

Centralised Cooling

For a Cooler, Eco-Smart Home

SINGAPORE'S FIRST LARGE-SCALE CENTRALISED COOLING SYSTEM FOR HDB ESTATES



Quality & Reliability



Proven Concept



Eco-friendly



Cost-savings



Smart



Condenser-free & Hassle-free

“CENTRALISED COOLING SYSTEM IS A SMART AND HIGHLY EFFICIENT COOLING TECHNOLOGY.”

Tengah residents can look forward to a more cost-effective, energy efficient and eco-friendly cooling technology compared to multi-split aircon systems. Tengah will be Singapore's and possibly the world's first public housing township to experience the benefits of centralised cooling, This enable residents to lower ownership and usage cost and also save the planet by leading an eco-friendlier lifestyle.

WHAT MAKES CENTRALISED COOLING COOL?

ECO-FRIENDLY



The Centralised Cooling System (CCS) is a smart and highly efficient cooling technology. CCS uses chilled water that is generated from highly energy efficient chiller plants to cool your homes.



COST SAVINGS & ENERGY EFFICIENT

Tengah's residents can look forward to enjoying air-conditioning with up to 30% energy savings compared to split-unit airconditioning systems.



PROVEN CONCEPT

Chiller units are linked together to improve efficiency and to ensure uninterrupted chilled water supply even when one is under maintenance.

This same concept has been proven since 2006 by SP's district cooling system which provides cooling across the Marine Bay district such as the MBS Integrated Resort, One Raffles Quay and the Marina Bay Financial Centre



SMART

Control your aircon from anywhere – whether you're at the office or on-the-go – with the smart remote controller. More advanced than conventional remotes, you can pre-cool your home on hot days during your commute back.

With in-built smart features, you can remotely turn off the aircon via the SP Utilities App so there's no need to worry if you forgot to switch it off when you're away from home. The app also offers fuss-free smart monitoring for peace of mind. You may also opt to receive alert notifications of your indoor unit when it requires maintenance and view performance data over time.

QUALITY & RELIABILITY



SP has established a partnership with Daikin, a leading brand synonymous with air conditioning quality and reliability for over 50 years in Singapore. Tengah Residents who subscribe to Centralised Cooling will be assured of a strong service and support network, backed by both SP and Daikin.

Tengah residents will benefit from best-in-class service and maintenance support packages offered by SP and Daikin for their indoor centralised cooling units.



CONDENSER-FREE & HASSLE-FREE

What's inside your home will look no different from today, as Centralised Cooling indoor units have the same look and feel as conventional aircon units.

Your rooms will be cooled by chilled water supplied from a chiller plant on the rooftop, eliminating the need for a condenser at each household unit. This means less maintenance (Refilling of refrigerant gas is not required and no replacement needed for sensors, PCB, coil washing & compressor) for you, plus if you sign up now, we'll take care of the set up so you can enjoy it as soon as you move in.

MYTENGAH APP

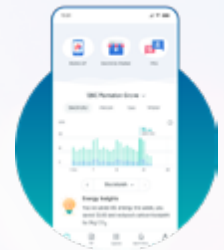
Residents will be able to live an eco-friendly and hassle-free lifestyle by using the MyTengah app. They will be able to understand their household utilities consumption, intelligently control their Centralised Cooling usage, browse and purchase energy efficient appliances, and many more.



Monitor, manage, be alerted to anomalies



Purchase energy efficient products & other services



Intelligent cooling for uncompromising comfort



Participate in renewable energy proliferation

CONVENTIONAL SPLIT-UNIT AIR CONDITIONING*

*Common models found in the market



- Air cooled system that requires more energy to cool down and condense refrigerant vapor into liquid
- Higher maintenance & servicing costs
- Increased need for raising refrigerant gas pressure leading to lower efficiency

CENTRALISED COOLING

~30% ENERGY EFFICIENT

Chilled Water Supply and Return Pipe with valve



- Water cooled system for higher energy savings and efficiency
- Estimated operating efficiency is 0.65KW/RT
- Lower maintenance & servicing costs
- Cools home using a closed chilled water loop, instead of refrigerant gas
- Built in control valve
- Built in Smart Control
- Wi-Fi enabled

INSTALLATION METHOD

PIPE FITTINGS



MECHFIT Pipe Fittings are made tested and certified in Japan and it is also registered under Singapore Green Building Product, SGBC. The 'MECHFIT' system uses the best combination of new generation of metal and plastic materials:

SIMPLE & RELIABLE

MECHFfit is reliable, easy to install with a "snap sound" and is extremely safe and no hot work is involved.



HIGH DURABILITY

When used with the polyethylene and aluminum PEX-AL-PEX pipe, the equipment is more durable as the PEX-AL-PEX pipe is corrosion resistant and hence, minimizes wear-off.

HIGH PRODUCTIVITY

Improved productivity for use in all kinds of sanitary, heating and chilled water [FCU System] installation due to its tool free, leak-free secure pipe fitting.

TIME & COST SAVING

The efficient and hassle-free installation of MECHFfit greatly reduces time and cost.

LONG-TERM WATER TIGHTNESS

Can withstand any water temperature ranging from 6°C - 30°C

- Test Pressure up to 10 bar
- Complying to ISO 21003 standard



TYPES OF PIPING

1 CHILLED WATER SUPPLY AND RETURN PIPES

System proposal of world-leading pipes + most advanced fitting

In the MyTengah project, GERMAN-made Cocomech Pex Pipes are being used for 2 types of pipings - the supply and return pipes of chilled water.

Introducing the PEX/AL/PEX pipe which meets the dimension and performance requirement ISO21003 (PEX/AL/PEX). Together with MECHFfit, installation works are extremely easy, simple and reliable.

These pipes can be considered as one of the best pipe material for non-portable water & chilled water piping system in the world with the following benefits:

- The flexibility of these lightweight coiled pipes improves workability in all processes of work.
- Excellent Corrosion Resistance, Chlorine Resistance, Electrical Resistance, Pipe-Creep Resistance. etc
- Coverage of wide temperature and pressure range in use.
- Safe from any toxic substance and promotes healthier water.



Pipe Dimensional Standard

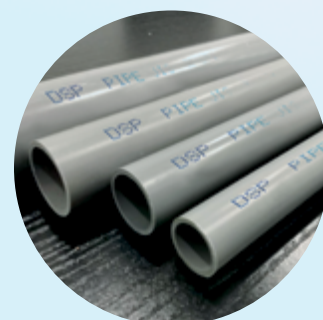
Size	O.D.	I.D.	Thickness	Length (m)
D16	16.0	12.0	2.0	200
D20	20.0	16.0	2.0	100
D25	25.0	20.0	2.5	50
D32	32.0	26.0	3.0	50
D40*	40.0	33.0	3.5	5

* Use with Toglit fitting

2 UPVC DRAINAGE PIPE

DSP uPVC Drainage Pipe offers a range of unique characteristics that make them versatile in their field of application. The pipe is grey in colour and are commonly used as cable ducting, flush pipe and airconditioning water discharge outlet.

There is an ease in handling and installation due to the pipe's light weight property thus minimise operation and installation cost. The smooth bore provides greater hydraulic capacity and minimises deposit. The pipe can be readily joined by solvent welding. This provides the versatility in joining and minimise the flow of obstructions.



Comply: 315 SS275:1999





Type	Length (ft)	Length (m)
uPVC Draining Pipe	9.5	2.9

WALL MOUNTED TYPE






STANDARD FEATURES



COMFORT

-  Turbo Mode - Rapid cooling with highest fan speed for immediate comfort
-  Quiet Mode - Effective cooling with lower noise level
-  Dry Mode - Keeping the room dehumidified, while maintaining room temperature
-  Sleep Mode

AIR FLOW

-  Selectable Fan Speed - Different fan speed is available for comfort selection
-  Automatic Vertical Swing - Automatic movement of air discharge louver for uniform air distribution
-  Manual Horizontal Air Flow - Adjustable horizontal discharge grille for desired air flow direction

LIFESTYLE CONVENIENCE

-  Built in Wireless LAN
-  Smart home upgradable (Optional)

CONTROLLER

-  With Wireless Remote Controller

IAQ

-  Washable Saranet Filter - Removal of airborne dust particles through saranet filter ensures cleaner air supply

SPECIFICATION

MODEL				FWMT03EV1		
Nominal Cooling Capacity		Btu/h	11300			
		W	3310			
Nominal Sensible Cooling Capacity		Btu/h	9000			
		W	2640			
Nominal Total Input Power		W	42			
Nominal Running Current		A	0.21			
Power Source		V/Ph/Hz	220-240 / 1 / 50			
Indoor Unit	Unit Dimension	H X W X D	mm	288x 800 x 299		
	Unit Weight		kg	9		
	Condensate Drain Size		mm	19.05		
	Pipe Connection		mm	12.70		
	Air Quality	Filter	Type	Washable Saranet Filter		
			Quantity	pc	2	
Casing		Colour	White			

Notes:
 1) Nominal cooling capacity is based on the following condition.
 Entering Air Temperature. 27°C DB / 19 °C WB
 Entering Water Temperature 7°C
 Leaving Chilled Water Temperature 12°C



DAIKIN AIRCONDITIONING (SINGAPORE) PTE LTD

10 Ang Mo Kio Industrial Park 2, Singapore 569501

 6583 8888  sales@daikin.com.sg

Office Operating Hours

Monday to Friday: 8.30 am to 6.00 pm

Sat, Sun & Public Holiday: Closed

Showroom Opening Hours

Monday to Friday: 9.00 am to 6.00 pm

Sat, Sun & Public Holiday: Closed



www.daikin.com.sg



We would love to hear from you. If you have any questions, write to us at tengahcooling@spgroup.com.sg