	73.29	73.70	74.12	74.56	75.00	75.44	75.91	76.38	76.86	77.35	77.85	78.34	78.83	79.30	79.74	80.13	80.46
1.370	72.02	72.47	72.90	73.36	73.60	74.02	74.44	74.88	75.31	75.75	76.22	76.69	77.17	77.66	78.15	78.65	79.14	79.61	80.04	80.43	80.75
1.372	72.33	72.77	73.20	73.66	73.91	74.33	74.75	75.19	75.62	76.06	76.52	77.00	77.48	77.97	78.46	78.96	79.44	79.91	80.34	80.72	81.04
1.374	72.64	73.08	73.51	73.96	74.23	74.64	75.06	75.50	75.93	76.37	76.83	77.30	77.79	78.27	78.77	79.26	79.75	80.21	80.64	81.02	81.33
1.376	72.94	73.39	73.82	74.27	74.54	74.95	75.37	75.81	76.24	76.68	77.14	77.61	78.10	78.58	79.08	79.57	80.05	80.52	80.94	81.31	81.62
1.378	73.25	73.69	74.12	74.57	74.85	75.26	75.68	76.11	76.55	76.99	77.45	77.92	78.40	78.89	79.38	79.87	80.36	80.82	81.24	81.61	81.90
1.380	73.55	74.00	74.42	74.87	75.16	75.57	75.99	76.42	76.85	77.29	77.75	78.22	78.71	79.19	79.69	80.18	80.66	81.12	81.54	81.90	82.19
1.382	73.85	74.30	74.72	75.16	75.47	75.88	76.30	76.73	77.16	77.60	78.06	78.53	79.01	79.50	79.99	80.49	80.97	81.42	81.83	82.19	82.47
1.384	74.16	74.60	75.02	75.46	75.77	76.19	76.60	77.04	77.47	77.91	78.36	78.83	79.32	79.80	80.30	80.79	81.27	81.72	82.13	82.48	82.76
1.386	74.46	74.90	75.32	75.76	76.08	76.49	76.91	77.34	77.77	78.21	78.67	79.14	79.62	80.11	80.60	81.09	81.57	82.02	82.43	82.77	83.04
1.388	74.76	75.20	75.62	76.05	76.39	76.80	77.22	77.65	78.08	78.52	78.97	79.44	79.93	80.41	80.91	81.40	81.87	82.32	82.72	83.06	83.33
1.390	75.06	75.50	75.92	76.35	76.70	77.11	77.52	77.95	78.38	78.82	79.27	79.74	80.23	80.71	81.21	81.70	82.18	82.62	83.02	83.36	83.61
1.392	75.36	75.80	76.22	76.64	77.00	77.41	77.83	78.26	78.68	79.12	79.58	80.05	80.53	81.01	81.51	82.00	82.48	82.92	83.32	83.65	83.90
1.394	75.65	76.10	76.51	76.93	77.31	77.72	78.13	78.56	78.99	79.43	79.88	80.35	80.83	81.32	81.82	82.30	82.78	83.22	83.61	83.93	84.18
1.396	75.95	76.39	76.80	77.22	77.62	78.03	78.44	78.87	79.29	79.73	80.18	80.65	81.13	81.62	82.12	82.61	83.08	83.52	83.90	84.22	84.46
1.398	76.25	76.69	77.10	77.50	77.92	78.33	78.74	79.17	79.59	80.03	80.48	80.95	81.43	81.92	82.42	82.91	83.38	83.81	84.20	84.51	84.74
1.400	76.54	76.98	77.39	77.79	78.23	78.63	79.05	79.47	79.89	80.33	80.78	81.25	81.73	82.22	82.72	83.21	83.68	84.11	84.49	84.80	85.02

Density g/cc	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
1.402	76.84	77.28	77.68	78.08	78.53	78.94	79.35	79.77	80.19	80.63	81.08	81.55	82.03	82.52	83.02	83.51	83.98	84.41	84.78	85.09	85.31
1.404	77.13	77.57	77.97	78.36	78.83	79.24	79.65	80.07	80.49	80.93	81.38	81.85	82.33	82.82	83.32	83.81	84.27	84.70	85.08	85.38	85.59
1.406	77.42	77.86	78.25	78.64	79.14	79.54	79.95	80.37	80.79	81.23	81.68	82.15	82.63	83.12	83.62	84.11	84.57	85.00	85.37	85.66	85.87
1.408	77.71	78.15	78.54	78.92	79.44	79.85	80.25	80.67	81.09	81.53	81.97	82.45	82.93	83.41	83.92	84.41	84.87	85.29	85.66	85.95	86.15
1.410	78.00	78.44	78.83	79.20	79.74	80.15	80.56	80.97	81.39	81.82	82.27	82.74	83.23	83.71	84.22	84.71	85.17	85.59	85.95	86.23	86.43
1.412	78.29	78.73	79.11	79.48	80.04	80.45	80.86	81.27	81.68	82.12	82.57	83.04	83.52	84.01	84.51	85.00	85.46	85.88	86.24	86.52	86.71
1.414	78.58	79.01	79.39	79.75	80.34	80.75	81.16	81.57	81.98	82.42	82.86	83.34	83.82	84.31	84.81	85.30	85.76	86.18	86.53	86.81	86.99
1.416	78.87	79.30	79.67	80.03	80.64	81.05	81.45	81.87	82.28	82.71	83.16	83.63	84.12	84.60	85.11	85.60	86.06	86.47	86.82	87.09	87.27
1.418	79.16	79.58	79.95	80.30	80.94	81.35	81.75	82.16	82.57	83.01	83.45	83.93	84.41	84.90	85.41	85.89	86.35	86.76	87.11	87.38	87.55
1.420	79.44	79.86	80.23	80.57	81.24	81.65	82.05	82.46	82.87	83.30	83.75	84.22	84.71	85.19	85.70	86.19	86.65	87.06	87.40	87.66	87.83
1.422	79.73	80.15	80.51	80.84	81.54	81.94	82.35	82.76	83.16	83.60	84.04	84.52	85.00	85.49	86.00	86.49	86.94	87.35	87.69	87.94	88.10
1.424	80.01	80.43	80.78	81.11	81.84	82.24	82.65	83.05	83.46	83.89	84.33	84.81	85.29	85.78	86.29	86.78	87.23	87.64	87.98	88.23	88.38
1.426	80.29	80.70	81.06	81.38	82.14	82.54	82.94	83.35	83.75	84.19	84.62	85.10	85.59	86.08	86.59	87.08	87.53	87.93	88.27	88.51	88.66
1.428	80.58	80.98	81.33	81.64	82.44	82.84	83.24	83.64	84.04	84.48	84.92	85.40	85.88	86.37	86.88	87.37	87.82	88.22	88.55	88.79	88.94
1.430	80.86	81.26	81.60	81.91	82.73	83.13	83.53	83.93	84.33	84.77	85.21	85.69	86.17	86.66	87.17	87.67	88.11	88.51	88.84	89.08	89.22
1.432	81.14	81.53	81.87	82.17	83.03	83.43	83.83	84.23	84.63	85.06	85.50	85.98	86.46	86.95	87.47	87.96	88.41	88.80	89.13	89.36	89.50
1.434	81.41	81.81	82.14	82.43	83.32	83.72	84.12	84.52	84.92	85.35	85.79	86.27	86.76	87.24	87.76	88.25	88.70	89.09	89.41	89.64	89.78
1.436	81.69	82.08	82.41	82.69	83.62	84.02	84.42	84.81	85.21	85.64	86.08	86.56	87.05	87.54	88.05	88.55	88.99	89.38	89.70	89.92	90.05
1.438	81.97	82.35	82.67	82.95	83.91	84.31	84.71	85.10	85.50	85.93	86.36	86.85	87.34	87.83	88.34	88.84	89.28	89.67	89.99	90.21	90.33
1.440	82.24	82.62	82.93	83.20	84.21	84.61	85.00	85.39	85.79	86.22	86.65	87.14	87.63	88.12	88.63	89.13	89.57	89.96	90.27	90.49	90.61
1.442	82.52	82.89	83.20	83.45	84.50	84.90	85.30	85.68	86.07	86.51	86.94	87.43	87.92	88.41	88.92	89.42	89.86	90.25	90.56	90.77	90.89
1.444	82.79	83.16	83.46	83.71	84.80	85.19	85.59	85.97	86.36	86.80	87.23	87.72	88.20	88.70	89.21	89.71	90.15	90.54	90.84	91.05	91.17
1.446	83.06	83.43	83.72	83.96	85.09	85.49	85.88	86.26	86.65	87.08	87.51	88.00	88.49	88.98	89.50	90.01	90.44	90.82	91.13	91.33	91.45
1.448	83.33	83.69	83.97	84.20	85.38	85.78	86.17	86.55	86.94	87.37	87.80	88.29	88.78	89.27	89.79	90.30	90.73	91.11	91.41	91.61	91.73
1.450	83.60	83.95	84.23	84.45	85.68	86.07	86.46	86.84	87.22	87.66	88.08	88.58	89.07	89.56	90.08	90.59	91.02	91.40	91.69	91.90	92.01
1.452	83.87	84.21	84.48	84.70	85.97	86.36	86.75	87.13	87.51	87.94	88.37	88.86	89.35	89.85	90.37	90.88	91.31	91.68	91.98	92.18	92.29
1.454	84.14	84.47	84.74	84.94	86.26	86.65	87.04	87.42	87.79	88.23	88.65	89.15	89.64	90.13	90.66	91.17	91.60	91.97	92.26	92.46	92.57
1.456	84.41	84.73	84.99	85.18	86.55	86.94	87.33	87.70	88.08	88.51	88.93	89.43	89.93	90.42	90.95	91.45	91.88	92.26	92.54	92.74	92.85
1.458	84.67	84.99	85.24	85.42	86.84	87.23	87.62	87.99	88.36	88.80	89.22	89.72	90.21	90.71	91.23	91.74	92.17	92.54	92.83	93.02	93.13
1.460	84.94	85.25	85.48	85.66	87.13	87.52	87.91	88.27	88.64	89.08	89.50	90.00	90.50	90.99	91.52	92.03	92.46	92.83	93.11	93.30	93.41
1.462	85.20	85.50	85.73	85.89	87.42	87.81	88.19	88.56	88.93	89.36	89.78	90.29	90.78	91.28	91.80	92.32	92.74	93.11	93.39	93.58	93.69
1.464	85.46	85.75	85.97	86.12	87.71	88.10	88.48	88.84	89.21	89.65	90.06	90.57	91.06	91.56	92.09	92.61	93.03	93.40	93.67	93.86	93.97
1.466	85.72	86.00	86.21	86.36	88.00	88.39	88.77	89.13	89.49	89.93	90.34	90.85	91.35	91.84	92.37	92.89	93.32	93.68	93.96	94.14	94.25
1.468	85.98	86.25	86.45	86.59	88.28	88.67	89.05	89.41	89.77	90.21	90.62	91.13	91.63	92.13	92.66	93.18	93.60	93.96	94.24	94.42	94.54
1.470	86.24	86.50	86.69	86.81	88.57	88.96	89.34	89.69	90.05	90.49	90.90	91.41	91.91	92.41	92.94	93.47	93.89	94.25	94.52	94.70	94.82
1.472	86.50	86.75	86.93	87.04	88.86	89.25	89.62	89.97	90.33	90.77	91.18	91.70	92.20	92.69	93.23	93.75	94.17	94.53	94.80	94.98	95.11
1.474	86.75	86.99	87.16	87.26	89.15	89.53	89.91	90.26	90.61	91.05	91.45	91.98	92.48	92.97	93.51	94.04	94.45	94.81	95.08	95.27	95.39
1.476	87.01	87.23	87.39	87.48	89.43	89.82	90.19	90.54	90.89	91.33	91.73	92.26	92.76	93.26	93.79	94.32	94.74	95.09	95.36	95.55	95.68
1.478	87.26	87.48	87.62	87.70	89.72	90.10	90.48	90.82	91.17	91.60	92.01	92.53	93.04	93.54	94.07	94.61	95.02	95.38	95.64	95.83	95.96
1.480	87.51	87.71	87.85	87.92	90.00	90.39	90.76	91.10	91.45	91.88	92.28	92.81	93.32	93.82	94.35	94.89	95.30	95.66	95.92	96.11	96.25
1.482	87.76	87.95	88.08	88.13	90.29	90.67	91.04	91.38	91.72	92.16	92.56	93.09	93.60	94.10	94.64	95.18	95.59	95.94	96.20	96.39	96.54
1.484	88.01	88.19	88.30	88.35	90.57	90.95	91.32	91.66	92.00	92.44	92.83	93.37	93.88	94.38	94.92	95.46	95.87	96.22	96.49	96.67	96.82
1.486	88.26	88.42	88.53	88.56	90.86	91.24	91.61	91.94	92.28	92.71	93.10	93.65	94.16	94.65	95.20	95.74	96.15	96.50	96.77	96.96	97.11
1.488	88.50	88.65	88.75	88.77	91.14	91.52	91.89	92.21	92.55	92.99	93.38	93.92	94.44	94.93	95.48	96.03	96.43	96.78	97.05	97.24	97.40

Density g/cc	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
1.490	88.75	88.88	88.97	88.97	91.43	91.80	92.17	92.49	92.83	93.26	93.65	94.20	94.71	95.21	95.75	96.31	96.71	97.06	97.33	97.52	97.69
1.492	88.99	89.11	89.18	89.18	91.71	92.09	92.45	92.77	93.10	93.54	93.92	94.47	94.99	95.49	96.03	96.59	97.00	97.34	97.61	97.80	97.99
1.494	89.23	89.34	89.40	89.38	91.99	92.37	92.73	93.04	93.37	93.81	94.19	94.75	95.27	95.77	96.31	96.87	97.28	97.62	97.89	98.09	98.28
1.496	89.47	89.56	89.61	89.58	92.27	92.65	93.01	93.32	93.65	94.08	94.46	95.02	95.55	96.04	96.59	97.15	97.56	97.90	98.16	98.37	98.57
1.498	89.71	89.79	89.82	89.78	92.56	92.93	93.28	93.60	93.92	94.35	94.73	95.30	95.82	96.32	96.86	97.43	97.84	98.18	98.44	98.65	98.87
1.500	89.95	90.01	90.02	89.97	92.84	93.21	93.56	93.87	94.19	94.63	95.00	95.57	96.10	96.59	97.14	97.71	98.12	98.46	98.72	98.94	99.17
1.502	90.19	90.23	90.23	90.17	93.12	93.49	93.84	94.15	94.46	94.90	95.27	95.84	96.37	96.87	97.42	97.99	98.40	98.73	99.00	99.22	99.46
1.504	90.42	90.44	90.43	90.36	93.40	93.77	94.12	94.42	94.73	95.17	95.54	96.12	96.65	97.14	97.69	98.27	98.67	99.01	99.28	99.51	99.76
1.506	90.66	90.66	90.63	90.55	93.68	94.05	94.40	94.69	95.00	95.44	95.80	96.39	96.92	97.42	97.97	98.55	98.95	99.29	99.56	99.79	-
1.508	90.89	90.87	90.83	90.73	93.96	94.32	94.67	94.96	95.27	95.71	96.07	96.66	97.20	97.69	98.24	98.83	99.23	99.57	99.84	-	-
1.510	91.12	91.08	91.03	90.92	94.24	94.60	94.95	95.24	95.54	95.98	96.33	96.93	97.47	97.96	98.51	99.11	99.51	99.85	-	-	-
1.512	91.35	91.29	91.22	91.10	94.52	94.88	95.22	95.51	95.81	96.24	96.60	97.20	97.74	98.24	98.79	99.39	99.79	-	-	-	-
1.514	91.57	91.50	91.41	91.28	94.80	95.16	95.50	95.78	96.08	96.51	96.86	97.47	98.02	98.51	99.06	99.67	-	-	-	-	-
1.516	91.80	91.70	91.60	91.45	95.07	95.43	95.77	96.05	96.34	96.78	97.13	97.74	98.29	98.78	99.33	99.94	-	-	-	-	-
1.518	92.02	91.90	91.79	91.63	95.35	95.71	96.05	96.32	96.61	97.04	97.39	98.01	98.56	99.05	99.60	-	-	-	-	-	-
1.520	92.25	92.10	91.97	91.80	95.63	95.99	96.32	96.59	96.88	97.31	97.65	98.28	98.83	99.32	99.87	-	-	-	-	-	-
1.522	92.47	92.30	92.15	91.97	95.91	96.26	96.59	96.86	97.14	97.57	97.91	98.55	99.10	99.59	-	-	-	-	-	-	-
1.524	92.69	92.50	92.33	92.13	96.18	96.54	96.87	97.13	97.41	97.84	98.17	98.81	99.37	99.86	-	-	-	-	-	-	-
1.526	92.90	92.69	92.51	92.30	96.46	96.81	97.14	97.40	97.67	98.10	98.43	99.08	99.64	-	-	-	-	-	-	-	-
1.528	93.12	92.88	92.68	92.46	96.74	97.09	97.41	97.66	97.93	98.37	98.69	99.35	99.91	-	-	-	-	-	-	-	-
1.530	93.33	93.07	92.85	92.62	97.01	97.36	97.68	97.93	98.20	98.63	98.95	99.61	-	-	-	-	-	-	-	-	-
1.532	93.54	93.25	93.02	92.78	97.29	97.63	97.95	98.20	98.46	98.89	99.21	99.88	-	-	-	-	-	-	-	-	-
1.534	93.76	93.44	93.19	92.93	97.56	97.90	98.22	98.46	98.72	99.15	99.47	-	-	-	-	-	-	-	-	-	-
1.536	93.96	93.62	93.35	93.08	97.84	98.18	98.49	98.73	98.98	99.41	99.72	-	-	-	-	-	-	-	-	-	-
1.538	94.17	93.80	93.51	93.23	98.11	98.45	98.76	98.99	99.24	99.67	99.98	-	-	-	-	-	-	-	-	-	-
1.540	94.38	93.97	93.66	93.37	98.38	98.72	99.03	99.26	99.50	99.93	-	-	-	-	-	-	-	-	-	-	-
1.542	94.58	94.15	93.82	93.52	98.66	98.99	99.30	99.52	99.76	-	-	-	-	-	-	-	-	-	-	-	-
1.544	94.78	94.32	93.97	93.66	98.93	99.26	99.56	99.78	-	-	-	-	-	-	-	-	-	-	-	-	-
1.546	94.98	94.48	94.12	93.80	99.20	99.53	99.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.548	95.18	94.65	94.26	93.93	99.47	99.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.550	95.38	94.81	94.41	94.06	99.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.552	95.57	94.97	94.55	94.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.554	95.76	95.13	94.68	94.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.556	95.95	95.29	94.82	94.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.558	96.14	95.44	94.95	94.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.560	96.33	95.59	95.08	94.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.562	96.51	95.73	95.20	94.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.564	96.69	95.88	95.32	94.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.566	96.87	96.02	95.44	95.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.568	97.05	96.16	95.55	95.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.570	97.23	96.29	95.66	95.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.572	97.40	96.42	95.77	95.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.574	97.57	96.55	95.88	95.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.576	97.74	96.68	95.98	95.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Density g/cc	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
1.578	97.91	96.80	96.08	95.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.580	98.08	96.92	96.17	95.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.582	98.24	97.03	96.26	95.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.584	98.40	97.15	96.35	95.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.586	98.56	97.25	96.43	95.94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.588	98.71	97.36	96.51	96.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.590	98.87	97.46	96.59	96.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.592	99.02	97.56	96.66	96.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

## B Density of Pure Water v. Temp.

Temperature		Density	
°C	°F	kg/m3	lb/ft3
0	32	999.8396	62.41999
0.5	32.9	999.8712	62.42197
1	33.8	999.8986	62.42367
1.5	34.7	999.9213	62.42509
2	35.6	999.9399	62.42625
2.5	36.5	999.9542	62.42714
3	37.4	999.9642	62.42777
3.5	38.3	999.9701	62.42814
4	39.2	999.9720	62.42825
4.5	40.1	999.9699	62.42812
5	41	999.9638	62.42774
5.5	41.9	999.9540	62.42713
6	42.8	999.9402	62.42627
6.5	43.7	999.9227	62.42517
7	44.6	999.9016	62.42386
7.5	45.5	999.8766	62.42230
8	46.4	999.8482	62.42053
8.5	47.3	999.8162	62.4185
9	48.2	999.7808	62.41632
9.5	49.1	999.7419	62.41389
10	50	999.6997	62.41125
10.5	50.9	999.6541	62.40840
11	51.8	999.6051	62.40535
11.5	52.7	999.5529	62.40209
12	53.6	999.4975	62.39863
12.5	54.5	999.4389	62.39497
13	55.4	999.3772	62.39112
13.5	56.3	999.3124	62.38708
14	57.2	999.2446	62.38284
14.5	58.1	999.1736	62.37841
15	59	999.0998	62.37380
15.5	59.9	999.0229	62.36901
16	60.8	998.9432	62.36403
16.5	61.7	998.8607	62.35887
17	62.6	998.7752	62.35354
17.5	63.5	998.6870	62.34803
18	64.4	998.5960	62.34235
18.5	65.3	998.5022	62.33650
19	66.2	998.4058	62.33047
19.5	67.1	998.3066	62.32428
20	68	998.2048	62.31793
20.5	68.9	998.1004	62.31141
21	69.8	997.9934	62.30473
21.5	70.7	997.8838	62.29788
22	71.6	997.7716	62.29088
22.5	72.5	997.6569	62.28372

Temperature		Density	
°C	°F	kg/m3	lb/ft3
23	73.4	997.5398	62.27641
23.5	74.3	997.4201	62.26894
24	75.2	997.2981	62.26132
24.5	76.1	997.1736	62.25355
25	77	997.0468	62.24563
25.5	77.9	996.9176	62.23757
26	78.8	996.7861	62.22936
26.5	79.7	996.6521	62.22099
27	80.6	996.5159	62.21249
27.5	81.5	996.3774	62.20384
28	82.4	996.2368	62.19507
28.5	83.3	996.0939	62.18614
29	84.2	995.9487	62.17708
29.5	85.1	995.8013	62.16788
30	86	995.6518	62.15855
30.5	86.9	995.5001	62.14907
31	87.8	995.3462	62.13947
31.5	88.7	995.1903	62.12973
32	89.6	995.0322	62.11986
32.5	90.5	994.8721	62.10987
33	91.4	994.7100	62.09975
33.5	92.3	994.5458	62.08950
34	93.2	994.3796	62.07912
34.5	94.1	994.2113	62.06861
35	95	994.0411	62.05799
35.5	95.9	993.8689	62.04724
36	98.6	993.6948	62.03637
36.5	97.7	993.5187	62.02537
37	98.6	993.3406	62.01426
37.5	99.5	993.1606	62.00302
38	100.4	992.9789	61.99168
38.5	101.3	992.7951	61.98020
39	102.2	992.6096	61.96862
39.5	103.1	992.4221	61.95692
40	104	992.2329	61.94510
40.5	104.9	992.0418	61.93317
41	105.8	991.8489	61.92113
41.5	106.7	991.6543	61.90898
42	107.6	991.4578	61.89672
42.5	108.5	991.2597	61.88434
43	109.4	991.0597	61.87186
43.5	110.3	990.8581	61.85927
44	111.2	990.6546	61.84657
44.5	112.1	990.4494	61.83376
45	113	990.2427	61.82085
45.5	113.9	990.0341	61.80783

Temperature		Density	
°C	°F	kg/m3	lb/ft3
46	114.8	989.8239	61.79471
46.5	115.7	989.6121	61.78149
47	116.6	989.3986	61.76816
47.5	117.5	989.1835	61.75473
48	118.4	988.9668	61.74120
48.5	119.3	988.7484	61.72756
49	120.2	988.5285	61.71384
49.5	121.1	988.3069	61.70000
50	122	988.0839	61.68608
50.5	122.9	987.8592	61.67205
51	123.8	987.6329	61.65793
51.5	124.7	987.4051	61.64371
52	125.6	987.1758	61.62939
52.5	126.5	986.9450	61.61498
53	127.4	986.7127	61.60048
53.5	128.3	986.4788	61.58588
54	129.2	986.2435	61.57118
54.5	130.1	986.0066	61.55640
55	131	985.7684	61.54153
55.5	131.9	985.5287	61.52656
56	132.8	985.2876	61.51150
56.5	133.7	985.0450	61.49636
57	134.6	984.8009	61.48112
57.5	135.5	984.5555	61.46580
58	136.4	984.3086	61.45039
58.5	137.3	984.0604	61.43489
59	138.2	983.8108	61.41931
59.5	139.1	983.5597	61.40364
60	140	983.3072	61.38787
60.5	140.9	983.0535	61.37203
61	141.8	982.7984	61.35611
61.5	142.7	982.5419	61.34009
62	143.6	982.2841	61.32400
62.5	144.5	982.0250	61.30783
63	145.4	981.7646	61.29157

Temperature		Density	
°C	°F	kg/m3	lb/ft3
63.5	146.3	981.5029	61.27523
64	147.2	981.2399	61.25881
64.5	148.1	980.9756	61.24231
65	149	980.7099	61.22573
65.5	149.9	980.4432	61.20907
66	150.8	980.1751	61.19233
66.5	151.7	979.9057	61.17552
67	152.6	979.6351	61.15862
67.5	153.5	979.3632	61.14165
68	154.4	979.0901	61.12460
68.5	155.3	978.8159	61.10748
69	156.2	978.5404	61.09028
69.5	157.1	978.2636	61.07300
70	158	977.9858	61.05566
70.5	158.9	977.7068	61.03823
71	159.8	977.4264	61.02074
71.5	160.7	977.1450	61.00316
72	161.6	976.8624	60.98552
72.5	162.5	976.5786	60.96781
73	163.4	976.2937	60.95002
73.5	164.3	976.0076	60.93216
74	165.2	975.7204	60.91423
74.5	166.1	975.4321	60.89623
75	167	975.1428	60.87816
75.5	167.9	974.8522	60.86003
76	168.8	974.5606	60.84182
76.5	169.7	974.2679	60.82355
77	170.6	973.9741	60.80520
77.5	171.5	973.6792	60.78680
78	172.4	973.3832	60.76832
78.5	173.3	973.0862	60.74977
79	174.2	972.7881	60.73116
79.5	175.1	972.4890	60.71249
80	176	972.1880	60.69375

## C General Concentration Data Input Templates

Use the following template sheets when requesting coefficients from your supplier if you do not have access to the coefficient calculation software. Ensure that the correct units are selected (tick the appropriate boxes) and enter the data into the appropriate sheet from the three product types. There is no need to enter the data for Product B when it is selected as either Pure or Town Water.

Units																	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <b>Temperature</b>  <input type="checkbox"/> °C  <input type="checkbox"/> °F         </div> <div style="border: 1px solid black; padding: 5px;"> <b>Concentration</b>  <input type="checkbox"/> % by mass  <input type="checkbox"/> % by volume         </div>	<div style="border: 1px solid black; padding: 5px;"> <b>Density</b>  <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> g per</td> <td><input type="checkbox"/> cm<sup>3</sup></td> </tr> <tr> <td><input type="checkbox"/> Kg</td> <td><input type="checkbox"/> dm<sup>3</sup></td> </tr> <tr> <td><input type="checkbox"/> oz</td> <td><input type="checkbox"/> ltr<sup>3</sup></td> </tr> <tr> <td><input type="checkbox"/> lb</td> <td><input type="checkbox"/> m<sup>3</sup></td> </tr> <tr> <td><input type="checkbox"/> Tonne</td> <td><input type="checkbox"/> in<sup>3</sup></td> </tr> <tr> <td><input type="checkbox"/> SG</td> <td><input type="checkbox"/> ft<sup>3</sup></td> </tr> <tr> <td></td> <td><input type="checkbox"/> US Gallon</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Imperial Gallon</td> </tr> </table> </div>	<input type="checkbox"/> g per	<input type="checkbox"/> cm <sup>3</sup>	<input type="checkbox"/> Kg	<input type="checkbox"/> dm <sup>3</sup>	<input type="checkbox"/> oz	<input type="checkbox"/> ltr <sup>3</sup>	<input type="checkbox"/> lb	<input type="checkbox"/> m <sup>3</sup>	<input type="checkbox"/> Tonne	<input type="checkbox"/> in <sup>3</sup>	<input type="checkbox"/> SG	<input type="checkbox"/> ft <sup>3</sup>		<input type="checkbox"/> US Gallon		<input type="checkbox"/> Imperial Gallon
<input type="checkbox"/> g per	<input type="checkbox"/> cm <sup>3</sup>																
<input type="checkbox"/> Kg	<input type="checkbox"/> dm <sup>3</sup>																
<input type="checkbox"/> oz	<input type="checkbox"/> ltr <sup>3</sup>																
<input type="checkbox"/> lb	<input type="checkbox"/> m <sup>3</sup>																
<input type="checkbox"/> Tonne	<input type="checkbox"/> in <sup>3</sup>																
<input type="checkbox"/> SG	<input type="checkbox"/> ft <sup>3</sup>																
	<input type="checkbox"/> US Gallon																
	<input type="checkbox"/> Imperial Gallon																

Suspension Data		
	Component (Product A) Density	<input style="width: 90%;" type="text"/>
	Temperature	Density
1	<input style="width: 90%;" type="text"/>	<input style="width: 90%;" type="text"/>
2	<input style="width: 90%;" type="text"/>	<input style="width: 90%;" type="text"/>
3	<input style="width: 90%;" type="text"/>	<input style="width: 90%;" type="text"/>
4	<input style="width: 90%;" type="text"/>	<input style="width: 90%;" type="text"/>
5	<input style="width: 90%;" type="text"/>	<input style="width: 90%;" type="text"/>

**Emulsion Data**

Component (Product A) Density

Component (Product A)

1

Density

2



3



4



5



Carrier (Product B)

- Pure Water
- Town Water
- Other

1



2



3



4



5



**Solution Data**

Temperature

Density

Concentration

1






2






3



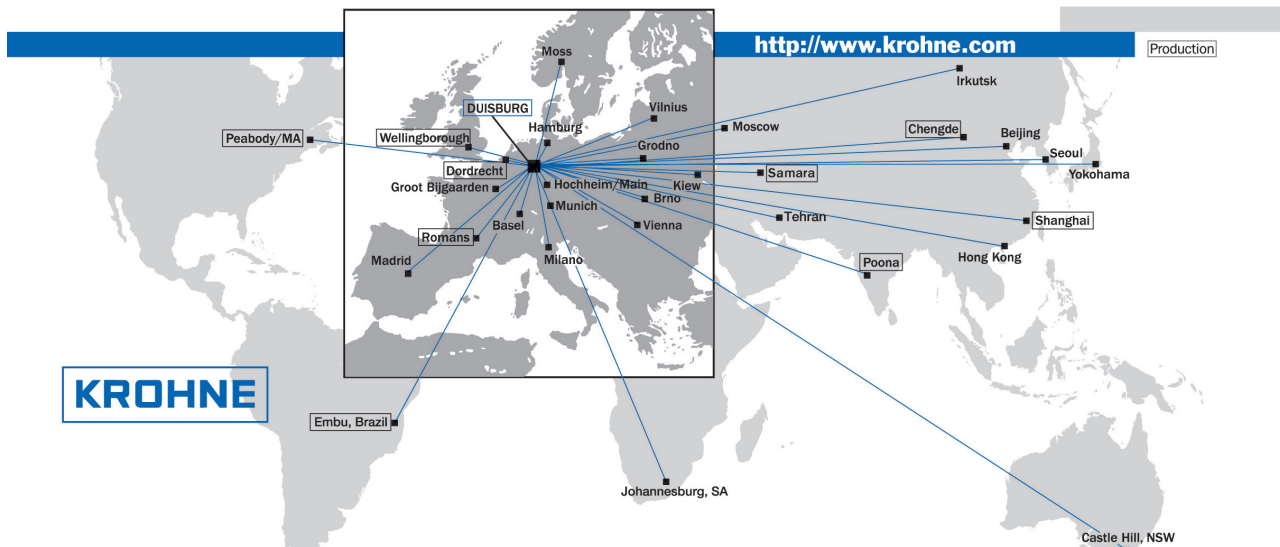



4






5



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Krohne reserves the right to make changes without prior notice

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