

ceramill CAD/CAM

Installation Check List



AMANN GIRRBACH

CERAMILL INSTALLATION CHECK LIST

Dear Ceramill customer.

Before you receive your Ceramill system in several days, there may still be some preparation required so that everything can run smoothly on the day of installation.

We would like you to read the following pages carefully - all important information is clearly summarised. If you should still have any questions, however, you can contact our Helpdesk.

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We look forward to a successful working relationship!

Your Helpdesk Team

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1. TECHNICAL DATA

Ceramill	Map 200 179130	Map 400 179140	Motion 2 4X 179280	Motion 2 5X 179250	Ceramill Mikro 179300
Measurements D/W/H [mm]	390 x 360 x 310	415 x 407 x 535	588 x 516 x 755	588 x 516 x 755	410 x 410 x 540
Weight [kg]	31	31	75	78	50
Electr. Connection values (V/A)	100-240 V/ 2x1,6 A	100-240 V/ 2x1,25 A	230 V/3,15 A 100-115 V/6,3 A	230 V/3,15 A 100-115 V/6,3 A	230 V/3,15 A 100 V/6,3 A
Hertz [Hz]	50/60	50/60	50/60	50/60	50/60
Performance [W]	60	80	250	250	250
Suction Power					
Compressed air connection			Dry, clean compressed air; extraction capac. during run: 6 bar, 50l/min	Dry, clean compressed air; extraction capac. during run: 6 bar, 50l/min	Dry, clean compressed air; extraction capac. during run: 6 bar, 50l/min
Engine speed (Urpm ⁻¹)			60.000	60.000	60.000
Torque (Ncm)			4	4	4
Collet chuck (Ø mm)			3	3	3
Noise level (max. dbA)			60	60	60
Accuracy	<10	<10	<10	<10	<10
Axes	2	2	4	5	4
Degree of protection					
Thermal protection class (according to DIN EN 60519-2)					
Recommended installation site	Table, no direct sunlight	Table, no direct sunlight	Table, no direct sunlight	Table, no direct sunlight	Table, no direct sunlight
Permitted temperature range	18 - 30 °C	15 - 30 °C	18 - 30 °C	18 - 30 °C	18 - 30 °C
Interfaces			USB/Ethernet/SD/RS232; connection PC to Motion: USB or network cable 5m	USB/Ethernet/SD/RS232; connection PC to Motion: USB or network cable 5m	USB/Ethernet/ SD/RS232; connection PC to Mikro: USB or network cable 5m

subject to modifications

Ceramill	Airstream 178600	Coolstream 178630	Therm 3 178380	Argotherm 2 178740
Measurements D/W/H [mm]	406 x 280 x 423	656 x 518 x 651	500 x 461 x 480	500x461x480
Weight [kg]	16	36	30	32
Electr. Connection values (V/A)	230 V/3,6 A 110-120 V/7,0 A	100-230 V/T 1,0 A	220-240 V / 16 A	220-240 V / 4 A
Hertz [Hz]	230/50 Hz; 110-120/60	50/60	50/60	50/60
Performance [W]	1000	150	3500	3500
Suction Power	56,6 l/sec			
Compressed air connection				Dry, clean compressed air; extraction capac. during run: 6 bar, 100l/min
Engine speed (Urpm ⁻¹)				
Torque (Ncm)				
Collet chuck (Ø mm)				
Noise level (max. dbA)	52			
Accuracy				
Axes				
Degree of protection			IP 20	IP 20
Thermal protection class (according to DIN EN 60519-2)			class 0	class 0
Recommended installation site			Table, no direct sunlight	Table, no direct sunlight
Permitted temperature range			5- 40 °C, 80% Humidity	5- 40 °C, 80% Humidity
Interfaces				

subject to modifications



COMPUTER

Processor power/ type	One Intel Xeon, 2,8 GHz
Main memory	16 GB RAM
Built-in hard disk storage	1TB
Graphics card	NVIDIA Quadro K2200
Installed system	Windows 8.1 Pro
Recovery software	included in the pack
Virus protection	Microsoft
Screen [inch]	22
Pixel resolution	1680 x 1050
Recommended installation location	above the floor, not on the wall
For information:	Technical specifications may change depending on the development status

2. WORKSTATION REQUIREMENTS

General recommendations:

- _The units should not be exposed to large fluctuations in temperature (< 15°C) or direct sunlight
- _Recommended temperature range 15°C - 30°C
- _All units must be free standing; otherwise the fans cannot operate correctly and it could result in overheating
- _All units are connected to the mains using a round Schuko plug (in Germany)

2.1 CERAMILL MAP400/MAP200

- _We recommend positioning the scanner near the computer (easier operation).
- _Place the scanner on a stable, level base (sturdy table, worktop, etc.)

2.2 CERAMILL MOTION 2 (4X AND 5X), CERAMILL MIKRO CERAMILL AIRSTREAM & CERAMILL COOLSTREAM

We recommend positioning the milling machine near the computer. If this is not possible, see Section 2 "Ceramill milling machines connection options"

Please check:

- _Is there a sufficiently large stable, level base available?
- _There must be sufficient space to allow the option of placing the Ceramill Motion 2 directly on the Ceramill Coolstream. See the following pages (tower version and bench version).



_A permanent supply of compressed air at adequate pressure must be guaranteed during operation of the milling machines. It must be ensured that:

- The compressed air connection continuously delivers 6 bar (87 psi) to the milling machine.
- The required minimum air consumption of the machine of 50 L/min (1.77 CFM) is supplied continually.
- The pressure does not fluctuate due to additionally connected machines.

When planning and purchasing the compressor provide for sufficient volume flow reserve.

The recommended air volume of > 100L/min. (3.54 CFM) applies for calculation of the compressor consumption for each individual milling machine.

If other machines are connected to the compressor, they must also be included (with sufficient reserves) in the calculation of the consumption volume.

_Requirements on air purity:

- a) Solid contaminants: Class 3; 5 µm or less for solids
- b) Water content: Class 4; max. pressure dew point +3°C
- c) Total oil content: Class 2; max. oil content 0.1 mg/m³

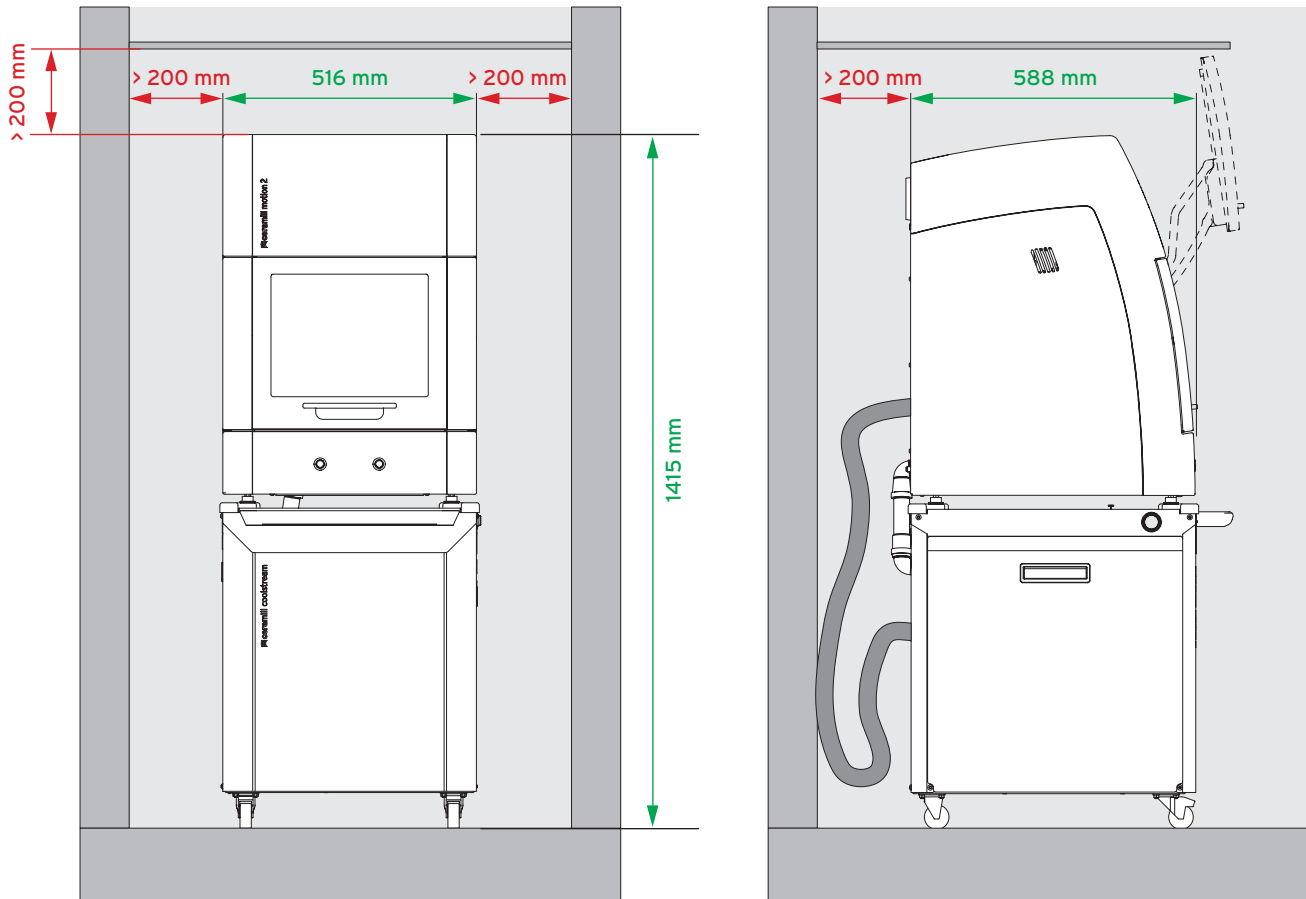
_Remark: The higher the capacity of the compressors, which are in continuous use, the better.

_Can the "Ceramill Airstream" extraction be set up near the Ceramill milling machine (hose length is 1.8 m)?
When using Ceramill Motion 2 there is the option of installing and connecting the Airstream in the Coolstream.

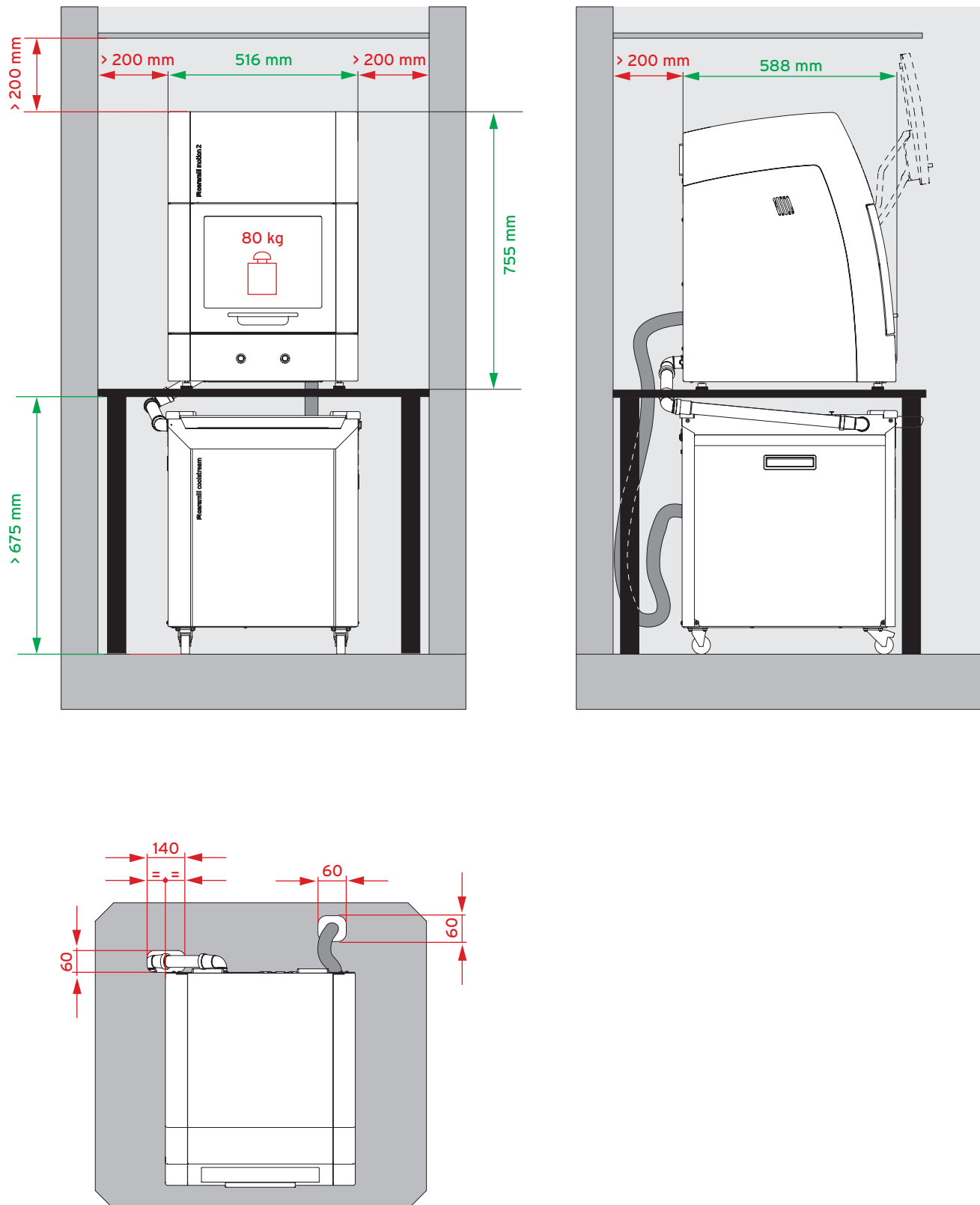
_If other extraction/central extraction systems are in use: Are the correct connections (9-pin D-sub cable - available from your extractor supplier) and hose diameter (38 mm) available?

_Do holes still have to be drilled or cables placed?

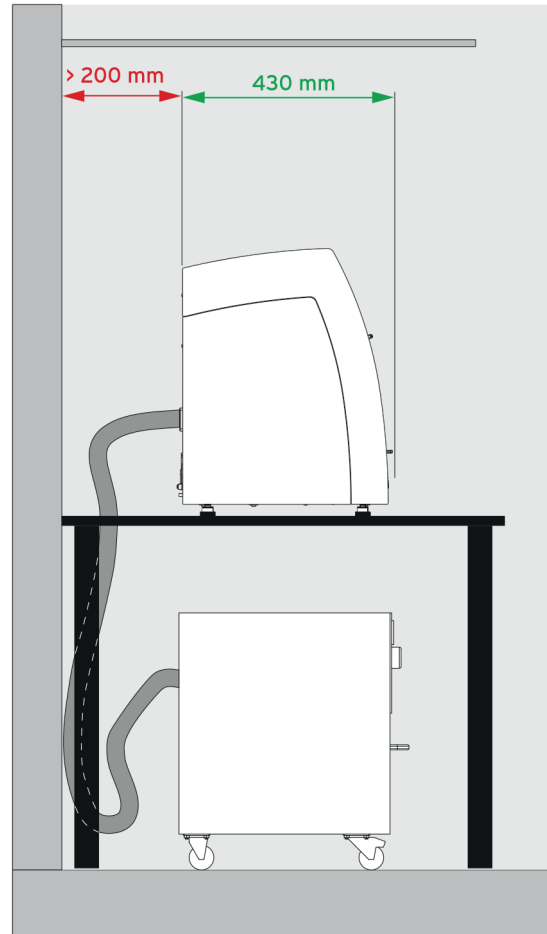
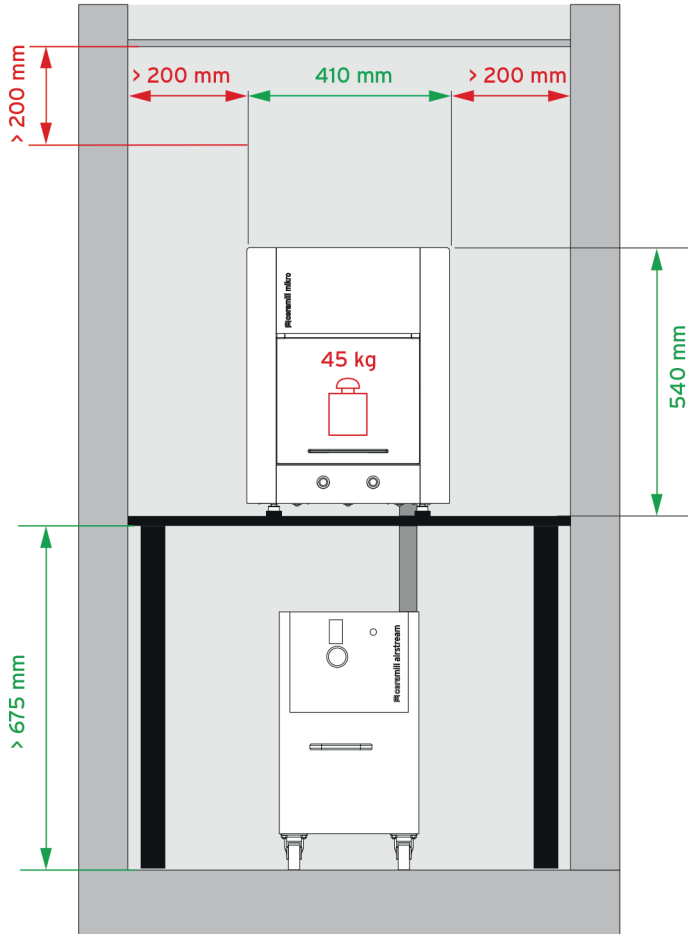
Tower version: Space requirement Ceramill Motion 2 and Ceramill Coolstream



Bench version: Space requirement Ceramill Motion 2 and Ceramill Coolstream



Bench version: Space requirement Ceramill Mikro and Ceramill Airstream



Internet connection

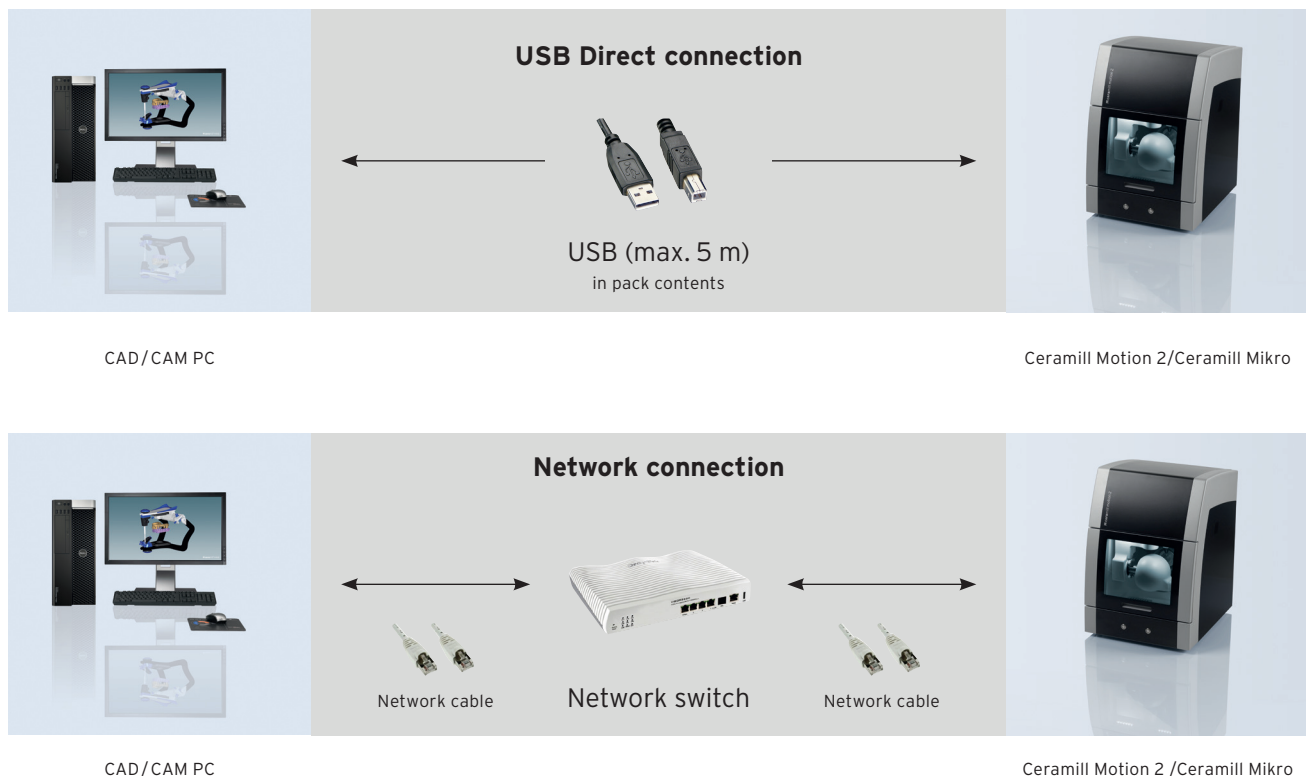
A connection to Internet (DSL/Flatrate recommended) must be available on the day of installation. If no-one is available with sufficient knowledge about creating an Internet connection, a network specialist must be present on the day of installation.

Please check:

- _ Is a LAN cable available? If yes, is it long enough?
- _ Does the router have a free socket?
- _ Is the system to be connected to an existing network? If yes, will there be someone present on the day of installation who can guarantee this?

Generally, we cannot provide support with network or Internet connection problems. Please make sure that there is an existing network and also a specialist present on the day of installation when you connect the system to a network.

Ceramill milling machines connection options



2.3 CERAMILL ARGOTHERM 2

- _ The machine is intended exclusively for use within dry, closed rooms.
- _ The machine must be positioned below an exhaust pipe or an exhaust hood (as used for pre-heating furnaces).
- _ Sufficient ventilation must be ensured at the set-up location, in order to draw off the heat and possibly developing exhaust gas.
- _ A clearance of at least 50 mm is to be observed sideways, to the rear and upwards of the furnace. The lateral clearance to non-flammable materials can be reduced to 20 cm. Minimum space requirements for the Ceramill Argothem (incl. connections):
 Width: 1.4 m (0.8 m for non-flammable materials)
 Depth: 0.9 m
 Height: 1.0 m
- _ The set-up surface must be level.
- _ The empty weight of the machine is 30 kg. The set-up surface must withstand an appropriate load.
- _ During operation, the room temperature must be between 5 °C and 40 °C; avoid large variations in temperature.
- _ The floor covering must be made of non-flammable material, so that hot material falling out of the furnace can not inflame the covering.

Requirements for the protection gas-supply

For operation, the protective gas must fulfil the following minimum requirements:

- _ Argon 4.6 from commercially available cylinders (preferably 20 l)
- _ Cylinder pressure 200 bar/2900 psi

Requirements for the compressed-air supply

- _ To provide operation with air cooling, the furnace must be connected to the compressed-air supply.
- _ A permanent supply of compressed air at adequate pressure must be guaranteed during operation of the Argothem sinter furnace. It must be ensured that:
 - The compressed air connection continuously delivers 6 bar (87 psi) to the Argothem sinter furnace.
 - The required minimum air consumption of the sinter furnace of 100 L/min (3.54 CFM) is supplied continually.
 - The pressure does not fluctuate due to additionally connected machines.
- _ When planning and purchasing the compressor provide for sufficient volume flow reserve.



3. DELIVERY INFORMATION

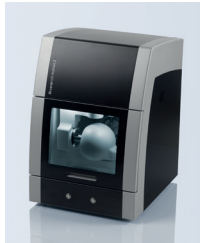
3.1 Packaging and weight



Ceramil Mikromill



Ceramil Motion 2 4X



Ceramil Motion 2 5X

Ceramil Mikromill - single (179300)

Ceramil Mikromill on small euro-pallet in a wooden crate, Weight: approx. 55 kg.

Ceramil Motion 2 4X- single (179280)

Ceramil Motion 2 4X on small euro-pallet in a wooden crate, Weight: approx. 88 kg.

Ceramil Motion 2 5X - single (179250)

Ceramil Motion 2 5X on small euro-pallet in a wooden crate, Weight: approx. 93 kg.



Ceramil Mind



Ceramil Map400

Ceramil Outsource Digital 400 SET (179006)

All components are arranged on a large euro-pallet and have been placed in a large cardboard box, Weight: approx. 93 kg.

The set is composed of the following components:

- _ Ceramil Map400 on a small euro-pallet in a separate cardboard box
- _ PC alongside



Ceramil Mind



Ceramil Map200

Ceramil Outsource Digital 200 SET (179021)

All components are arranged on a large euro-pallet and have been placed in a large cardboard box, Weight: approx. 93 kg.

The set is composed of the following components:

- _ Ceramil Map200 on a small euro-pallet in a separate cardboard box
- _ PC alongside



Ceramil Mind



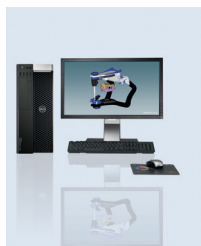
Ceramil Mikromill

Ceramil Inhouse Digital Mikromill SET (179020)

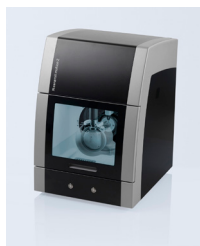
All components are arranged on a large euro-pallet and have been placed in a large cardboard box, Weight: approx. 90 kg.

The set is composed of the following components:

- _ Ceramil Mikromill on a small euro-pallet in a separate cardboard box
- _ PC on top of it



Ceramil Mind



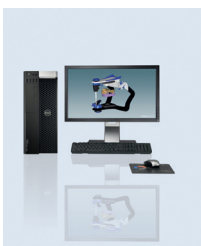
Ceramil Motion 2 4X

Ceramil Inhouse Digital Motion 2 4X SET (179008)

All components are arranged on a large euro-pallet and have been placed in a large cardboard box,
Weight: approx. 125 kg.

The set is composed of the following components:

- _ Ceramil Motion 2 4X on a small euro-pallet in a separate cardboard box
- _ PC alongside



Ceramil Mind



Ceramil Motion 2 5X

Ceramil Inhouse Digital Motion 2 5X SET (179015)

All components are arranged on a large euro-pallet and have been placed in a large cardboard box,
Weight: approx. 130 kg.

The set is composed of the following components:

- _ Ceramil Motion 2 5X on a small euro-pallet in a separate cardboard box
- _ PC alongside



Ceramil Mind



Ceramil Map400



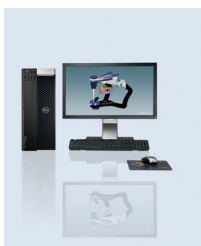
Ceramil Mikro

Ceramil Inhouse Digital 400 Mikro SET (179018)

All components are arranged on a large euro-pallet and have been placed in a large cardboard box,
Weight: approx. 170 kg.

The set is composed of the following components:

- _ Ceramil Mikro on a small euro-pallet in a separate cardboard box
- _ Ceramil Map400 on a small euro-pallet in a separate cardboard box
- _ PC on top of it



Ceramil Mind



Ceramil Map200



Ceramil Mikro

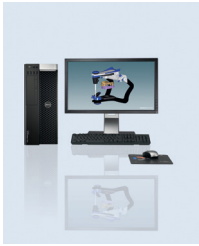
Ceramil Inhouse Digital 200 Mikro SET (179018)

All components are arranged on a large euro-pallet and have been placed in a large cardboard box,
Weight: approx. 170 kg.

The set is composed of the following components:

- _ Ceramil Mikro on a small euro-pallet in a separate cardboard box
- _ Ceramil Map200 on a small euro-pallet in a separate cardboard box
- _ PC on top of it





Ceramil Mind



Ceramil Map400



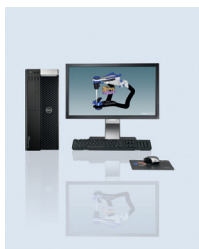
Ceramil Motion 2 4X

Ceramil Inhouse Digital 400 Motion 2 4X SET (179009)

All components are arranged on a large euro-pallet and have been placed in a large cardboard box, Weight: approx. 204 kg.

The set is composed of the following components:

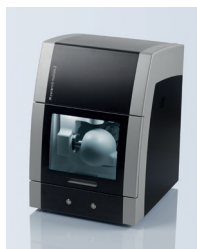
- _ Ceramil Motion 2 4X on a small euro-pallet in a separate cardboard box
- _ Ceramil Map400 on a small euro-pallet in a separate cardboard box
- _ PC on top of it



Ceramil Mind



Ceramil Map400



Ceramil Motion 2 5X

Ceramil Inhouse Digital 400 Motion 2 5X SET (179017)

All components are arranged on a large euro-pallet and have been placed in a large cardboard box, Weight: approx. 209 kg.

The set is composed of the following components:

- _ Ceramil Motion 2 5X on a small euro-pallet in a separate cardboard box
- _ Ceramil Map400 on a small euro-pallet in a separate cardboard box
- _ PC on top of it



Ceramil Therm 3

Ceramil Therm 3 (178380)

Weight: approx. 50 kg.



Ceramil Argotherm 2

Ceramil Argotherm 2 (178740)

All components are on a disposable palette. Weight: approx. 47 kg.

The set is composed of the following components:

- _ Ceramil Argovent
- _ Ceramil Argotherm 2

3.2 BEFORE opening the package

We want the system to be delivered to you in perfect condition, therefore check the integrity of the shock indicator when taking delivery from the carriers.

_In the event the indicator shows a defect, please proceed according to instructions (see fig.). Following the malfunction report by the carrier, we will contact you.





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