Integrated Gas Technologies

# iChangeOver


## What is unique by the iChangeOver?

The iChangeOver can ensure all gas is supplied at sufficient high pressure and high flow (kg/h) even at low gas levels and when the cylinder has low ability to evaporate the remaining liquid gas fast enough to service the appliance well.

- A traditional Change Over Regulator -stops serving cylinder A when gas cylinder pressure reach 0, 7 bar and leave around 5-10% of the gas remaining inside this cylinder unusable but paid for by the consumer - so a significant loss for the cylinder customer! But a significant win for the gas company! The gas amount trapped inside depends on the surrounding air temperature and gas type.
- By using the iChangeOver valve. Both Cylinder A and B can be emptied upto 100% and no excess gas has to be sent back to the gas company! If 10% of the gas was left inside the cylinder a 10 % reduction in logistic cost of the gas company is possible.
- This ensures a strong return on investment using the iChangeOver vs a traditional Change Over regulator and a win -win for both end-user and Gas Company.

# How does the iChangeOver works?

When the gas level in cylinder A is falling to under 1,0 bar = approximately 1 kg left - the gas regulator it serves start to lose performance in Flow and Outlet pressure!

This i caused by the continued drop in inlet pressure to the regulator – this pressure drop is caused by the gas wetted surface of the cylinder is reduced, restricting enough new energy transfer from the surrounding air to the liquid gas inside the cylinder.

In a traditional gas installation the falling gas pressure will cause a gradual drop in the gas regulators outlet pressure and also a drop in gas flow (kg/h).

As the inlet pressure drops to eventually 0,3 bar = empty cylinder- the regulators outlet pressure drops 2-10 mbar depending on the regulator setting design and gas type and surrounding air temperature.

Consequently the gas flow drops down to around 0,3-0,5 kg/h eventually from the max flow of typically 1,5 kg/h.

This cause a much reduced performance of the gas appliance serviced and it start to have an incomplete combustion of the gas supplied- the flame temperature drops and energy efficiency is dropping sharply.

To ensure a continued high pressure and high flow supply from the low gas level remaining in cylinder A servicing the gas regulator and appliance the iChangeOver switch temporary the gas consumption to cylinder B standing by with a full load !

Gas Consumption from Cylinder A is now paused 5-20 minutes allowing it to regain and build up gas pressure and gas phase volume = high flow ability.

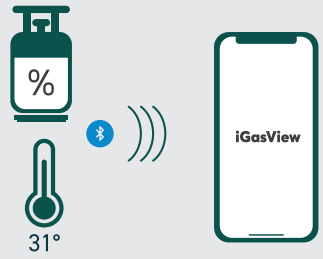
By giving cylinder A time to recreate and build up enough gas phase though the slow vaporization of the remaining liquid a much improved performance of the gas regulator and gas appliance can be assured.

When this equilibrium is reached inside Cylinder A the iChangeOver -change back from cylinder B to cylinder A.

The IGT App is programmed to calculate when the equilibrium is reached by knowing
**1. remaining gas weight 2. wetted surface of the gas cylinder 3. surrounding air temperature.**

Gas consumption is now again serviced from cylinder A who is now standby to supply the gas at high flow and sufficient inlet pressure to serve the gas appliance efficiently for some time.

This switching forth and back between cylinder A & B is done a number of sequences until all gas in Cylinder A has been consumed 100%.




The iGasView app connects to iGasView devices primarily to control and monitor gas consumption in gas cylinder but is also utilized to use for iChangeover and other applications related to use of gas.

## Advantages of iChangeOver

Can empty gas cylinder 100% | Strong ROI for consumer
Saved logistic cost of gas company | Better performance and combustion of the gas appliance
=> Less Co2 emission less NoX- less Carbon mono oxide risk from the combustion

**40+ Million Safe Families** | **120+ Countries** | **400+ Products** | **25+ Certificates**

**INTEGRATED GAS TECHNOLOGIES ApS**
Gydevang 39-41 , 3450 Allerød Denmark.
E-Mail: sales@igt-lpg.com - Tel: +45 45 76 99 21

Scan Qr Code to Visit Our Website
www.igt-lpg.com