PQFY-P

VRF Heat Pump Boiler

It is well known in the air conditioning industry that heat pumps are proven to provide highly efficient cooling. However, in line with other forward-thinking countries, such as Sweden and Switzerland, Mitsubishi Electric have now designed a heat pump boiler to provide heating and hot water, suitable for underfloor heating or swimming pools. Heat pump technology is largely untapped and offers great potential with incredible design flexibility, excellent use of energy and greatly reduced CO_2 emissions.

An overview of the use of Heat Pump Boilers

The cooling operation of an air conditioning system that effectively extracts heat from a space, will normally be achieved at between 3.5 to 4.0 COP. This in itself is an efficient system. However, by recovering that heat and using it to heat up water the efficiency of the system increases dramatically to over 6.0 COP. Without the use of a Heat Pump Boiler, these levels of efficiency are rarely achieved in Spring and Autumn, when different rooms may need heating and cooling from the air conditioning at the same time.

By using the VRF Heat Pump Boiler in a permanent heat recovery application, these efficiencies are now possible all year round. This provides a reduction in running costs and CO_2 emissions, both of which play a crucial role when obtaining planning permission as covered by the new Part L2 Legislation.

There is a further reduction in capital costs as there is very little or no requirement for gas boilers and associated works. Particularly when the small amount of heating required in order to boost domestic hot water from the 45°C (produced by the heat pump), to the required 60°C supply temperature, can be provided by means of electric. Thus negating the need for the installation of a gas supply entirely.

■ The PQFY-P is compatible with PUMY-P100-140V/YHMB outdoor units only

PQFY-P		
MODEL REFERENCE		**PQFY-P140**
CAPACITY (kW)	Heating (nominal)	14.0
PIPE SIZE mm(in)	Gas Refrigerant	15.88 (5/8")
	Liquid Refrigerant	9.52 (3/8")
	Water	22
WEIGHT (kg)		32
DIMENSIONS (mm)	Width	500
	Depth	410
	Height	560
ELECTRICAL SUPPLY		220-240v, 50Hz
PHASE		Single
MAINS CABLE No. Cores		3

Unit Flow Rate & Pressure Drop

For calculating the Water Flow Rate please use the following calculation:

Capacity (kW) = Flow Rate of Water (l/s) × Specific Heat Capacity of Water × (Outlet Water Temp(°C) - Inlet Water Temp (°C))
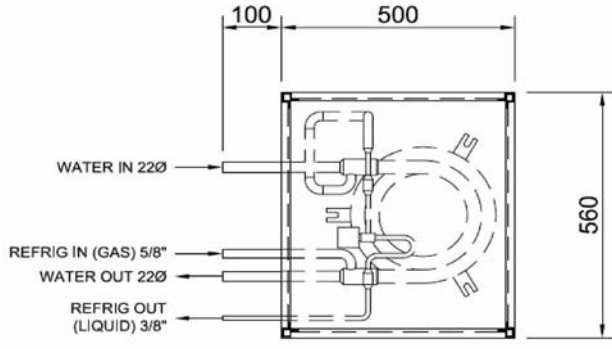
Specific Heat Capacity of water is normally 4.2Kj/KgK

PQFY-P140								
Flow Rate	l/s	0.38	0.45	0.53	0.61	0.68	0.76	0.83
Pressure Drop	kPA	11.72	15.86	20.69	25.51	30.34	36.54	42.75

Note: The water flow rate can be above or below these values, but no pressure drop operating data can be provided.

City Multi Range 2009

PQFY-P140

Front View ›

Front control panel not shown

Upper View ›

100   500

WATER IN 22Ø

REFRIG IN (GAS) 5/8"
WATER OUT 22Ø
REFRIG OUT
(LIQUID) 3/8"

560

INSULATED REMOVEABLE PLATE TO
SUPPORT CONTROL PANEL

410

PQFY-P