

Inverter for HVAC applications

FRENIC-HVAC

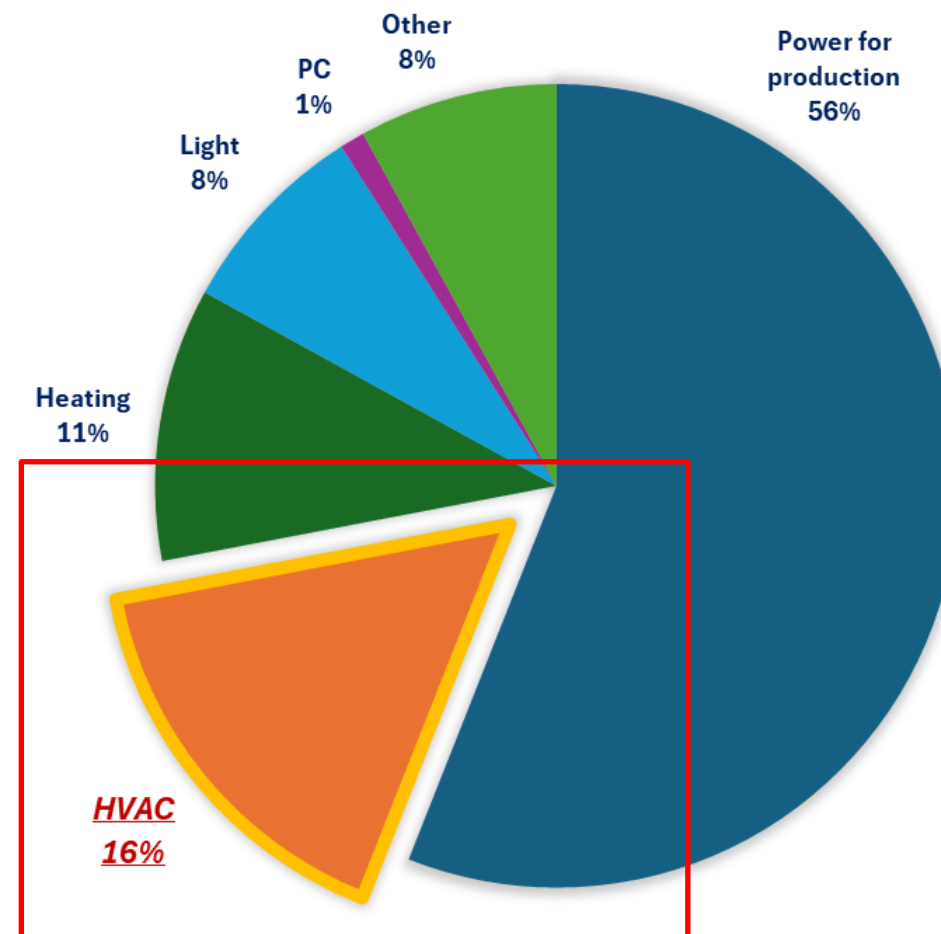
Japan's High Quality Inverter
make your Electric COST DOWN.

FE Fuji Electric



<Energy saving focus points>

- Production can not focus due to each factory usage are different
- Focusing about HVAC usage



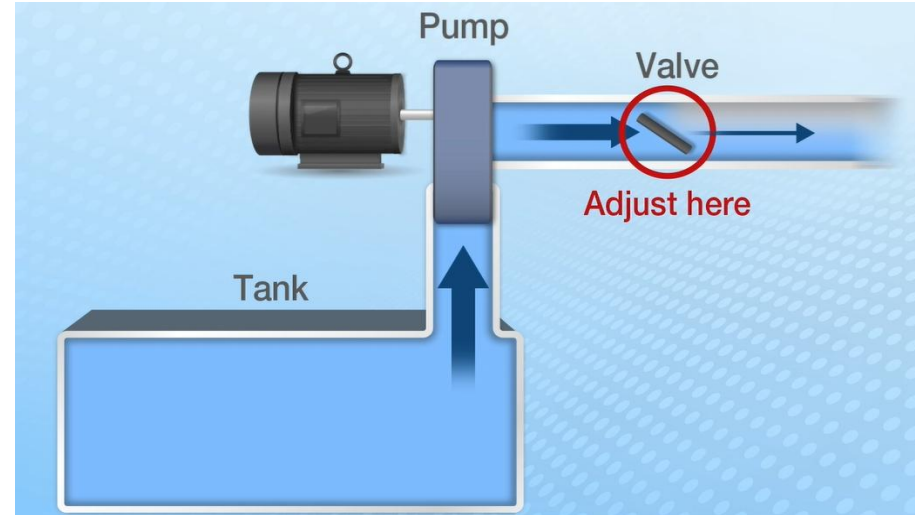
2 kinds of methods for HVAC control

Damper control

Without inverter control Air/Water flow by damper or valve



Air/Water flow reduce however power lost occurred

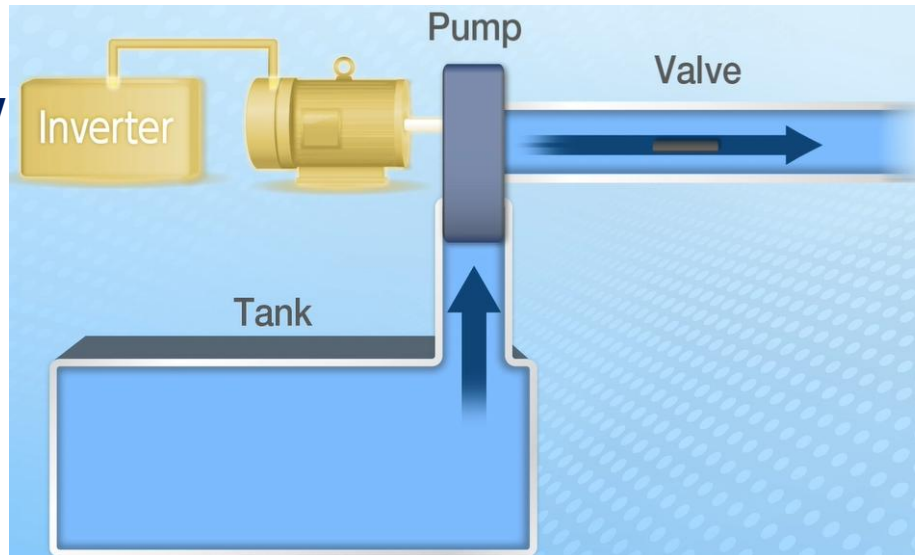


Inverter control

With inverter control Air/Water flow can be adjust speed by it

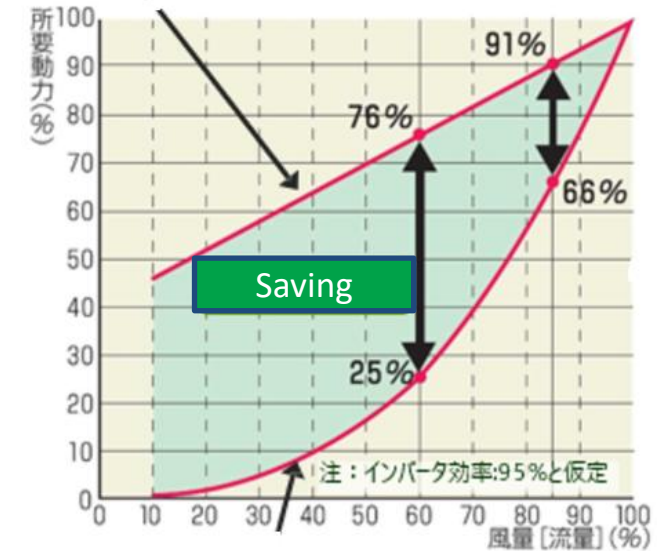


Be able to optimizing control can make saving energy



Relation between Airflow and power

Damper control



Inverter control

Compering with damper control can get 51% saving energy by using inverter

Saving energy result for shopping center

Store	PUMP			Project cost (THB)	Saving cost (THB)	Pay back time (Year)
	CHP-1	CHP-2	CHP-3			
A	22KW	22KW		477,500	206,718	2.3
B	18.5KW	18.5KW		420,900	190,777	2.2
C	18.5KW	18.5KW	18.5KW	589,900	167,929	3.5
D	15KW	15KW	15KW	581,900	181,647	3.2
E	45KW	45KW		621,200	712,871	0.9
F	30KW	30KW		504,700	237,939	2.1
G	30KW	30KW		524,900	502,368	1.0
H	45KW	45KW		623,900	342,480	1.8
I	37KW	37KW		550,500	355,672	1.5
J	55KW	55KW		702,500	658,890	1.1

Project reference②



Before HVAC



After HVAC

Successfully reducing power consumption 34.4KW to 22.5KW.

Achieved annual saving around 900K.THB!!



Wide variation in model capacity

Model can be selected from two model types.

■ Standard type (EMC filter built-in type)

0.75 to 710kW (Protective structure IP21 or IP55 can be selected with the model between 0.75 and 90kW.)

■ DCR built-in + EMC filter built-in type

0.75 to 90kW (Protective structure IP21 or IP55 can be selected with the model between 0.75 and 90kW.)

Inverter capacity	EMC filter	DC reactor	Protective structure
0.75kW to 90kW	Built-in	Built-in	IP21/IP55
110kW to 710kW	Built-in	External	IP00



Existing inverter

Control Panel

Noise and EMC filter (Option)



EMC



DCR



Surge Suppressing Unit



Over 50m cable
length need to
use surge
suppressing unit

FRENIC-HVAC

Noise and EMC
Filter Built In



Protection
IP55

Slim type
Can install
limited area



Cable length can be reduced due to IP55
no need install in panel

FRENIC-HVAC application

