

# FUJITSU

AIR CONDITIONING



# FUJITSU TRAINING



# 2016/17

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## FUJITSU AIR CONDITIONING (UK) LIMITED

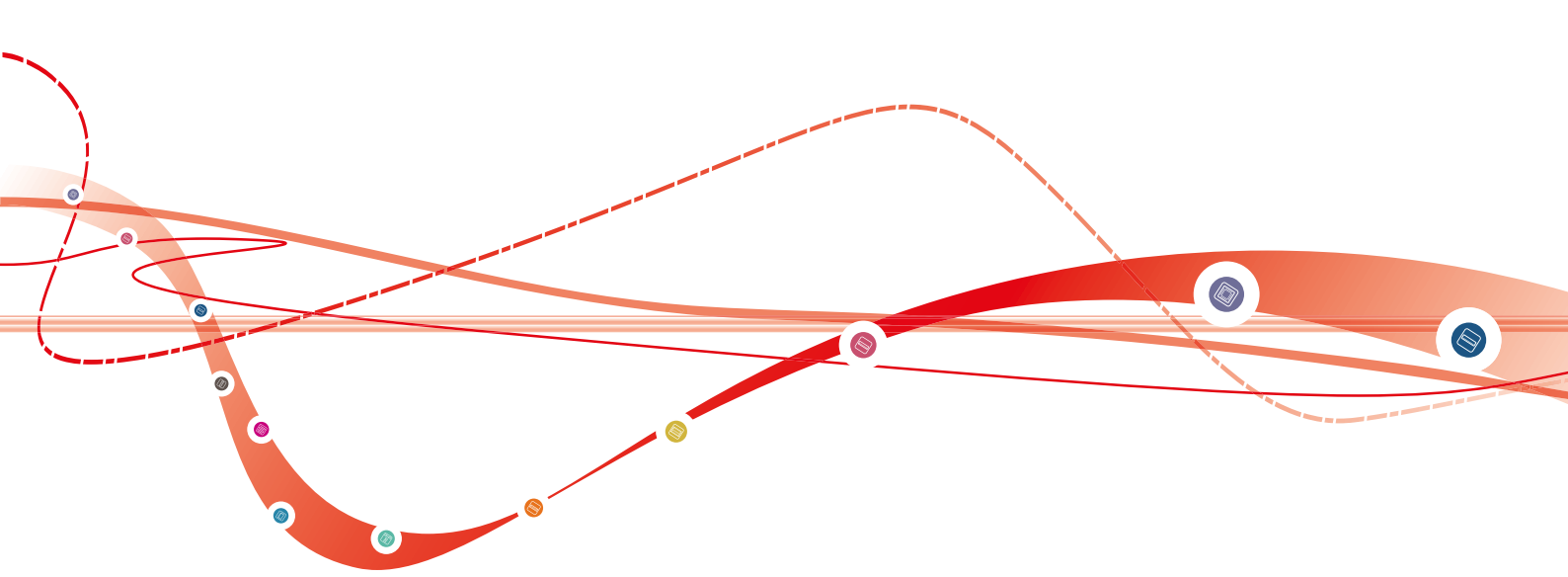
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## FUJITSU AIR CONDITIONING (IRL) LIMITED

Airside Business Park  
Lakeshore Dr  
Swords  
Co. Dublin  
Ireland





# Welcome to the world of Fujitsu Training

## About Fujitsu

Fujitsu General is part of the Fujitsu Group, one of the best known and most successful engineering and electronics organisations in the world. Fujitsu General itself was founded in 1936 in Kawasaki, Japan, and has grown into a thriving global network. Fujitsu General is a world leading

provider of innovative, reliable and energy efficient air conditioning products which pervade many aspects of daily life. We have been developing air conditioning systems for almost four decades, since we produced our first window air conditioner in 1963. In the UK, Fujitsu air conditioning

systems are sold directly via specialised distributors, an official partner of Fujitsu General and also through a specialised distribution network. We know that quality is everything and we're proud of our reputation for building products that installers, designers and end-users trust to work efficiently and without breakdowns.

## Fujitsu Training

We have developed specific courses, created to make you much more fluent in designing and installing Fujitsu air conditioning. The courses have been conceived to help develop and deepen your knowledge of Fujitsu's products, their benefits and their ideal applications. On top of that we

cover the after-sales and service skills that will only enhance the benefits that installing Fujitsu air conditioning brings.

### **Our Commitment to Training**

We are committed to training to help raise standards throughout the industry and have invested heavily in our state of the art

training facilities in Elstree, Hertfordshire. All courses are taught by in-house and highly skilled engineers who between them have many years experience working with Fujitsu products. Our courses are free of charge and each delegate receives a certificate on completion.

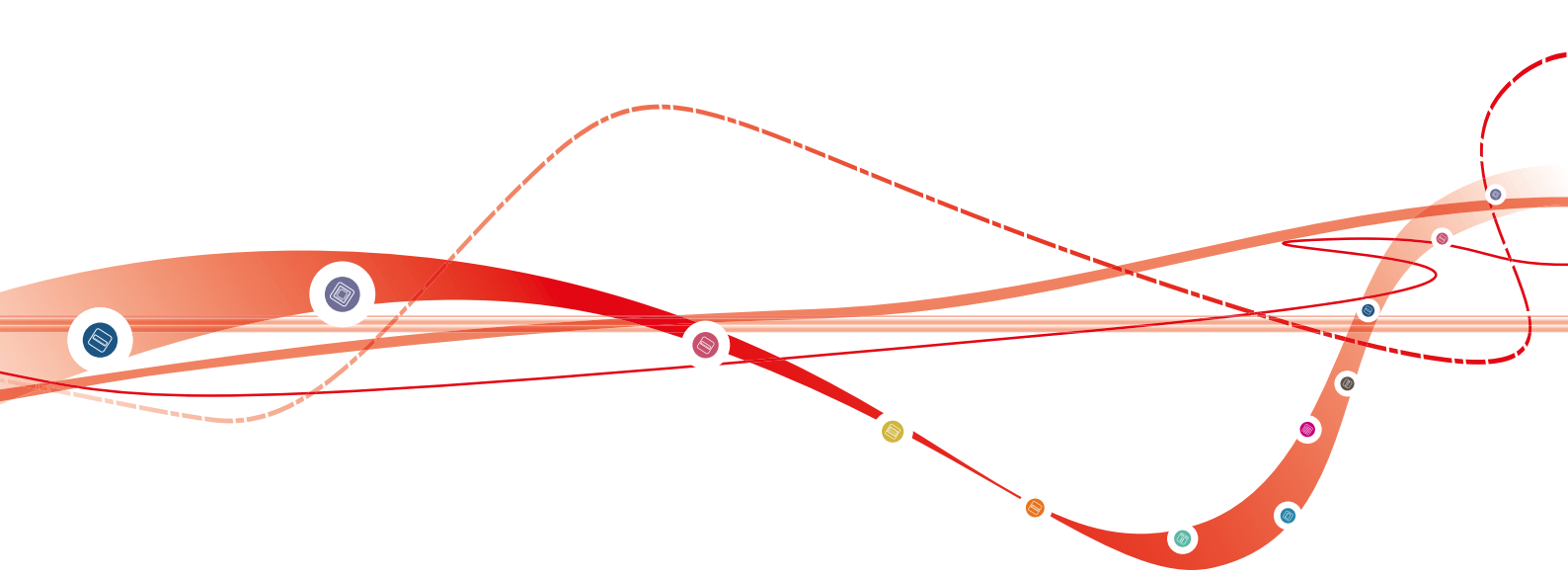
## Comfort Club & 5-Year Warranty



Comfort Club is a fantastic loyalty scheme designed to reward air conditioning installers

for choosing Fujitsu air conditioning. This amazing incentive programme includes a 5-year warranty on all equipment plus reward vouchers.

For Further information please email: [comfortclub@fgac.fujitsu-general.com](mailto:comfortclub@fgac.fujitsu-general.com)



# An Introduction to the Fujitsu Product Portfolio

## Course 1

**Dates:** See Calendar - Page 14

**Maximum no. of Delegates:** 14

**Minimum no. of Delegates:** 8

**Location:** London & Dublin

**Time:** 9.30 to 15.30

**Duration:** 1 day (lunch included)

### Who Should Attend

This course is valuable for all Distribution staff, Direct customers, Sales Engineers, Consultants and End Users.

### Course Objectives

To develop an understanding of the Fujitsu product range.

To educate the attendee on the importance of air conditioning, how air conditioning works and the benefits and advantages of the Fujitsu product.

### Course Summary

Throughout this course, the delegates will receive:

- A basic understanding of the primary functions of an air conditioner.
- An overview of the features and options on the Fujitsu models.
- Details on Fujitsu marketing and sales material.
- Training course information and a tour of our training rooms.
- How and when to select the correct system.
- Explanation on how to operate a system efficiently.
- Explanation of the different sophisticated control options.
- Website demonstration.
- Questions and Answers.



# Split and Multi-Split System - Installation, Commissioning, Troubleshooting and Service Tool

## Course 2

**Location:** London & Dublin

**Dates:** See Calendar - Page 14

**Time:** 09.30 to 16.00

**Maximum no. of Delegates:** 10

**Duration:** 1 day (lunch included)

**Minimum no. of Delegates:** 8

### Course Summary

Throughout the course, practical exercises will reinforce the learning process. The course will include:

- Introduction to the course objectives.
- Explanation of terms and technologies (e.g.inverters, double swing louvres etc).
- Review of refrigerant and electrical circuit diagrams and basic operation.
- Pipe work, interconnecting cable and control methods.
- Practical exercises (e.g. board and fan motor change).
- Remote controller types – functions, setting up, fault codes.
- Fault finding - practical exercises.
- Website demonstration.
- Introduction to the new fault finding application.
- Questions and Answers.

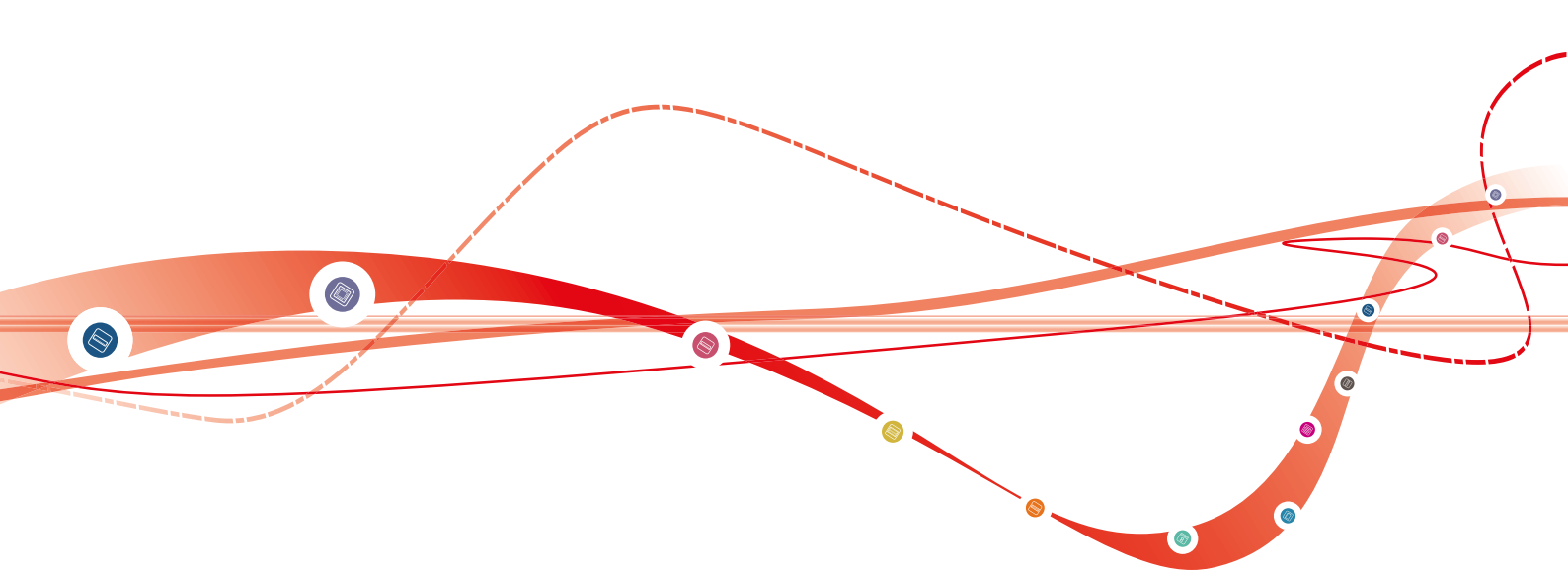
### Who Should Attend

This course is valuable for anyone involved in the installation and commissioning of Fujitsu Split and Multi-Split Type systems. The course is primarily aimed at Split System Installation Engineers and Split System Commissioning Engineers.

**Proof of Company F-Gas registration is required for this course.**

### Course Objectives

To develop an understanding of Fujitsu Split Systems. To obtain sufficient knowledge to install, commission and troubleshoot these types of systems.



# Mini VRF - Installation, Commissioning and Troubleshooting

## Course 3

**Dates:** See Calendar - Page 14

**Maximum no. of Delegates:** 10

**Minimum no. of Delegates:** 8

**Location:** London & Dublin

**Time:** 09.30 to 16.00

**Duration:** 1 day (lunch included)

### Who Should Attend

This course is valuable for anyone involved in the installation and commissioning of Fujitsu Mini VRF Systems.

The course is primarily aimed at Mini VRF System Installation Engineers and Commissioning Engineers.

**Proof of Company F-Gas registration is required for this course.**

### Course Objectives

To develop an understanding of Fujitsu Advanced Mini VRF Systems.

To obtain sufficient knowledge to install, commission and troubleshoot these types of systems.

### Course Summary

Throughout the course, practical exercises will reinforce the learning process. The course will include:

- Introduction to the course objectives.
- Explanation of terms and technologies (e.g. inverters, double swing louvres etc).
- Review of refrigerant and electrical circuit diagrams and basic operation.
- Pipe work, interconnecting cable and control methods.
- Practical exercises (e.g. special functions and commissioning procedure).
- Remote controller types – functions, setting up, fault codes.
- Fault finding - introduction and practical exercises, including service tool demonstration.
- Website demonstration.
- Introduction to the new fault finding application.
- Questions and answers.



# VRF System Application and Design including Design Simulator

## Course 4a

**Location:** London & Dublin

**Dates:** See Calendar - Page 14

**Time:** 09.30 to 16.00

**Maximum no. of Delegates:** 8

**Duration:** 1 day (lunch included)

**Minimum no. of Delegates:** 6

### Course Summary

Throughout this course, with the use of extensive hands-on exercises, the delegates will:

- Understand the basic operation and features of a Fujitsu VRF System.
- Select indoor units and understand the features of each type of indoor unit.
- Understand the features of the outdoor unit.
- Understand the limitations of the system.
- Calculate the system refrigerant charge.
- Design the refrigerant pipework.
- Understand the system power supply requirements.
- Design the system control wiring and understand the system address setting configuration.
- Understand the control system options and the configuration of each.
- Design a complete VRF system for an example building using Design Simulator.
- Website demonstration.
- Introduction to the new fault finding application.
- Questions and Answers.

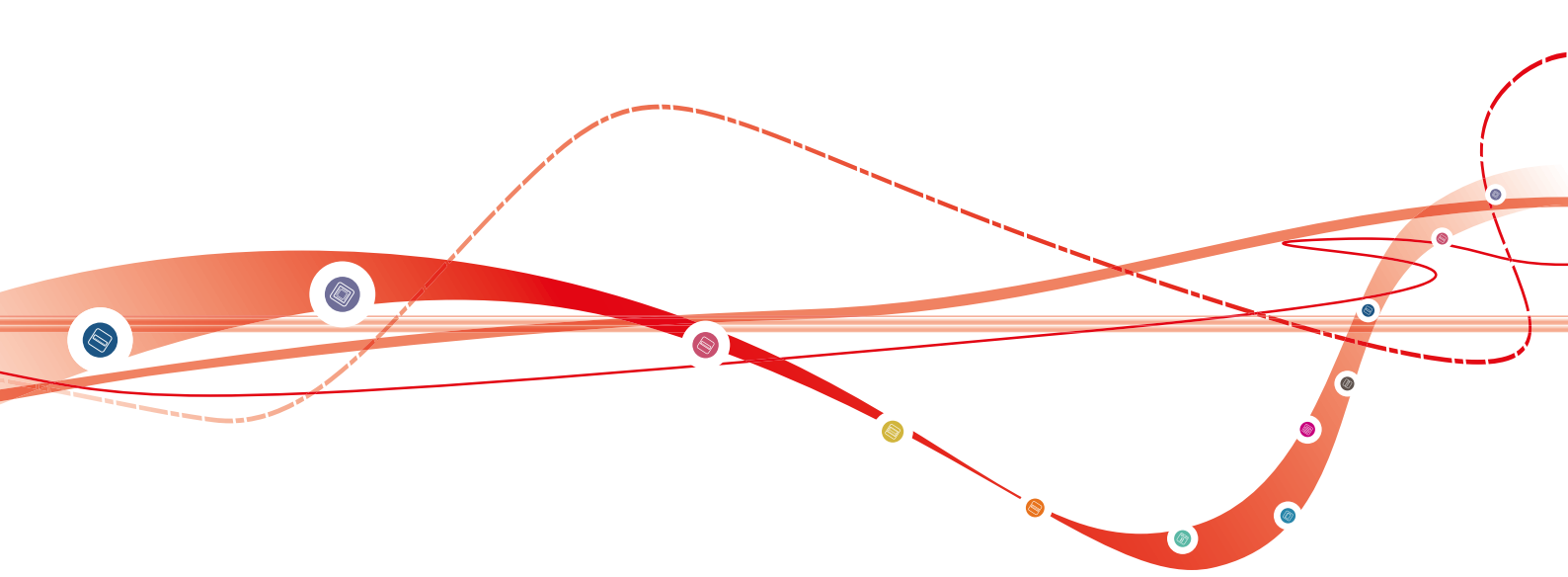
### Who Should Attend

This course is valuable for anyone involved in the application and design of Fujitsu VRF systems. The course is primarily aimed at Consultants, Specifiers, Sales Engineers and Contracts Engineers.

### Course Objectives

To develop an understanding of the Fujitsu VRF Systems.

To obtain sufficient knowledge for the application and design of this type of system for both new build and refurbishment projects.



# Design Simulator (Software only)

## Course 4b

**Dates:** See Calendar - Page 14

**Maximum no. of Delegates:** 8

**Minimum no. of Delegates:** 4

**Location:** London & Dublin

**Time:** 09.30 to 13.30

**Duration:** Half Day

### Who Should Attend

This course is valuable for anyone involved in the application and design of Fujitsu VRF systems. The course is primarily aimed at Consultants, Specifiers, Sales Engineers and Contracts Engineers.

### Course Objectives

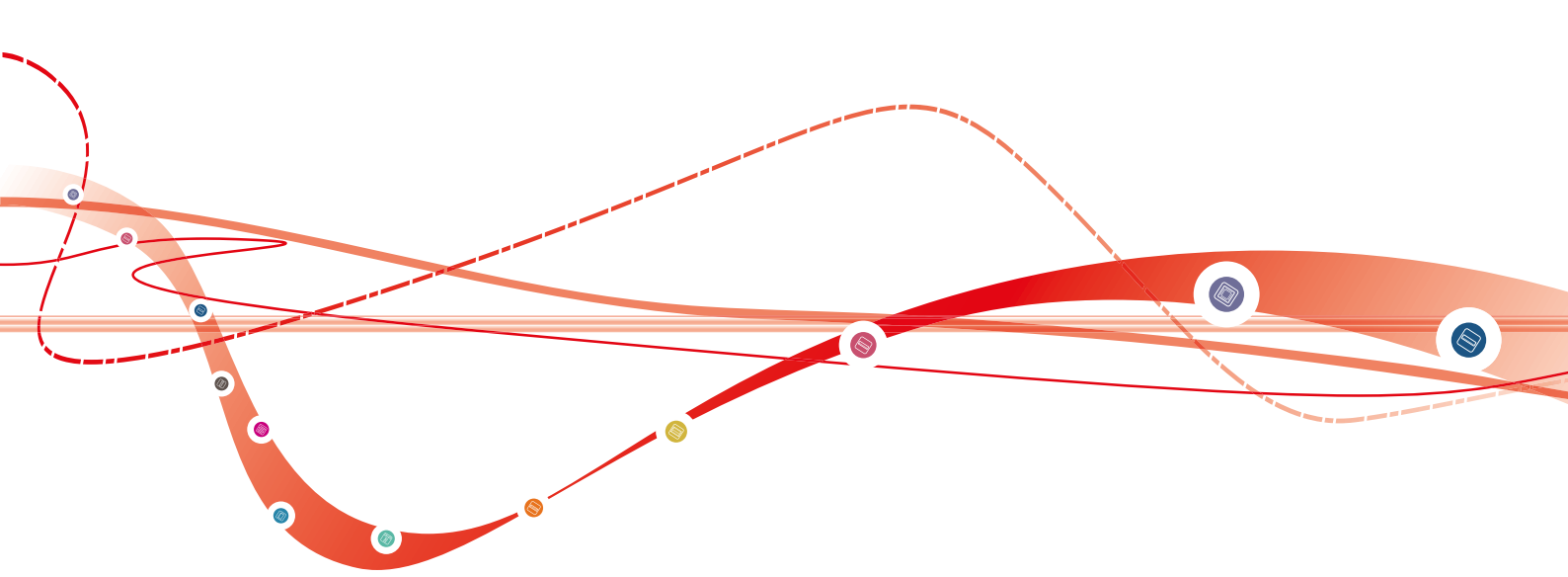
Obtain sufficient knowledge for the designing and selection of VRF systems using Design Simulator.

### Course Summary

Throughout this course, with the use of extensive hands-on exercises, the delegates will:

- Configuring Design Simulator.
- How to select Split, VRF and DX systems.
- Design a complete VRF system.
- Calculate additional refrigerant charge.
- Create reports and quotations.
- Saving and updating.
- Questions and Answers.





# VRF System Installation, Commissioning and Service Tool

## Course 5

**Location:** London & Dublin

**Dates:** See Calendar - Page 14

**Time:** 09.30 to 16.00

**Maximum no. of Delegates:** 8

**Duration:** 1 day (lunch included)

**Minimum no. of Delegates:** 6

### Course Summary

Throughout this course, with the use of extensive hands-on training, the delegates will:

- Understand the limitations of the system.
- Understand pipework design.
- Calculate the system refrigerant charge.
- Understand the system power supply requirements.
- Design the system control wiring and understand the system address setting configuration.
- Understand the control system options.
- Set-up the system address configuration of outdoor and indoor units.
- Understand how to start-up the system and test run.
- Understand the recommended installation procedures.
- Learn how to set up and operate the Central Remote Controller.
- Learn how to avoid common mistakes.
- Introduction to the new fault finding application.
- Questions and answers.

### Who Should Attend

This course is valuable for anyone involved in the installation and commissioning of Fujitsu VRF systems. The course is primarily aimed at VRF System Installation Engineers and VRF System Commissioning Engineers.

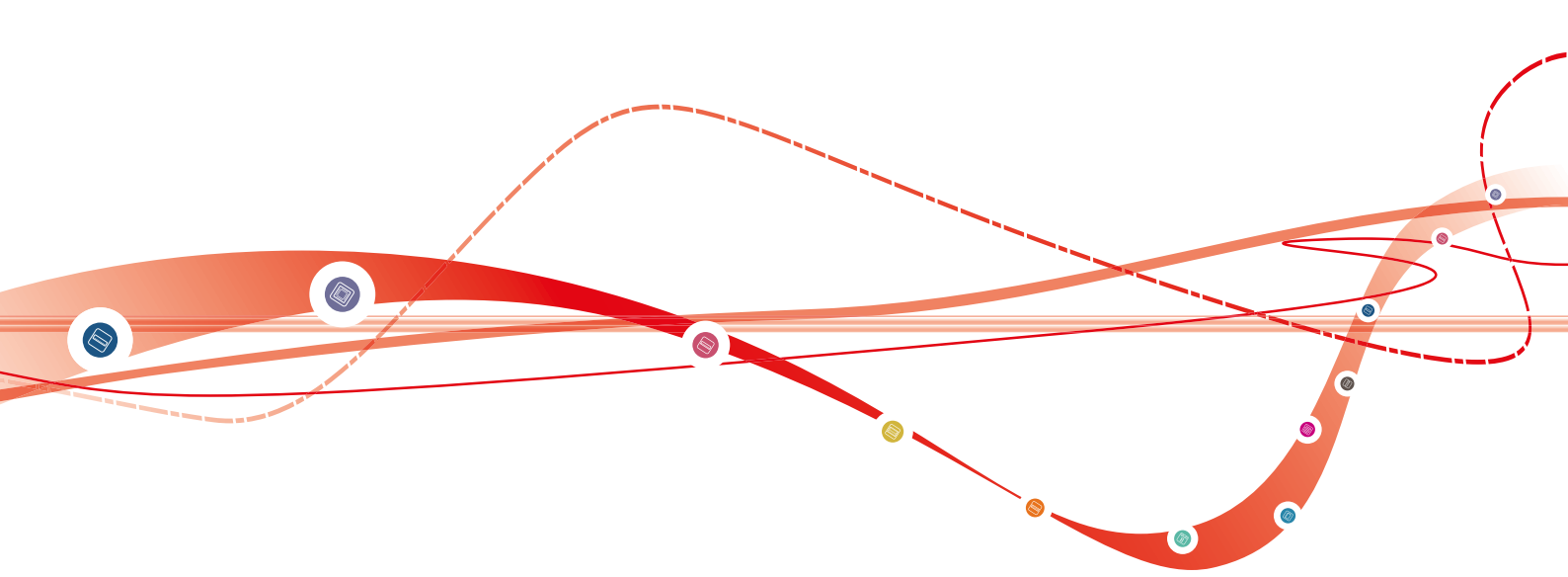
**Proof of Company F-Gas registration is required for this course.**

### Course Objectives

To develop an understanding of Fujitsu VRF Systems.

To develop a basic understanding of the design methodology relevant to Fujitsu VRF Systems.

To obtain sufficient knowledge to install and commission these type of systems.



# VRF Advanced Service and Troubleshooting including Service Tool Course 6

**Dates:** See Calendar - Page 14

**Location:** London & Dublin

**Maximum no. of Delegates:** 8

**Time:** 09.30 to 16.00

**Minimum no. of Delegates:** 6

**Duration:** 1 day (lunch included)

## Who Should Attend

This course is valuable for specialist engineers involved in the installation, commissioning, and troubleshooting of Fujitsu VRF systems. Candidates should have ideally attended the VRF System Installation and Commissioning Course, although this is not mandatory. Engineers involved with troubleshooting VRF Systems and Distribution Support Engineers will find this course especially useful. This course is NOT for engineers who are not familiar with the Fujitsu VRF product.

**Proof of Company F-Gas registration is required for this course.**

## Course Objectives

To develop a thorough understanding of Fujitsu VRF Systems.  
To obtain specialist knowledge to commission and troubleshoot this type of VRF system using the Service Tool Software.

## Course Summary

Throughout this course, with the use of extensive hands-on exercises, the delegates will:

- Understand the limitations of the system.
- Calculate the system refrigerant charge.
- Understand standard service procedures (including oil recovery, pump-down etc.).
- Use the CRC and TPC as fault-finding tools.
- Learn fault-finding procedures.
- Understand the meaning of system error codes and how to rectify them.
- Learn component fault finding techniques.
- Learn how to commission and troubleshoot the system using the Fujitsu Service Tool Software.
- Website demonstration.
- Introduction to the new fault finding application.
- Questions and Answers.



# VRF Central Controllers - Installation and Commissioning Course 7

**Location:** London & Dublin

**Dates:** See Calendar - Page 14

**Time:** 09.30 to 16.00

**Maximum no. of Delegates:** 8

**Duration:** 1 day (lunch included)

**Minimum no. of Delegates:** 4

## Course Summary

Throughout this course, with the use of extensive hands-on training, the delegates will:

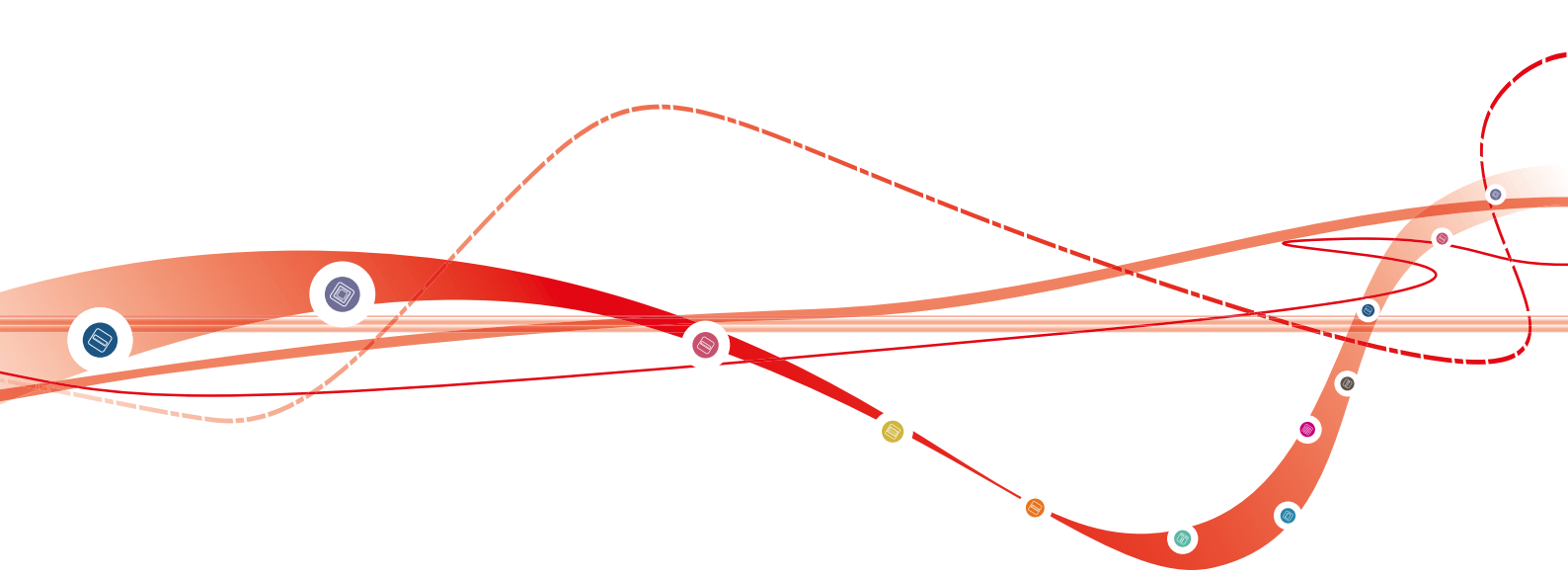
- Understand the limitations of the system and the control options.
- Install and commission Central Controllers (including software).
- Understand firmware and data transfer.
- Understand basic BMS contacts (e.g. fire alarm and motion operation).
- Use the Central Controllers as a fault-finding tool.
- Learn fault-finding procedures and remote monitoring.
- Understand errors and error codes and how to rectify them.
- Website demonstration.
- Introduction to the new fault finding application.
- Questions and Answers.

## Who Should Attend

This course is valuable for controls and BMS specialist engineers involved in the installation or commissioning of Fujitsu VRF advanced control options. Candidates should have ideally attended the VRF System Installation and Commissioning course, or the Advanced Troubleshooting course, although this is not mandatory. Engineers and Distribution Support Engineers involved with commissioning, troubleshooting and system interfacing VRF Systems will find this course especially useful. This course is NOT for engineers who are not familiar with the Fujitsu VRF product, or VRF and BMS controls.

## Course Objectives

To develop a thorough understanding of the Fujitsu VRF communication network and control options. To obtain specialist knowledge to install, commission and troubleshoot these types of VRF controllers, software and interfaces.



# ATW Systems

## Product Overview and Design Software

### Course 8 - On request

**Dates:** See Calendar - Page 14

**Maximum no. of Delegates:** 8

**Minimum no. of Delegates:** 6

**Location:** London & Dublin

**Time:** 09.30 to 16.00

**Duration:** 1 day (lunch included)

#### Who Should Attend

This course is valuable for MCS approved sales engineers and contractors who are involved in the application, design and selection of ATW systems.

#### Course Objectives

To develop an understanding of Fujitsu ATW Systems.

To obtain sufficient knowledge for the application and design of this type of system for both new build and refurbishment projects.

#### Course Summary

This course will include the following:

- An overview of Air Source Heat-Pump technology.
- An understanding of the product and it's benefits.
- Selection procedure.
- System operating parameters.
- Explanation of the cooling option.
- Hot water cylinder selection.
- Refrigerant circuit overview.
- Review of selection software.
- An understanding of the system power supply requirements.
- Optional accessories.
- Questions and Answers.



# ATW Systems - Installation, Commissioning and Troubleshooting

## Course 9 - On request

**Location:** London & Dublin

**Dates:** See Calendar - Page 14

**Time:** 09.30 to 16.00

**Maximum no. of Delegates:** 10

**Duration:** 1 day (lunch included)

**Minimum no. of Delegates:** 8

### Course Summary

Throughout this course, with the use of extensive hands-on training, the delegates will:

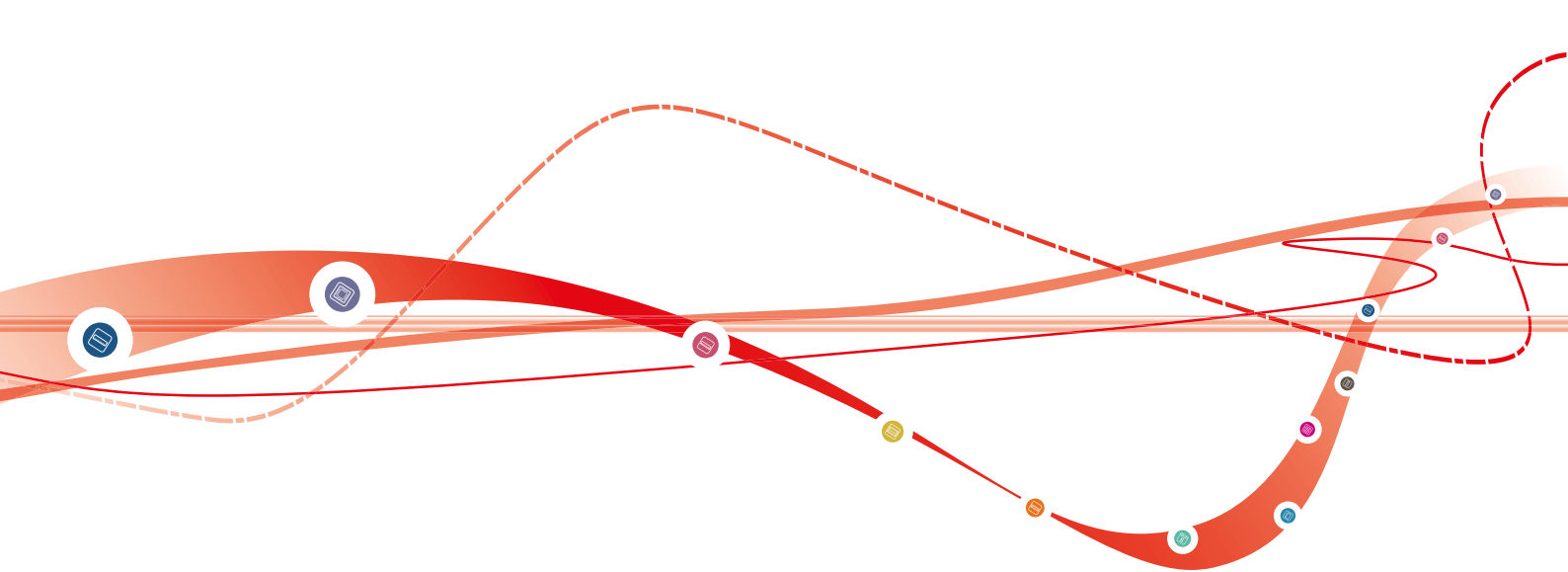
- Understanding of the basic operation and features of the Fujitsu ATW System.
- A detailed explanation of the system components and their function.
- Refrigerant circuit overview.
- Water circuit overview.
- Wiring and PCB circuit overview.
- Understanding the system power supply requirements.
- Voltage, pressures and temperature explanation.
- Commissioning and service functions.
- Incorrect field setting effects explained.
- ACS service software and troubleshooting demonstration.
- Questions and Answers.

### Who Should Attend

This course is valuable for MCS approved sales engineers and contractors who are involved in the application, design and selection of ATW systems.

### Course Objectives

To develop an understanding of the Fujitsu ATW systems, with operational functions and advanced troubleshooting service techniques.



# AHU DX Kit and Freeverter options - Design, installation and commissioning Course 10

**Dates:** See Calendar - Page 14

**Location:** London & Dublin

**Maximum no. of Delegates:** 8

**Time:** 09.30 to 13.30

**Minimum no. of Delegates:** 4

**Duration:** Half day

## Who Should Attend

This course is valuable to anyone involved in the design, installation and commissioning of AHU's. The course is primarily aimed at AHU and VRF installation and commissioning engineers.

## Course Objectives

To develop an understanding of the Fujitsu AHU options and control solutions. To obtain sufficient knowledge to install these types of systems.

## Course Summary

Throughout this course, with the use of extensive hands-on training, the delegates will:

- Selecting an AHU and the correct DX Kit.
- Installing DX Kit and Freeverter.
- Configuration.
- Control options, including external controls and BMS solutions.
- Commissioning

# Fujitsu 2016 - 17 Training Programme

	October 2016	November 2016	December 2016	January 2017	February 2017	March 2017	April 2017	May 2017
1		1			3	2		
2		6				3		
3		10						1
4	2						2	10
5	3						3	
6			2				4B	
7			3		5	1		
8		4A			6	10		
9		5						2
10				2				3
11	4A			3			5	
12	5			10			6	
13			4A				10	
14			5		1	5		
15		2			4A	6		
16		3			10	7		4B
17		4B		4				5
18	1			7			4A	6
19	2						7	
20	4B		2					
21			6		2	2		
22		2			3	3		
23		7						4A
24				5				2
25	5			6			2	10
26	6						3	
27								
28					7			
29						4B		
30						10		
31				2				

## Table Key

### Course Number

1  
2  
3  
4A  
4B  
5  
6  
7  
8  
9  
10  
31

### Product Group

ALL  
SS, MS  
J-II & J-IIS  
VRF  
VRF  
VRF  
VRF  
ATW  
ATW  
AHU

### Course Title

An Introduction to the Fujitsu Product Portfolio  
Split and Multi-Split Systems - Installation, Commissioning and Troubleshooting  
Mini VRF - Installation, Commissioning and Troubleshooting  
Application and Design (Inc Design Simulator)  
Design Simulator (Software only)  
Installation and Commissioning  
Advanced Service & Troubleshooting (Inc Service Tool)  
VRF Central Controllers - Installation and Commissioning  
ATW Systems - Product Overview and Design Software  
ATW Systems - Installation, Commissioning and Troubleshooting  
AHU DX Kit and Freeverter Options - Design, Installation and Commissioning

# Fujitsu Training Request Form

To book a place on a Fujitsu training course, please photocopy and complete this form.

Return your request form/s to the Fujitsu Training Department:

Fujitsu Air Conditioning (UK) Limited, Unit 150, Centennial Park, Centennial Avenue, Elstree, Hertfordshire, WD6 3SG  
Tel: +44 (0)208 731 3450, Email: training@fgac.fujitsu-general.com

**A current Company F-Gas certificate, must be recieved prior to the confirmed training date for courses 2, 3, 5 and 6.**

Please complete one request form per delegate for each course required. All forms must be fully completed in capital letters. Incomplete forms will not be accepted.

London <input type="checkbox"/> Dublin <input type="checkbox"/>	
Delegate Name.	Course No.
Company Name.	Preferred Course Date(s).
Position/Title.	Special Dietary Requirements.
Full Company Address.	
Postcode.	
Telephone.	Fax.
Email.	

There is no cost for our training courses, but a £150 charge will be levied upon each delegate for failure to attend booked courses or cancellations with less than 2 working days notice.\*

Please tick as appropriate

<input type="checkbox"/> Comfort Club Member	Comfort Club Membership No. ....
<input type="checkbox"/> Comfort Club Non-Member	F-Gas Registered Company No. ....
<input type="checkbox"/> MCS Registered	MCS Registration No. ....

\* Signature and submission of this training request confirms that you accept fully that Fujitsu Air Conditioning (UK) Limited will levy the £150 in the event of non-attendance.

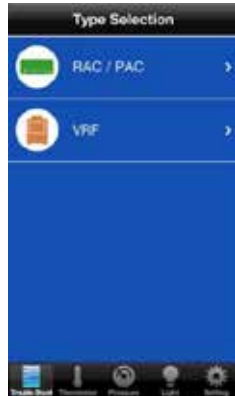
Print Full Name.	Position/Title.
Signature.	Date.

Fujitsu Air Conditioning (UK) Limited reserves the right to cancel or postpone training courses. In the case of cancellation or postponement our training department will accommodate your original request at the earliest possible opportunity.



# Mobile Technician App

## By FUJITSU GENERAL LIMITED



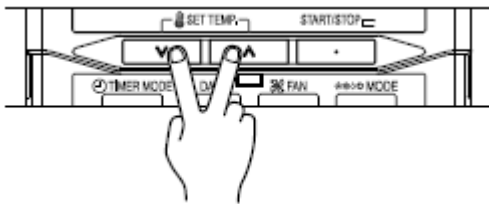
### Standard Error Codes (all indoor units from 2013)

Error Detail	Indoor LED Display Flashes			Wired RC	Error Detail	Indoor LED Display Flashes			Wired RC
	Operation	Timer	Economy			Operation	Timer	Economy	
Serial communication error	1	1	continuous	11	OU Discharge temp sensor error	7	1	continuous	71
Wired RC communication error	1	2	continuous	12	Compressor temp sensor error	7	2	continuous	72
Network communication error	1	4	continuous	14	OU Heat-Ex liquid temp sensor error	7	3	continuous	73
Check run unfinished	1	5	continuous	15	OU Ambient temp sensor error	7	4	continuous	74
Transmission/Peripheral connect error	1	6	continuous	16	OU Suction ref temp sensor error	7	5	continuous	75
Refrigerant circuit address setting error	2	1	continuous	21	2/3-way valve temp sensor error	7	6	continuous	76
Indoor unit capacity error	2	2	continuous	22	OU Heat sink temp sensor error	7	7	continuous	77
Combination error	2	3	continuous	23	Sub-Cool inlet/outlet temp sensor error	8	2	continuous	82
Connection unit number error	2	4	continuous	24	OU Liquid pipe temp sensor error	8	3	continuous	83
Address setting error	2	6	continuous	26	OU Current sensor error	8	4	continuous	84
Master/slave unit set-up error	2	7	continuous	27	HP/LP pressure sensor/switch error	8	6	continuous	86
IU connection error on WRC	2	9	continuous	29	OU Current trip detection	9	4	continuous	94
Power supply interruption error	3	1	continuous	31	Compressor rotor position error	9	5	continuous	95
Indoor PCB EPROM error	3	2	continuous	32	OU fan motor error	9	7	continuous	97
Manual auto switch error	3	5	continuous	35	OU fan motor 2 error	9	8	continuous	98
Indoor unit WRC communication error	3	10	continuous	3A	4-way valve error	9	9	continuous	99
Inlet air temp sensor error	4	1	continuous	41	Coil (expansion valve) error	9	10	continuous	9A
Indoor Heat-Ex middle temp sensor error	4	2	continuous	42	Outdoor unit error	9	15	continuous	9U
Indoor unit fan motor error	5	1	continuous	51	OU Abnormal discharge temp error	10	1	continuous	A1
Indoor EEV error	5	2	continuous	52	Abnormal compressor temp error	10	3	continuous	A3
Drain pump error	5	3	continuous	53	High pressure error	10	4	continuous	A4
Damper error	5	7	continuous	57	Low pressure error	10	5	continuous	A5
Intake grille error	5	8	continuous	58	VRF Branch box error	13	1	continuous	J1
Indoor unit error	5	15	continuous	5U	8-Way Multi Branch box error	13	2	continuous	J2
Outdoor PCB/communication error	6	2	continuous	62	<b>Accessories</b>	<b>PCB LED</b>	<b>PCB LED</b>	<b>WRC</b>	
Inverter error	6	3	continuous	63	VRF RB: Cable crossed OU/RB – IU/RB	solid LED	solid LED	-	-
Active filter/PFC circuit error	6	4	continuous	64	VRF RB: Coms/Main PCB error	solid LED	continuous	-	-
Trip terminal 'L' error	6	5	continuous	65	WRC: Incompatible IU connected	-	-	-	C0:12
Display PCB/communication error	6	10	continuous	6A	WRC: Indoor – WRC Coms error	-	-	-	C0:15

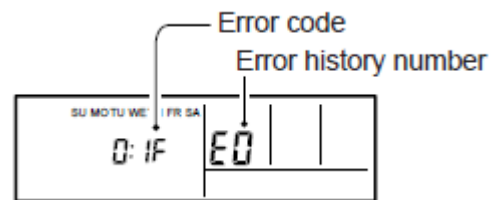
#### ERROR CODE HISTORY DISPLAY

Up to 16 memorized error codes may be displayed for the indoor unit connected to the remote controller

Press the SET TEMPERATURE buttons, simultaneously for 3 seconds



Press the SET TEMPERATURE button to select the error history number



## R22 Replacement

Fujitsu R410A RAC and PAC systems can be considered for use with existing R22 pipework\*.  
There is no need to replace existing R22 pipework, saving time and money.



New R410A System

Existing R22 pipework can be reused\*



New R410A System

Table 1: When the existing R22 pipework is of a different diameter please refer to the following table for maximum pipe lengths and additional charge.

Model	Liquid Pipe	1/4				3/8			1/2			5/8	Additional Charge
	Gas Pipe	3/8	1/2	5/8	3/4	1/2	5/8	3/4	5/8	3/4	1-1/8	1-1/8	
ASYG07-12LM ASYG07-12LU ASYG09-12LT	S		20 (15)			8 (6)							50(g/m)
ASYG14LM ASYG14LU			S	20 (15)		8 (6)	8 (6)						50(g/m)
ASYG18LF			S	25 (15)		10 (6)	10 (6)						50(g/m)
ASYG24LF				S	30 (15)		12 (6)	12 (6)					50(g/m)
ASYG30LF ASYG30/36LM							S	50 (20)	20 (9)	20 (9)			90(g/m)
AUYG12LV ARYG12LL ARYG12LH	S		25 (15)			10 (6)							50(g/m)
AUYG14-18LV ARYG14-18LL ABYG18LV ARYG14LH			S	25 (15)		10 (6)	10 (6)						50(g/m)
AUXG18LR ARYG18LH			S	30 (15)		12 (6)	12 (6)						50(g/m)
AUYG24LV ARYG24LM ABYG24LV AUXG24LR ARYG24LH				S	30 (15)		12 (6)	12 (6)					50(g/m)
AUYG30-54LR (Φ1) ARYG30-45LM (Φ1) ARYG45-54LH (Φ1) ABYG30-45LR (Φ1) AUXG30-54LR (Φ1) ARYG30-54LH (Φ1)							S	50 (20)	20 (9)	20 (9)			90(g/m)
AUYG36-54LR (Φ3) ARYG36-45LM (Φ3) ARYG45-60LH (Φ3) ABYG36-54LR (Φ3)							S	75 (30)	30 (10)	30 (10)			90(g/m)
AOYG36-54LA (Φ3) AOYG36-54LB (Φ1)							S	75 (30)	30 (10)	30 (10)			90(g/m)
ARYC72-90LH (Φ3)											S	48 (12)	170(g/m)

S: Standard Pipe Size      (GRN): Additional Charge Not Necessary Up To This Length (m)      RED: Maximum Pipe Length (m)

Table 2

Outside Diameter	Wall Thickness	Material
1/4	0.8mm	Annealed Copper
3/8	1.0mm	Annealed Copper
1/2	1.2mm	Annealed Copper
5/8	1.2mm	Annealed Copper
3/4	1.2mm	Annealed Copper
1-1/8	1.0mm	Half Hardened Copper

\*Existing R22 pipework can only be used if it is free from defect and contamination, insulated on both lines, the pipe wall thickness complies with table 2, and, the existing R22 system can be operated for 30 minutes in cooling mode.

All systems should be installed in accordance with the manufactures guidelines – please contact your Fujitsu representative for full details on using existing R22 pipework.

Capacity and efficiency can be reduced when the STANDARD pipe sizes are not used.



# Not everything in life is as reliable as **Fujitsu** **Air Conditioning**

 DEPARTURES				
TIME	DESTINATION	FLIGHT	GATE	REMARKS
12:39	LONDON	1234AC	31	CANCELLED
12:57	SYDNEY	9876CD	27	CANCELLED
13:08	TORONTO	5454FG	22	CANCELLED
13:21	FUJITSU	AUYG14	01	BOARDING
13:37	HONG KONG	2673TA	29	CANCELLED
13:48	MADRID	25660P	30	DELAYED
14:19	BERLIN	3357RM	28	CANCELLED
14:35	NEW YORK	4897LP	11	CANCELLED
14:54	PARIS	8357KL	23	DELAYED
15:10	ROME	2395CL	43	CANCELLED

## We carry out extensive testing...

### To meet our stringent COP performance criteria

- Air flow testing
- Sound testing
- 60m height difference test for oil circulation
- Calorimeter testing
- Shower testing
- Environmental testing
- Eurovent certification on all VRF

### For safe handling and transport

- Vibration testing
- Compressibility testing

### During production

- Extensive inspections on pressure, leaks, insulation, resistance, abnormal sound

### After production

- Performance inspection
- Sampling, visual, water and drop test

...and offer



Warranty for every Comfort Club Member.



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