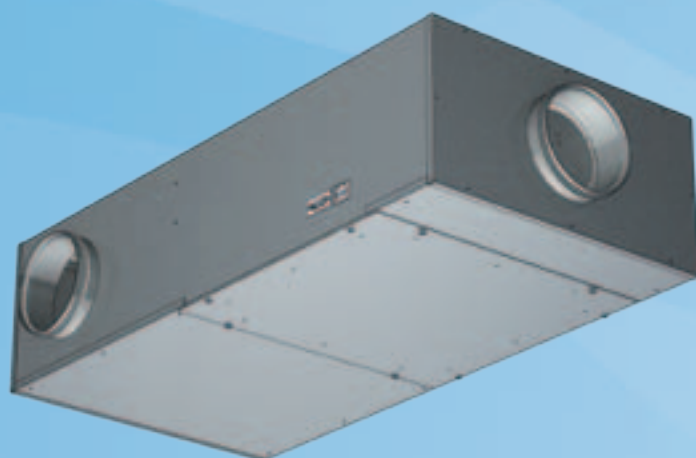


HFR/M Multi-Connection Cabin Unit

for Suites And Other
Larger Spaces



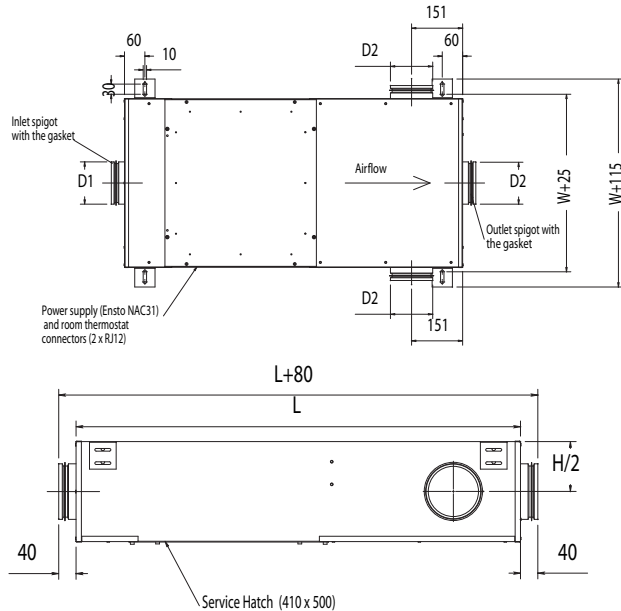
The Halton HFR/M is an automatic or semi-automatic single duct cabin unit with 1-3 outlet connections for terminal units. The cabin unit includes an integrated reheater. Automatic operation is facilitated by continuous airflow measurement and damper regulation by intelligent room thermostat. Automatic HFR/M adapts to variations in ductwork pressure and maintains individual conditions in each cabin and is thus pressure independent. Semi-automatic cabin unit does not include airflow measurement and is thus pressure dependent. Halton HFR/M is an excellent choice for suites, deluxe cabins and office areas where the total airflow needs to be distributed to several points, but controlled centrally with one room thermostat.

- Pressure range from 200 Pa up to 1000 Pa
- Airflow range 175 m³/h...1000 m³/h
- 230 VAC ±10%, max 10A, 50/60 Hz
- Inbuilt airflow measurement (automatic models)
- Damper min. / max. position settings (semi-automatic)
- Triac controlled reheating coil(s), adjustable heating power (PWM) 0...100%

- Master/slave functionality: several slave cabin units can be connected to one master cabin unit
- Internal fuses 8A or 10A and 63 mA
- Inputs for external switches such as balcony door and key card switches available as an option
- Network compatible with adapter for advanced energy efficiency and supervision system
- Energy efficiency functions to reduce unnecessary cooling / heating costs available as an option
- All parameters can be preset at the factory or set onsite during commissioning by PDA
- All cable connections with fast connectors
- Easily tailored for different types of installations
- 90 °C manual reset safety switch with state detection indication to room thermostat
- Minimum flow alarm (automatic model) and inbox temperature measurement with overheat limit to cut-off reheater power
- HFR/M cabin unit is supplied with room thermostat and interconnection cable

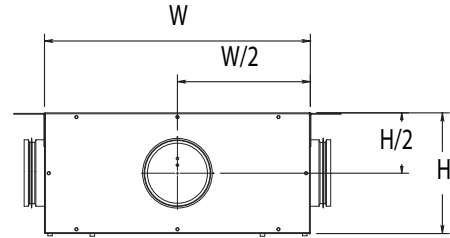
PART	MATERIAL	PART	MATERIAL
Casing	Hot galvanized steel	Reheat coil	AISI 304
Spigots	Hot galvanized steel and EPDM rubber	Cables	Halogen free
Insulation	Mineral wool, s = 25 mm, MED approved	Measurement wings	Aluminium / polyurethane
I/O unit	Aluminium / plastic / electronics		

GENERAL HFR/M drawings



DIMENSIONS TABLE

HFR/M Dimensions				
	D1/D2 (DN)	L	W	H
HFR/M-125	125	1000	500	225
HFR/M-160	160	1000	500	250
HFR/M-200	200	1000	500	300



HFR/M PRODUCT MODELS

Cabin units

- Automatic versions (VAV/CAV)
- Semi-automatic version

ROOM THERMOSTAT FEATURES

Halton Marine HFR/M cabin units are available with three different room thermostat models; with rotating knob, push buttons and touch buttons.

Common features

- Cabin temperature measurement
- Connector for PDA communication adapter to set cabin parameters
- PDA software for parameter setting and trouble shooting
- Different colour options and custom labeling available as an option
- Delivered with IC-Cable (interconnection cable)
 - For room thermostat - cabin unit connection
 - Prefabricated with plugs on both sides
 - Cable plug on thermostat side is designed to be pulled through standard installation pipe
 - Halogen free and flame retarding
 - Standard length 7 meters

Room thermostat with rotating knob

- Temperature adjustment by rotating knob

Room thermostat with push buttons

- Temperature adjustment by push buttons
- Self diagnose function
- LED intensity control and auto dimming

Room thermostat with touch buttons

- Temperature adjustment by touch buttons
- Self diagnose function
- LCD intensity control and auto dimming
- Display for actual and set point temperatures available as an option
- Time display available as an option
- A customized background picture available as an option
- Several frame options available



Room thermostat models; push button and rotating knob



Halton LCD room thermostat

ACCESSORIES FOR HFR/M CABIN UNITS

MS-Cable (master-slave cable)

- For master cabin unit - slave cabin unit/units connection
- Prefabricated with plugs on both sides
- Halogen free and flame retarding
- Standard length is 7 meters

PDA Communication adapter

- Infrared or Bluetooth communication
- For wireless connection to set cabin unit parameters and trouble shooting
- One adapter per PDA needed

Network adapters

- Network adapter expands a stand-alone unit to network compatible unit (LON or Ethernet network)
- Enables supervision and advanced energy efficiency functions
- For more information, see Halton Networks for cabin ventilation -brochure

Reheaters available

- 400 W
- 800 W
- 400 W + 800 W
- 1200 W
- 1800 W

Practical power level may be software adjusted cabin by cabin. Cable and power supply design has to be done according to maximum available heating power.

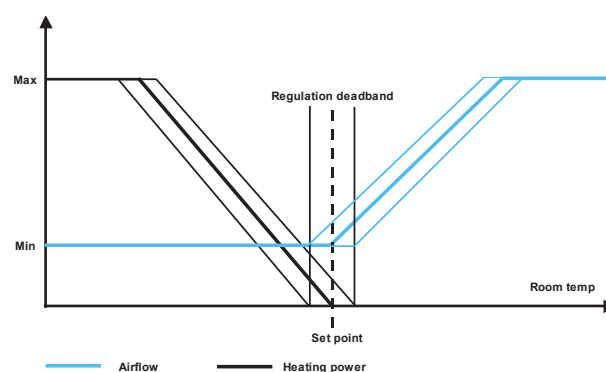
FUNCTION

When passenger demands for a lower temperature by using room thermostat, the damper opens in order to increase the flow of cool air towards the maximum value. When the required temperature in the cabin is achieved, the damper reference is held until the temperature demand changes. When passenger demands for a higher temperature, the damper restricts the airflow towards its minimum rate, and if the required temperature in the cabin is not thus achieved, the cabin unit activates the electric reheater inside the unit. Room thermostat includes also a number of special features such as diagnostics function, room brightness measurement and re-programmability. The power supply and data transfer between cabin unit and room thermostat is carried out via interconnection cable. Temperature range is software adjustable between 10 and 30°C.

Operating range for HFR/M

HFR/M		
HFR/M-125	HFR/M-160	HFR/M-200
175 m ³ /h - 500 m ³ /h	250 m ³ /h - 800 m ³ /h	350 m ³ /h - 1000 m ³ /h

Regulation Diagram



Cabin unit's airflow measurement accuracy

Airflow (m ³ /h)			
	175-300	300-600	600-1000
Accuracy*	±15%	±10%	±8%
* ductwork pressure 200-1000 Pa (optimal)			

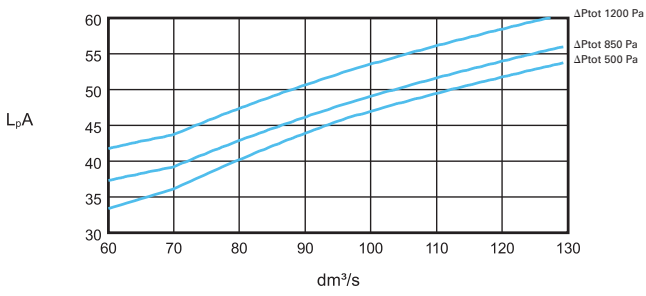
Note:

When comparing airflow measurements between cabin unit and other device, cabin unit's airflow regulation dead-band has to be taken into account (± 10 m³/h).

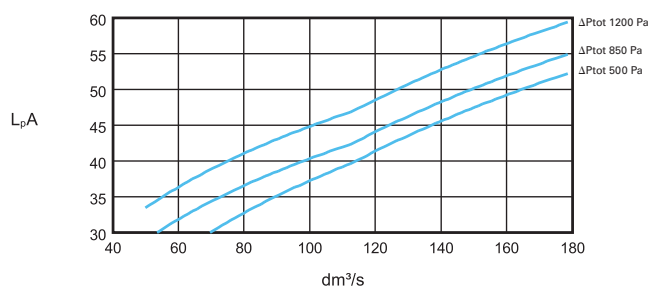
Performance data

Sound levels, cabin sound absorption 4 dB(A)

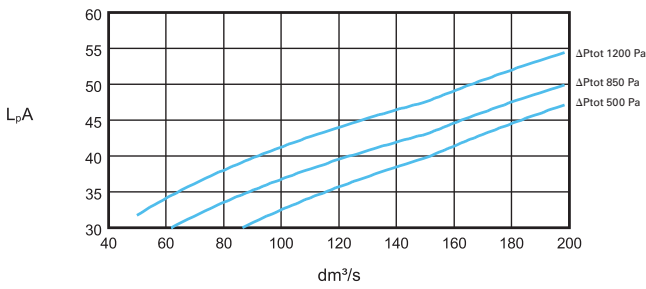
HFR/M-125



HFR/M-160

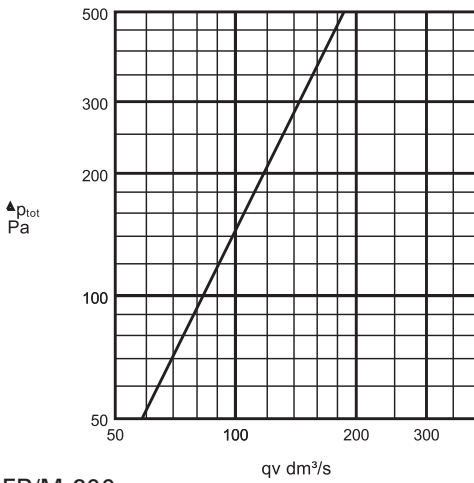


HFR/M-200

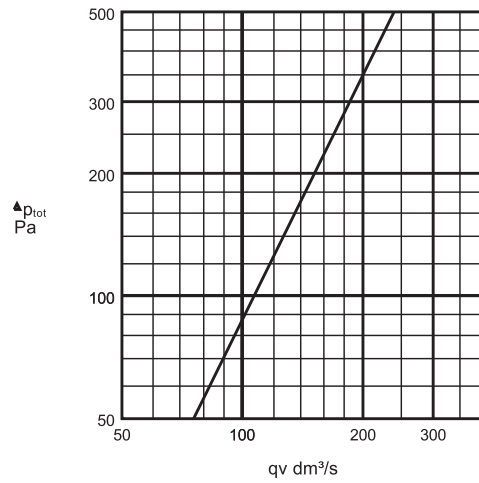


Pressure drop

HFR/M-125



HFR/M-160



HFR/M-200

