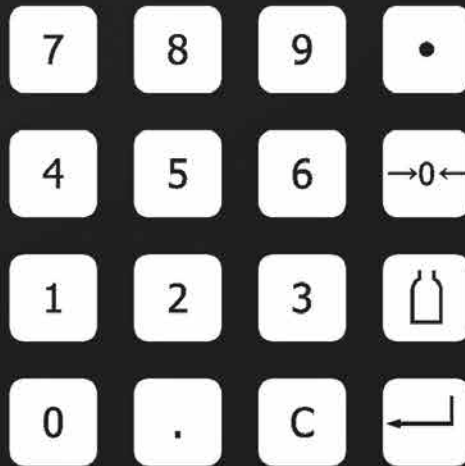
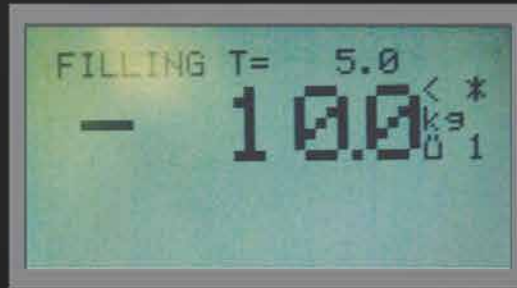


# KC*FILL*1



CE 0081 II 2G  
Baseefa 14ATEX0160  
IECEX BAS14.0080  
Ex ib IIB T4 Gb  
-10°C Tamb +60°C



Patent Pending · Kosan Crisplant · 8200 Aarhus N · Denmark

# KCFiLL1

## Unlimited possibilities

The patented KCFiLL1 machine is designed by Kosan Crisplant's engineers for easy, safe and accurate LPG filling, and offers the best value for money on the market for low-capacity filling machines.

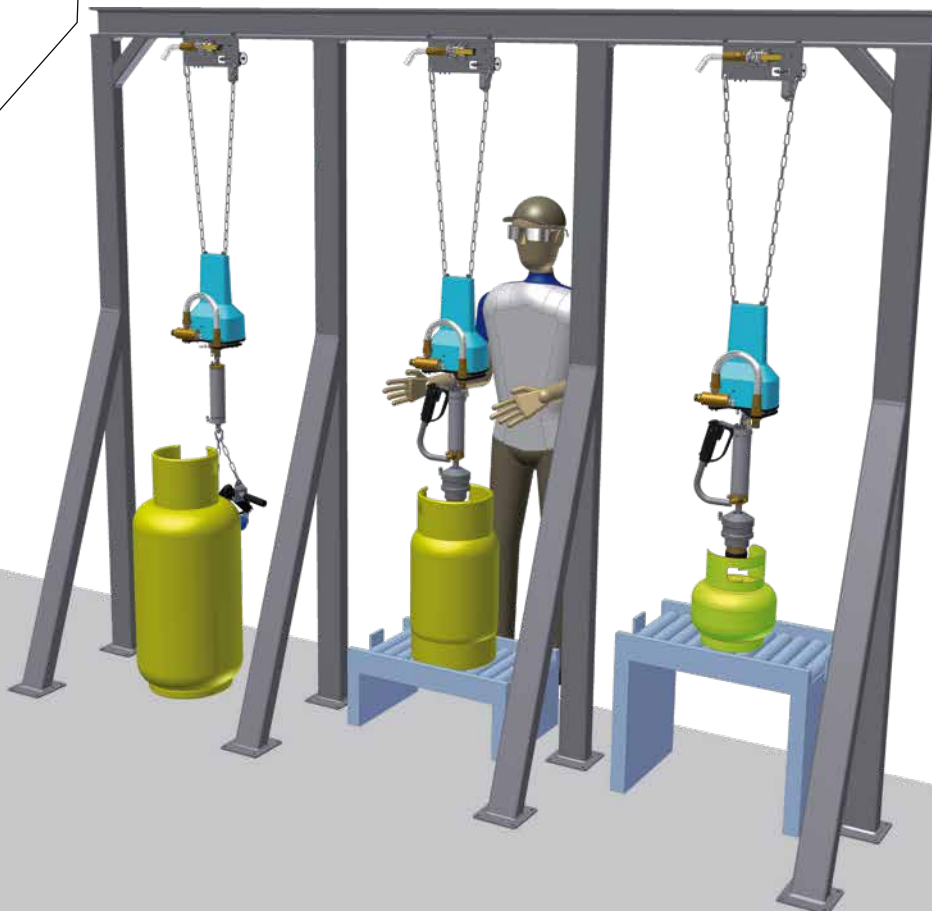
With its ability to fill any kind of cylinder and to be installed anywhere you need it, KCFiLL1 brings you unlimited possibilities.

## Get started in no time

KCFiLL1 is delivered ready for use inclusive of:

- Power supply
- Suspension chains
- Connection panel
- LPG and air hoses
- Lifting device (if chosen)
- Filling head

All you need to provide is a frame for suspension and the supply of power, air and LPG. KCFiLL1 is ready for data collection (optional).



# KCFiLL1

## The best solution for filling small amounts of cylinders

The affordable price and low power consumption of KCFiLL1 allows you to fill your small amounts of odd-sized cylinders in an economically sound way.

There is no need to invest in a carousel or a high-capacity filling machine; just one KCFiLL1 and an operator and you're ready to fill.

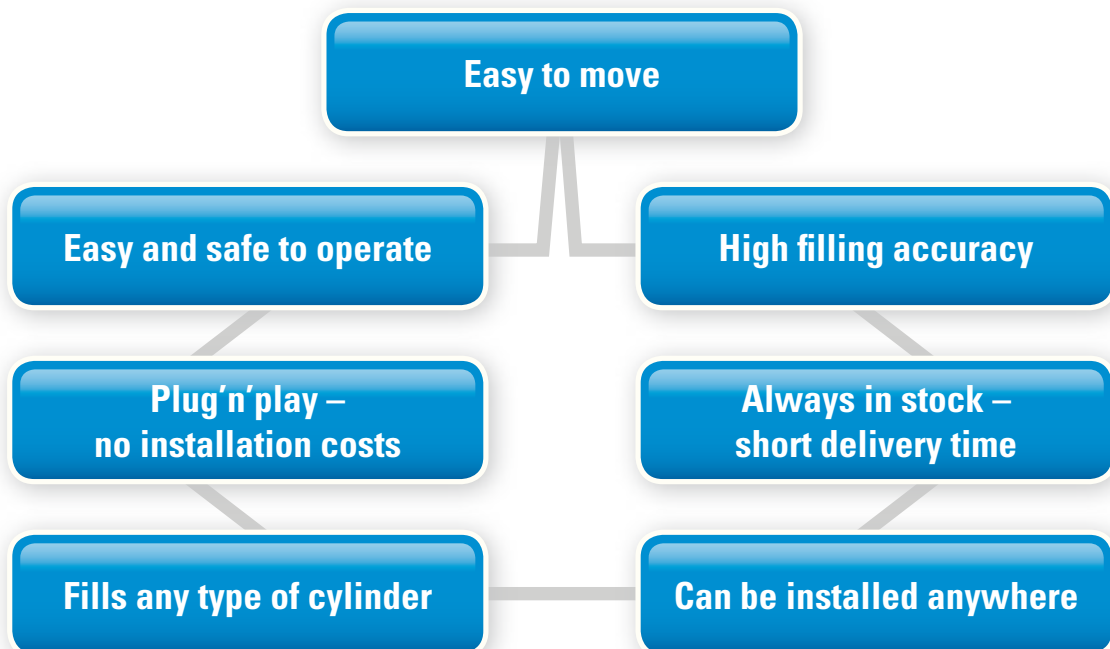
## The 1 step to create your own gas filling business

KCFiLL1 is the ideal means of releasing your entrepreneurial potential. Its affordable price allows you to create your own gas filling business at a low cost without compromising your safety.

Designed according to Kosan Crisplant's high standards, KCFiLL1 is safe and easy to operate, even for those without prior experience with LPG filling.



The KCFiLL1 unit is IECEx type approved and in compliance with the European ATEX Directive.



# KCFiLL1

## Basic facts

- Filling accuracy (under optimum conditions):
  - 68% of all filled cylinders within  $\pm 25$  g
  - 96% within  $\pm 50$  g
  - 99,5% within  $\pm 75$  g
- Capacity example: With one filling machine and a filling time of 60 seconds per cylinder, one operator can fill more than 40 cylinders per hour.
- KCFiLL1 is designed for use in hazardous areas according to relevant norms and directives.

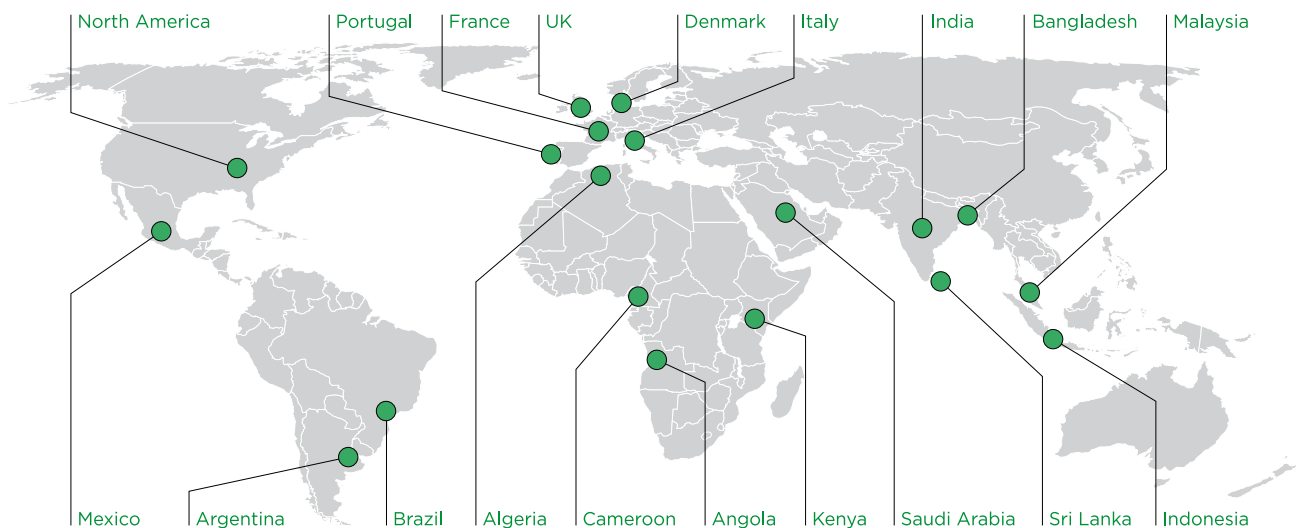
Please refer to the KCFiLL1 Technical Data Sheet for more details.

Check **[www.kosancrisplant.com](http://www.kosancrisplant.com)** and see how simple it is to operate KCFiLL1!

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Kosan Crisplant is part of **MAKEEN**  
 ENERGY



# KCFiLL1

## Technical Data

**Capacity and conditions** – See 'Capacity diagram'

**Cylinder dimensions (requirements and limitations)**

- Shroud diameter (inside diameter): Min. 125 mm

**Necessary connections 1) (specifications and quality requirements)**

- LPG installation:
  - Connection size: G1/2" NPT
  - Filling pressure: Max. 2.1 MPa (21 bar)
  - Test pressure: Max. 3.0 MPa (30 bar)
- Compressed air installation:
  - Connection size: G1/4" BSP
  - Working pressure: Min. 0.6 MPa (6 bar) – Max. 1.0 MPa (10 bar)
  - Quality: The quality of the compressed air should be in accordance with ISO 8573.1, class 2-3-2 2)
- Electrical power installation (via a 12 V DC power supply):
  - Voltage: 1-phase + neutral + earth (voltage variation from 85 to 264 V AC)
  - Frequency: Variation from 48 to 62 Hz
- Earth net:
  - Max. transition resistance between earth wire and earth:  $\leq 2.0$  Ohm

**Filling accuracy**

- With optimum conditions:
  - 68% of all filled cylinders within  $\pm 25$  g
  - 96% within  $\pm 50$  g
  - 99.5% within  $\pm 75$  g

**Weighing range (with a 150 kg load cell)**

- Gross weight of filled cylinders with x g divisions:
  - From 0.2 to 30 kg with 10 g divisions
  - From 0.4 to 60 kg with 20 g divisions
  - From 1.0 to 120 kg with 50 g divisions
  - From 2.0 to 120 kg with 100 g divisions

**Consumption data**

- Compressed air: Approx. 7.8 normal litres/cylinder 3)
- Electrical power:  $< 1.0$  w

**Weight** – Approx. 10-20 kg depending on configuration

**Load-carrying capacity of suspension**

- The frame for suspension of the machine must have a minimum load-carrying capacity of 500 kg per machine
- Max. deflection at the point of suspension at 500 kg load = 3 mm

**Approvals**

- The KCFiLL1 unit is manufactured under the supervision of the Bureau Veritas certification approved quality management system which conforms with EN/IEC 80079-79:2011 (Bureau Veritas certification number: LCIE 13 ATEX Q 4003)
- The KCFiLL1 unit is IECEx type approved and in compliance with the European ATEX Directive
- The KCFiLL1 unit is intended for operation in hazardous areas classified as Zone 1 or Zone 2 according to EN/IEC 60079-10-1
- Ex marking according to the ATEX Directive and applicable EN/IEC standards:
  - ⊕ II 2G Ex "ib" IIB T4 Gb
- The weighing accuracy of the load cell is according to OIML R60, NTEP 3000d, accuracy class C3
- The weight indicator is according to OIML R76



**Other data**

- The weighing computer calculates and shows the weight in kilograms according to the SI standard
- Tare encoding is possible in 10 g divisions (e.g. 2.25 kg, 2.26 kg, 2.27 kg, etc) or 100 g divisions (e.g. 15.1 kg, 15.2 kg, 15.3, etc.)
- The filling machine is designed for installation in locations in which the temperature may vary between -10°C and +50°C

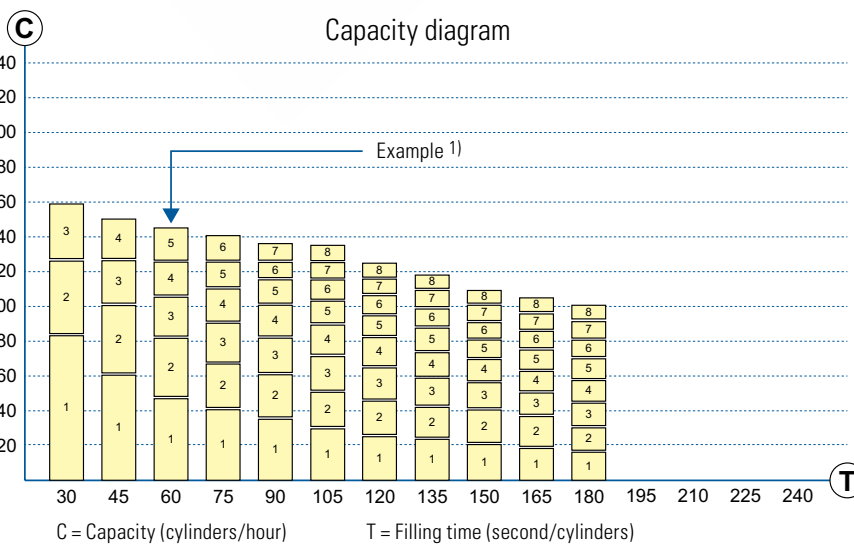
1) The customer is responsible for the required supply of LPG, compressed air and electrical power.

2) The compressed air must not contain particles larger than 1 µm. The pressure dew point of the compressed air at a pressure of 0.7 MPa (7 bar) shall be at least 10°C lower than the lowest ambient temperature to which the compressed air system is exposed at the coldest place of the plant during the year (class 3  $\approx -20^\circ\text{C}$ ). The maximum oil contents in the compressed air must not exceed 0.1 mg/m<sup>3</sup>.

3) The compressed air consumption can be used for dimensioning the compressor capacity (FAD = Free Air Delivery) based on local conditions. The specified compressed air consumption is based on the following standard reference conditions: An inlet pressure of 0.1 MPa (1 bar), a suction temperature of 20°C and a relative humidity of 60%.

# KCFILL1

## Technical Data



The capacity columns showed in the diagram are only intended as a guide. The capacity is very much dependent on the operator, the cylinder flow to and from the filling machine, and on the valve type. However, generally it is possible to achieve a slightly higher capacity when filling cylinders with centre valves, than when filling cylinders with screw valves (provided that the cylinders have the same filling time), as the valves on cylinders with screw valves are to be opened and closed manually. On centre valves this is done automatically when connecting or disconnecting the filling head.

1) The example shows capacities when filling cylinders with a filling time of 60 seconds per cylinder:

- With 1 filling machine 1 operator can fill a few more than 40 cylinders/hour
- With 2 filling machines 1 operator can fill approx. 80 cylinders/hour
- With 3 filling machines 1 operator can fill a few more than 100 cylinders/hour
- With 4 filling machines 1 operator can fill a few more than 120 cylinders/hour
- With 5 filling machines 1 operator can fill a few more than 140 cylinders/hour