



SG3400HV-30 and SG3125HV-30 Series P-Q Diagram(with overload up to 3781kVA)

Technical Information

Preliminary

SUNGROW

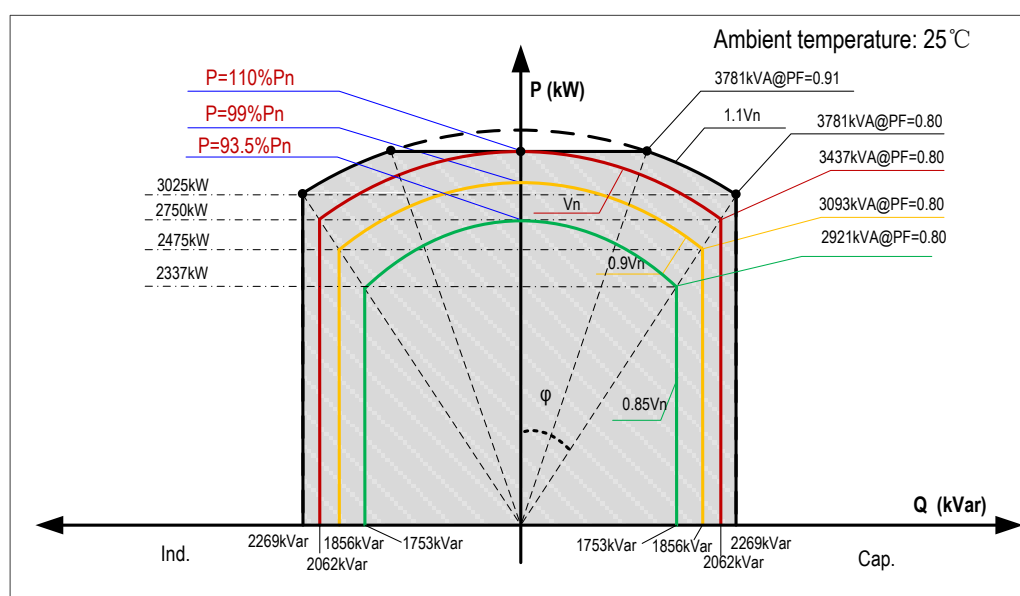
1.Introduction

This document describes the P-Q diagram used for SG3125HV-30,SG3400HV-30, SG3125HV-MV-30 ,SG3400HV-MV-30. For SG3125HV-MV-30 and SG3400HV-MV-30, the PQ capacity is the output characteristic of LV side of the transformer.

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2.P-Q Capability

Inverter can support the grid by supplying the reactive power in different ways. The shaded area in the figure below shows the inverter's P-Q capability.



a) P-Q Curve at 25°C

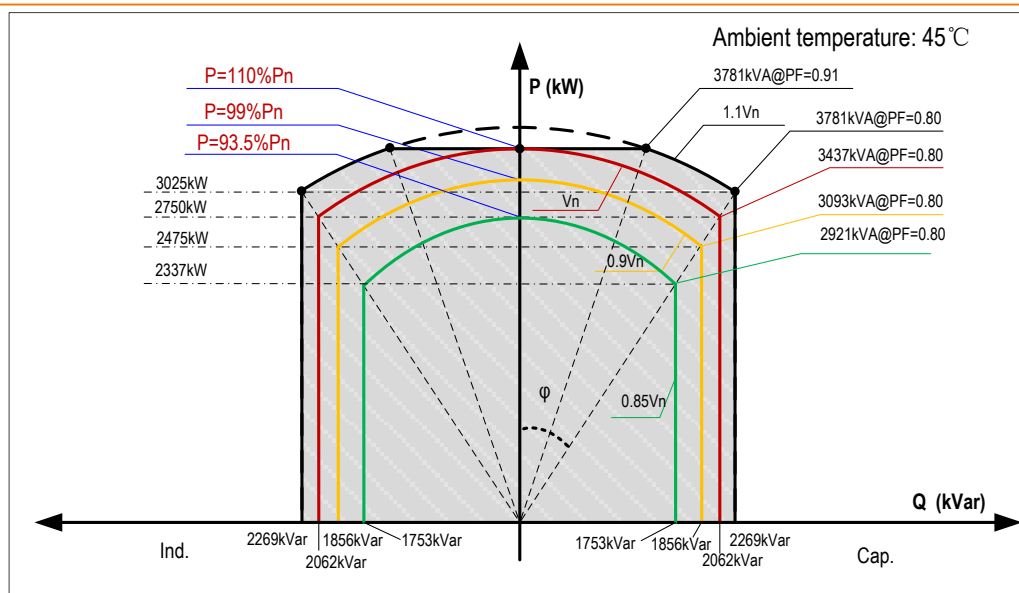
The P_{max}=3437kW, P_n=3125kW , S_{max}=3781kVA at the grid voltage 660Vac and 25°C;

The Max. Q is +/-2269 kVar (72.6%), when the power factor is +/-0.8, at the grid voltage 660Vac and 25°C;

The Q is +/-2062 kVar (66%), when the power factor is +/-0.8, at the grid voltage 600Vac and 25°C;

The Q is +/-1856 kVar (59.4%), when the power factor is +/-0.8, at the grid voltage 540Vac and 25°C;

The Q is +/-1753 kVar (56.1%), when the power factor is +/-0.8, at the grid voltage 510Vac and 25°C;



b) P-Q Curve at 45°C

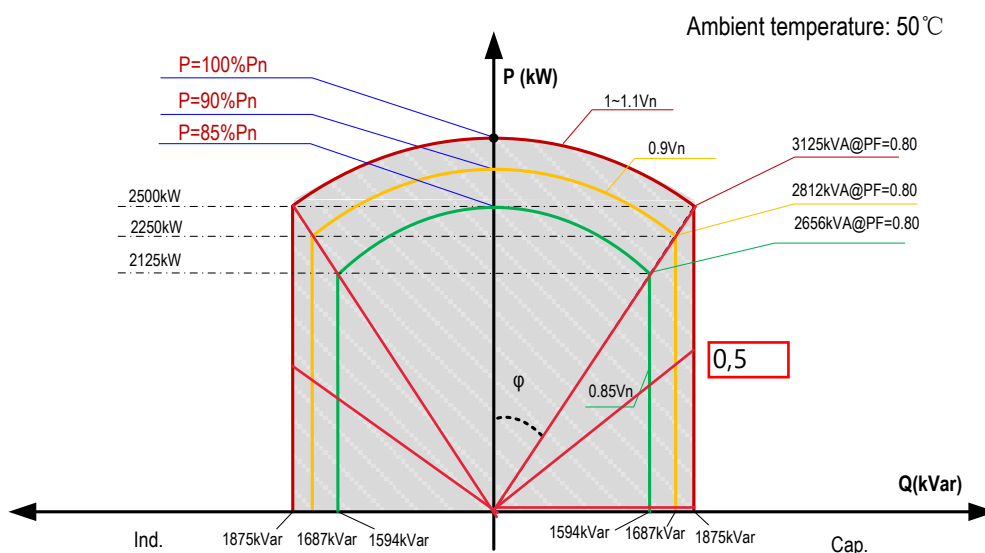
The $P_{max}=3437\text{kW}$, $P_n=3125\text{kW}$, $S_{max}=3781\text{kVA}$ at the grid voltage 660Vac and 45°C;

The Max. Q is $\pm 2269\text{ kVar}$ (72.6%), when the power factor is ± 0.8 , at the grid voltage 660Vac and 45°C;

The Q is $\pm 2062\text{ kVar}$ (66%), when the power factor is ± 0.8 , at the grid voltage 600Vac and 45°C;

The Q is $\pm 1856\text{ kVar}$ (59.4%), when the power factor is ± 0.8 , at the grid voltage 540Vac and 45°C;

The Q is $\pm 1753\text{ kVar}$ (56.1%), when the power factor is ± 0.8 , at the grid voltage 510Vac and 45°C;



c) P-Q Curve at 50°C

The $P_{max}=3125\text{kW}$, $P_n=3125\text{kW}$, $S_{max}=3125\text{kVA}$ at the grid voltage 660Vac and 50°C ;

The Q is $\pm 1875\text{kVar}$ (60%), when the power factor is ± 0.8 , at the grid voltage range of $600\text{Vac} \sim 660\text{Vac}$ and 50°C ;

The Q is $\pm 1687\text{kVvar}$ (54%), when the power factor is ± 0.8 , at the grid voltage 540Vac and 50°C ;

The Q is $\pm 1594\text{kVar}$ (51%), when the power factor is ± 0.8 , at the grid voltage 510Vac and 50°C ;