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Introduction of Panasonic New CO2 refrigeration system 30HP & 12HP (Technical Part)

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Current Installation Progress

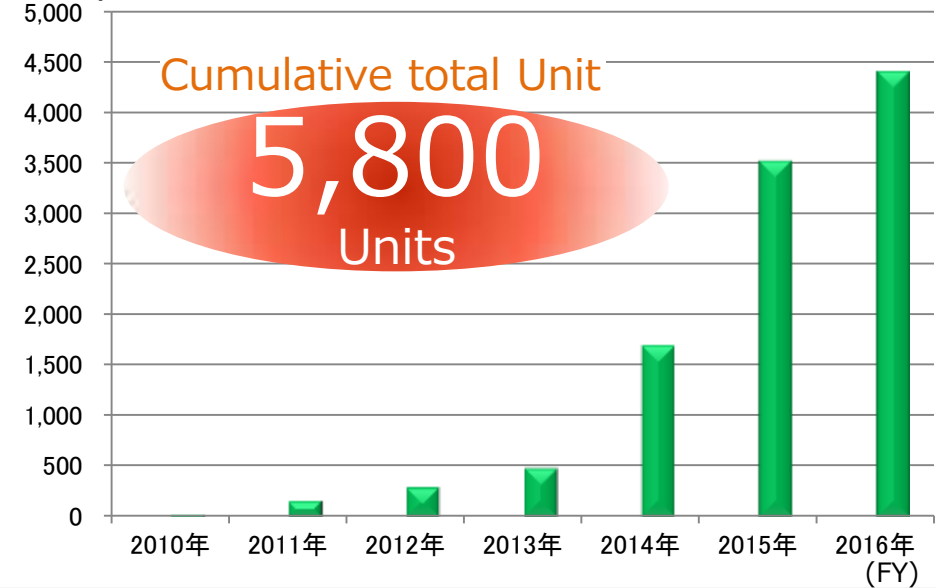
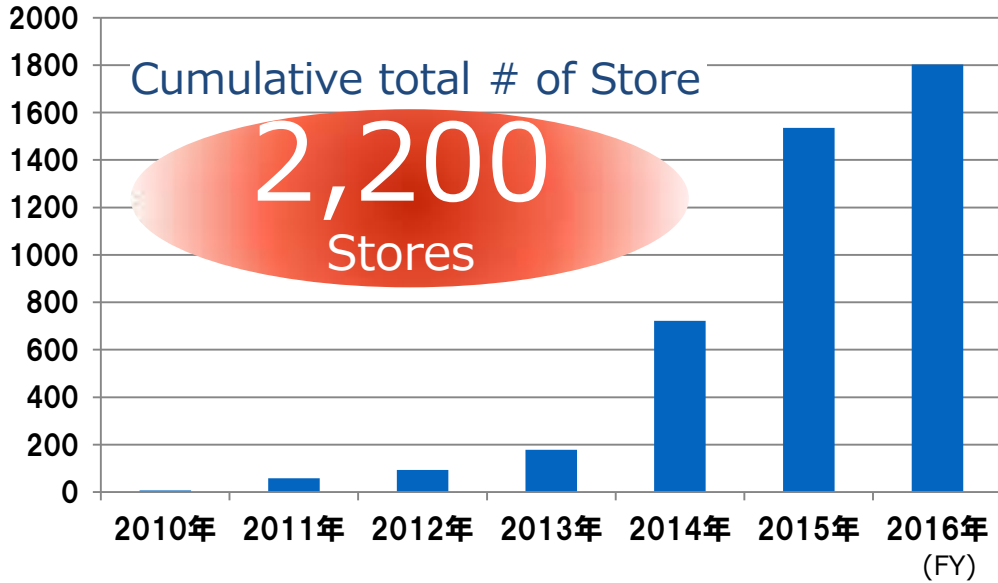
Introduction of New CO₂ refrigeration system

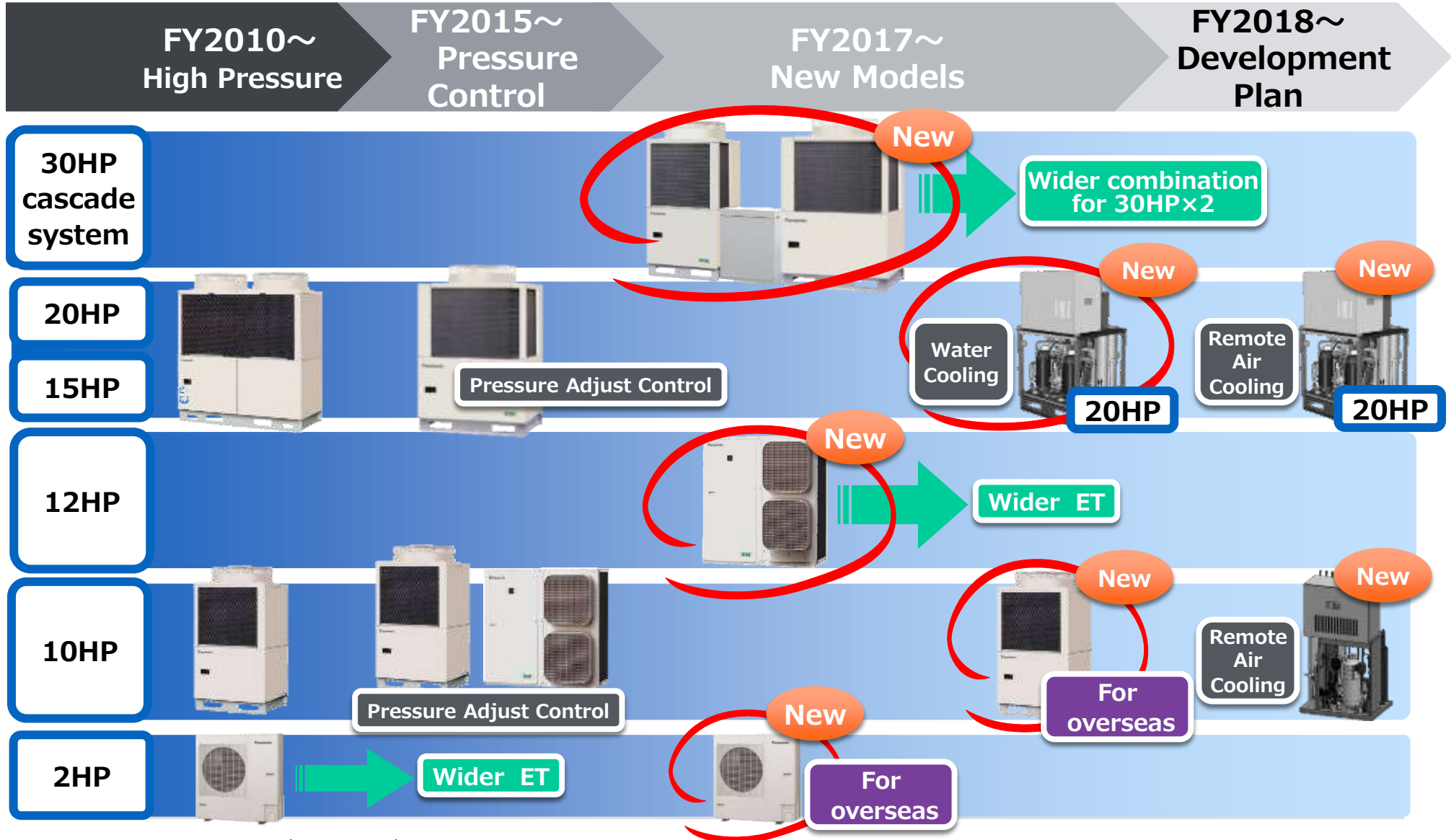
Issues to be solved



Current Installation progress of CO2 system

Launched in 2010. Forecast by Mar 2016.





Expansion of Panasonic CO₂ refrigeration system line-up
for Super markets, Cold storage warehouse, Factory



- Decrease number of showcase pipelines
 - ⇒ Reduction of installation cost
 - ⇒ Improvement workability and maintainability
- Possible to install with same piping as present 20HP

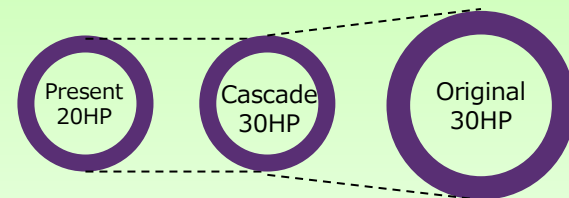
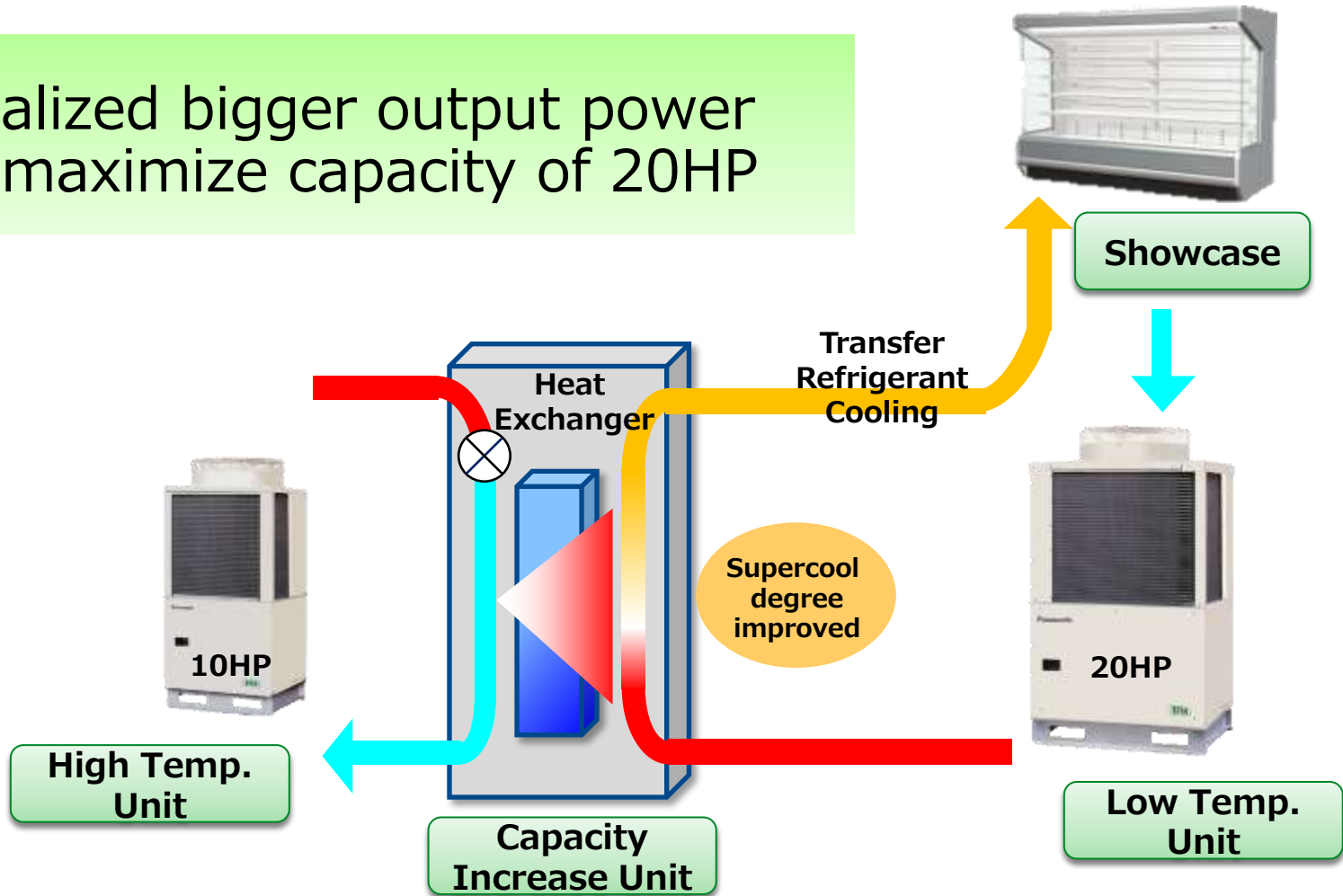


Image of cross section of piping

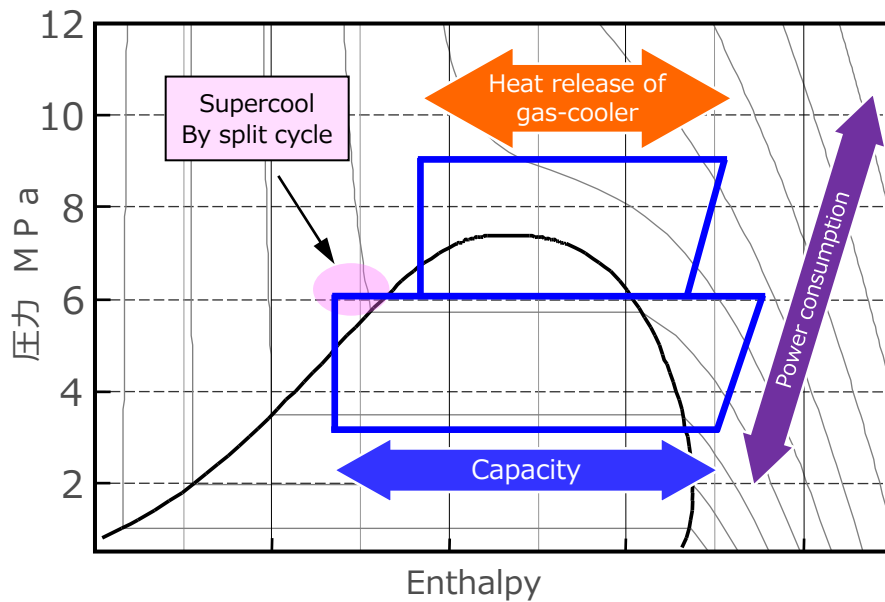
Concept of New Cascade System

Realized bigger output power to maximize capacity of 20HP



Present Model

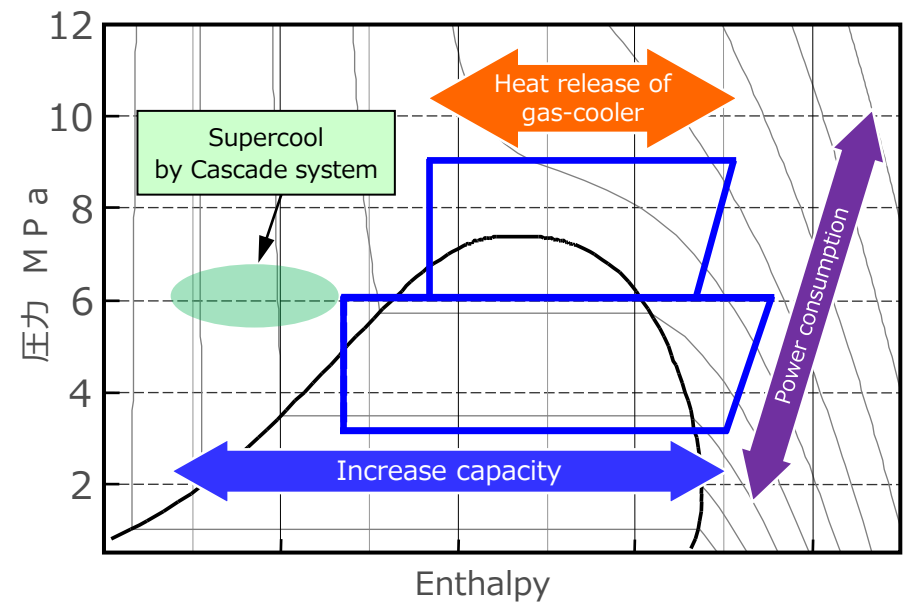
[2-stage compression & expansion + Split cycle]



Increase capacity
by split cycle

30HP Cascade System

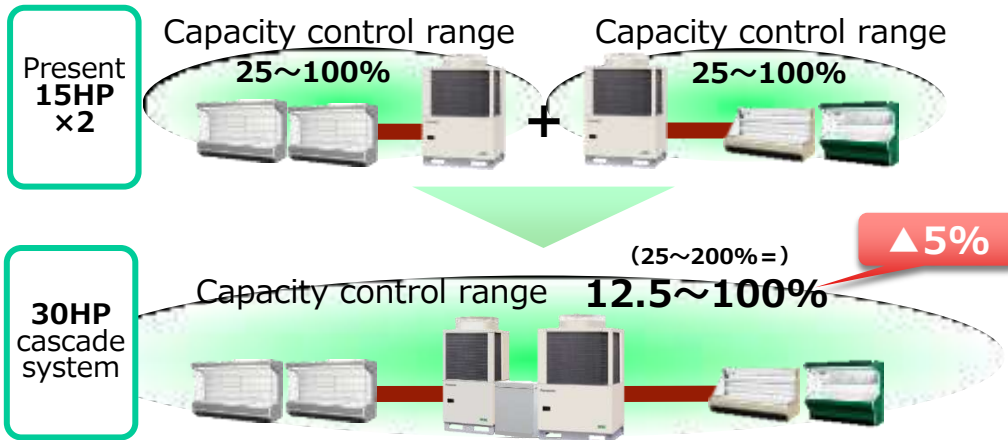
[2-stage compression & expansion + Split cycle]
+ [Cascade System]



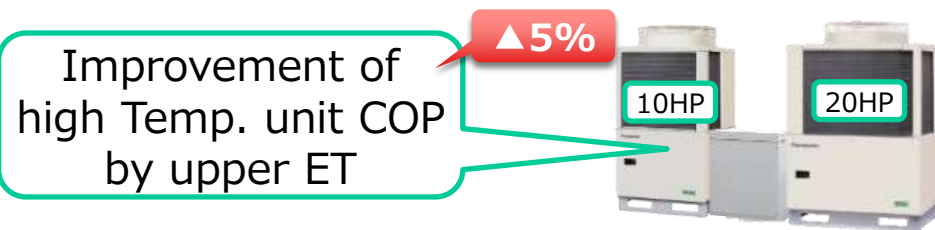
Increase capacity to 30HP
by new cascade system

Energy saving performance

Improvement of capacity control range



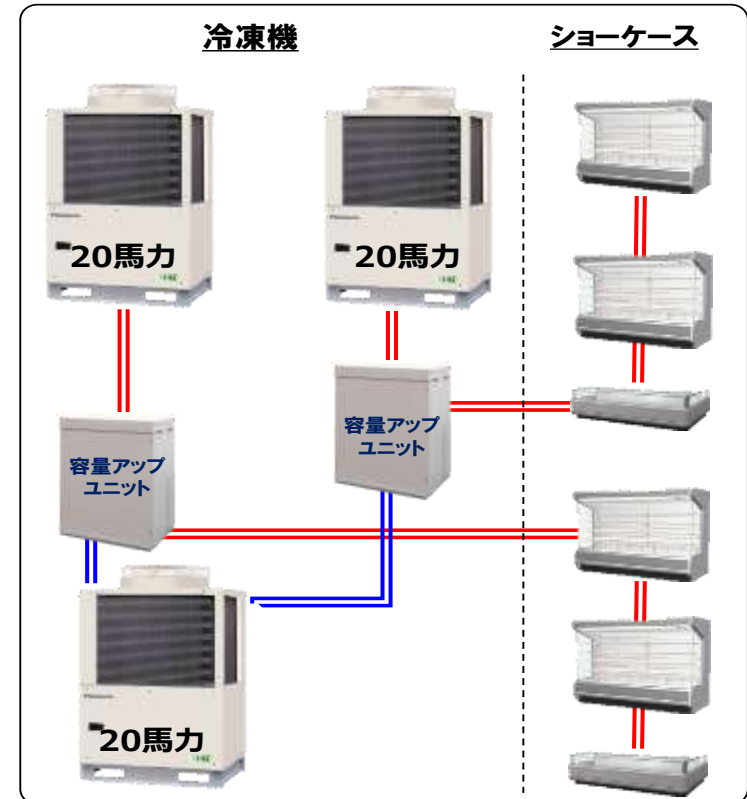
Improvement of total COP



Total efficiency 10% better

Cascade system expansion

Further Variation 30HP x2 system



Increase refrigeration capacity by new compressor adaptation

	Side flow 10HP	Side flow 12HP (New)
Model name	OCU-CR1001VFS	OCU-CR1200VFS
Output	7.3kW (1.95 t)	9.0kW (2.62 t)
ET range	refrigerator temp.	refrigerator temp.
dimension	W1,350×D613×H1,260	W1,350×D646×H1,386
Weight	261kg	310kg (Tentative)

Present 2 lines of Refrigeration showcase in CVS
= 2 Condensing Units



10HP

+



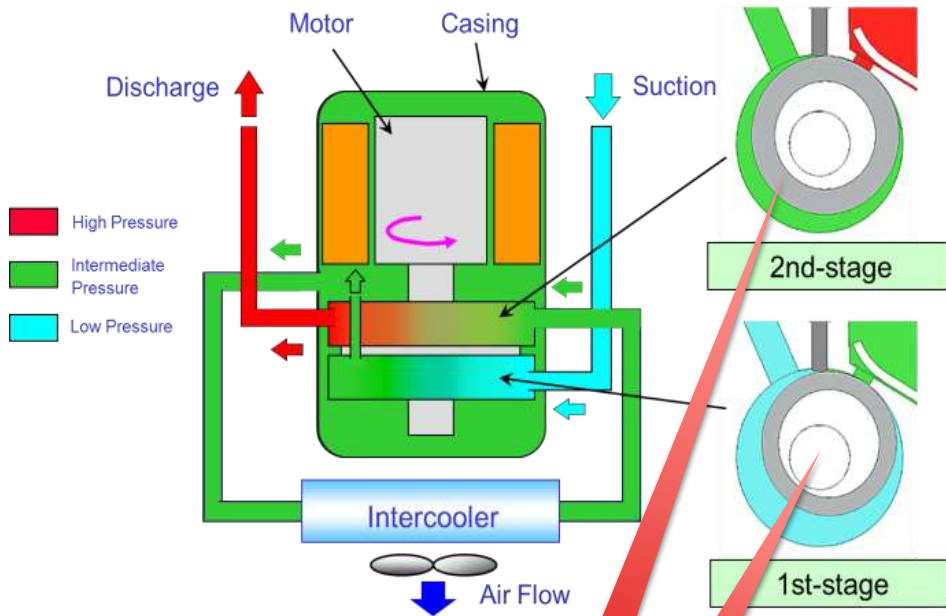
2HP

Decrease 1 line of Refrigeration showcase in CVS by 12HP

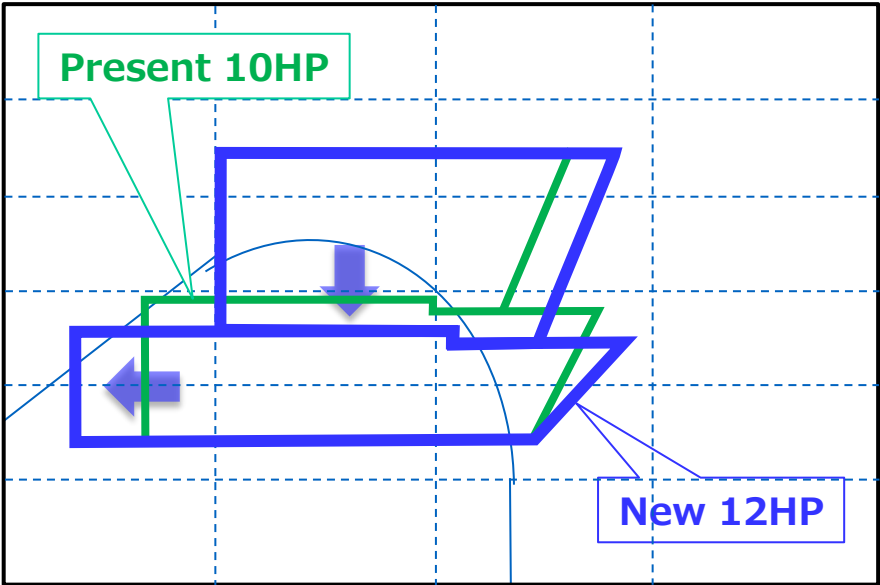


OCU-CR1200VFS (12HP)

Development of new compressor



Exclusion volume
1st-stage ≧ 2nd-stage



To lower intermediate pressure,
Increase capacity

Expansion of CO₂ Refrigeration system line-up for Super markets, Department stores and Food factory

	Water cooling 20HP
Model name	LCU-CR200VMP-T1 (Tentative)
Output	15kW
ET range	-45~-5°C
dimension	W882×D885×H1,476
Weight	330kg (Tentative)

Early 2018
Release plan



Water cooling

- Increase efficiency by stable driving
- Application of Heat reclaim system

Introduction of 『FTE Academy』 by FOOD TECHNO ENGINEERING CO.,LTD

安全・安心な「おいしい」を届ける

FTEアカデミー

環境とエネルギーの
2F ディスカッションルーム

実機ベースの
サニタリールーム

CO₂フリーザー

23 Jan, 2017
Open in Osaka

CO₂冷凍機
(TCブースターユニット)

各種施工事例

環境試験室



FTEアカデミーのコンセプト・キーワード

(1) 地球環境

(2) エネルギー

FTEアカデミーの7つのミッション

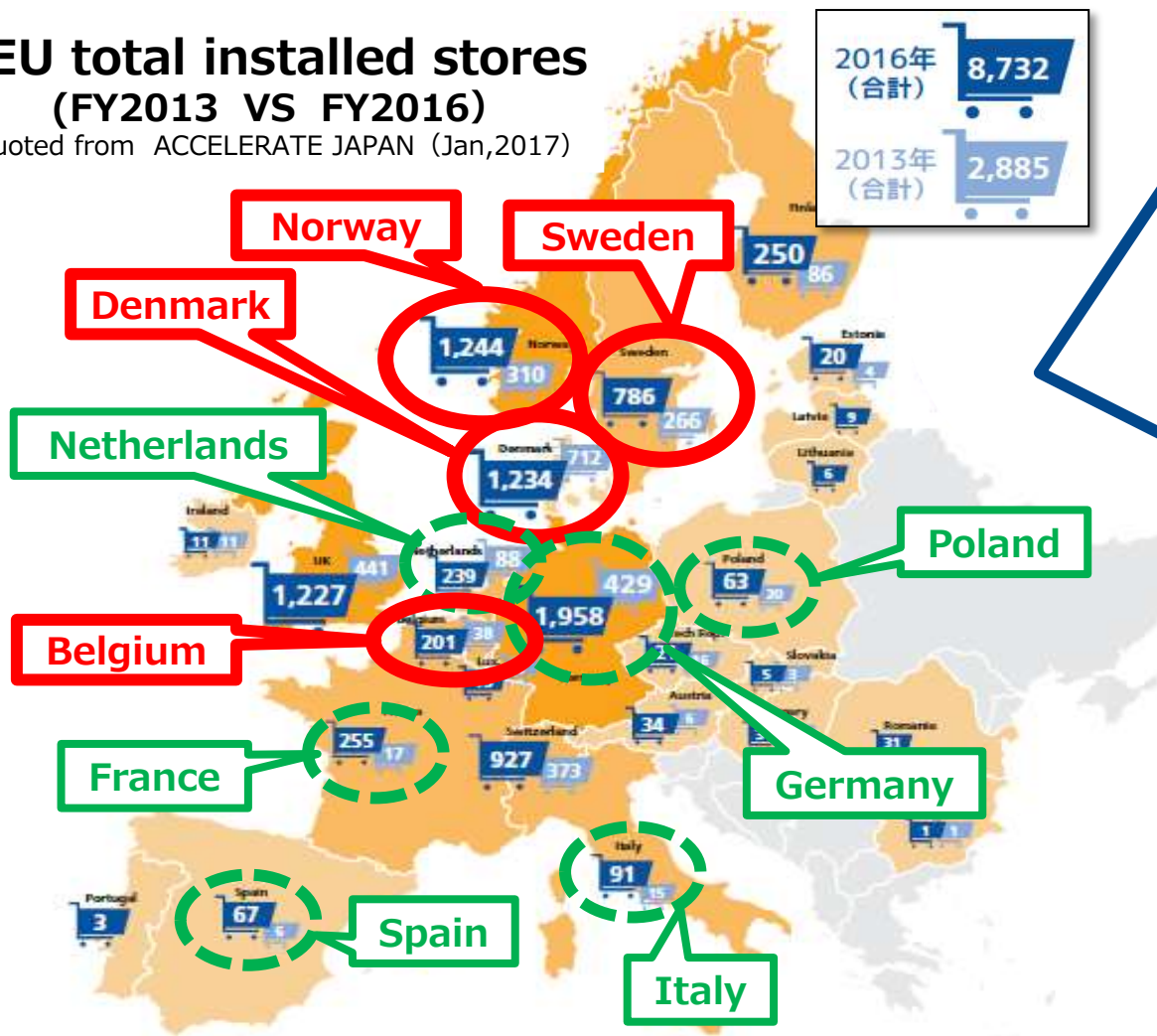
- ① 地球環境を考え、CO₂冷媒の研究に取り組みます。
- ② 省エネルギー化に取り組みます。
- ③ 中小企業の活性化 元気になるビジネスモデルにします。
- ④ 産官学の公共性をもった「討論の場」となることを目指します。
- ⑤ ここに来ないと体験できない食品加工場の「展示場」にします。
- ⑥ 幅広い「教育の場」となることを目指します。
- ⑦ 効率化・合理化を考えた「省人化」を進めます。

Panasonic
water cooling
20HP model
and
cooling coils
(Prototype)

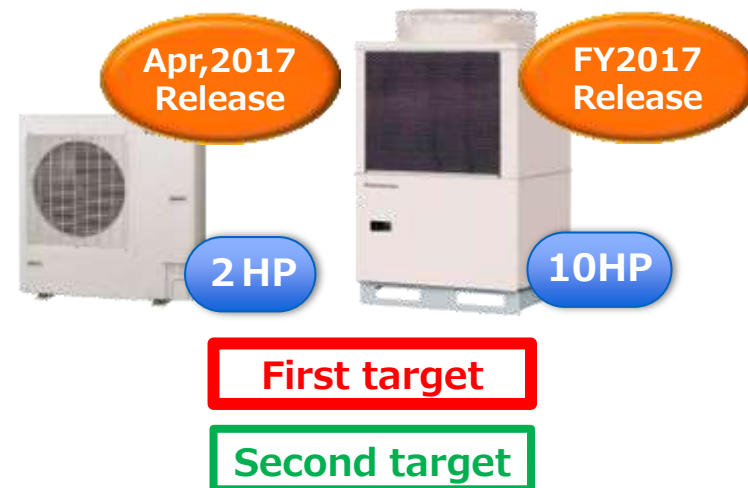


EU total installed stores (FY2013 VS FY2016)

Quoted from ACCELERATE JAPAN (Jan, 2017)



Panasonic CO₂ refrigeration system of EU model



Press release & Exhibition

- **CLIMATIZACION**
28 Feb, -3 Mar, @Madrid
- **Euro-shop**
5-6 Mar, @Düsseldorf

Further total Cost Reduction

- 1) Material cost reduction
- 2) Rationalize Installation Cost
- 3) Shorten & easier installation

Product Development

- 1) Wider range & Applications
- 2) Adopt to replacement market
- 3) Global Road map
Japan, Europe, China, NZ, USA

Training for Installers

- 1) On site and Web training



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Thank you very much!

