

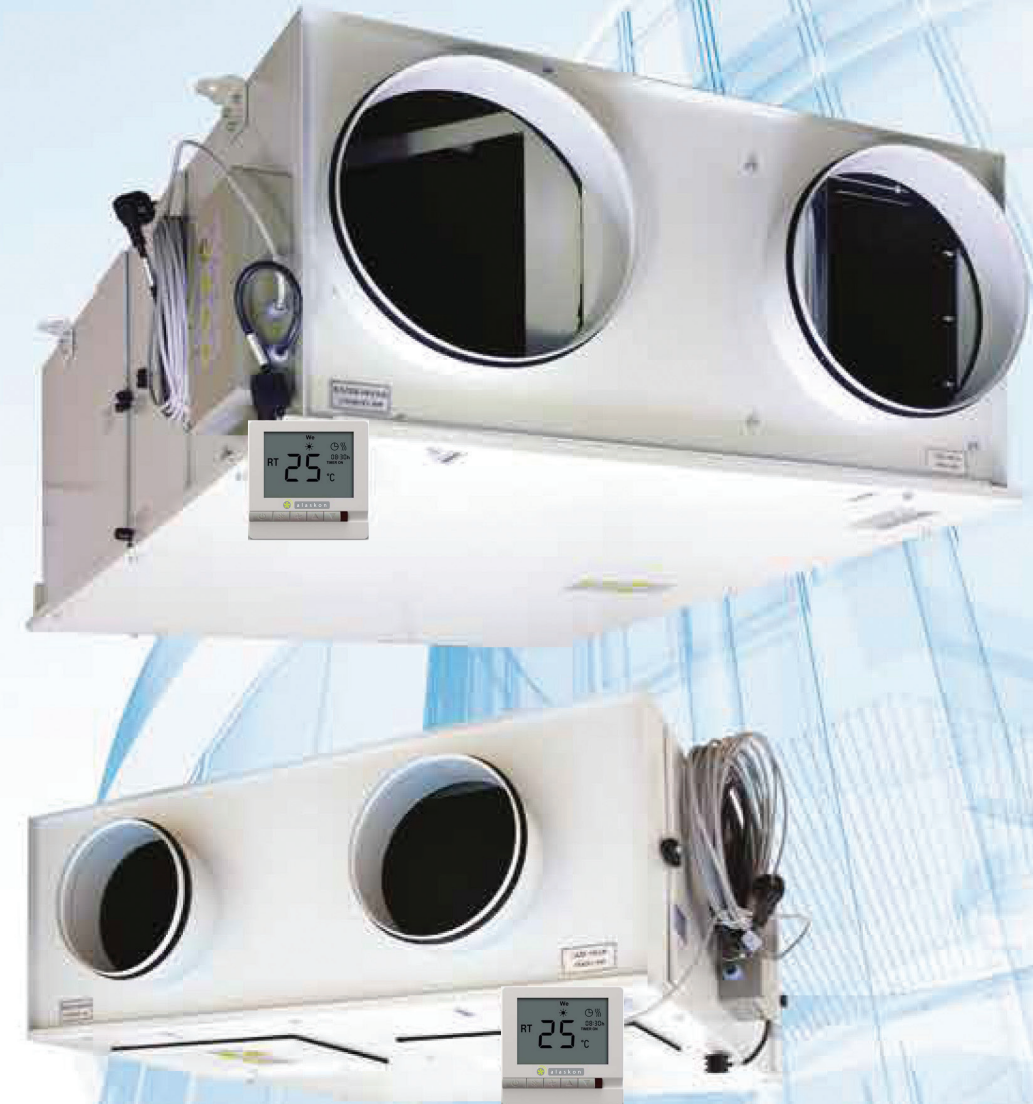


alaskon



TSEK

VHR EC HEAT RECOVERY UNITS



TS EN ISO 9001:2008
SN: 01 100 901925

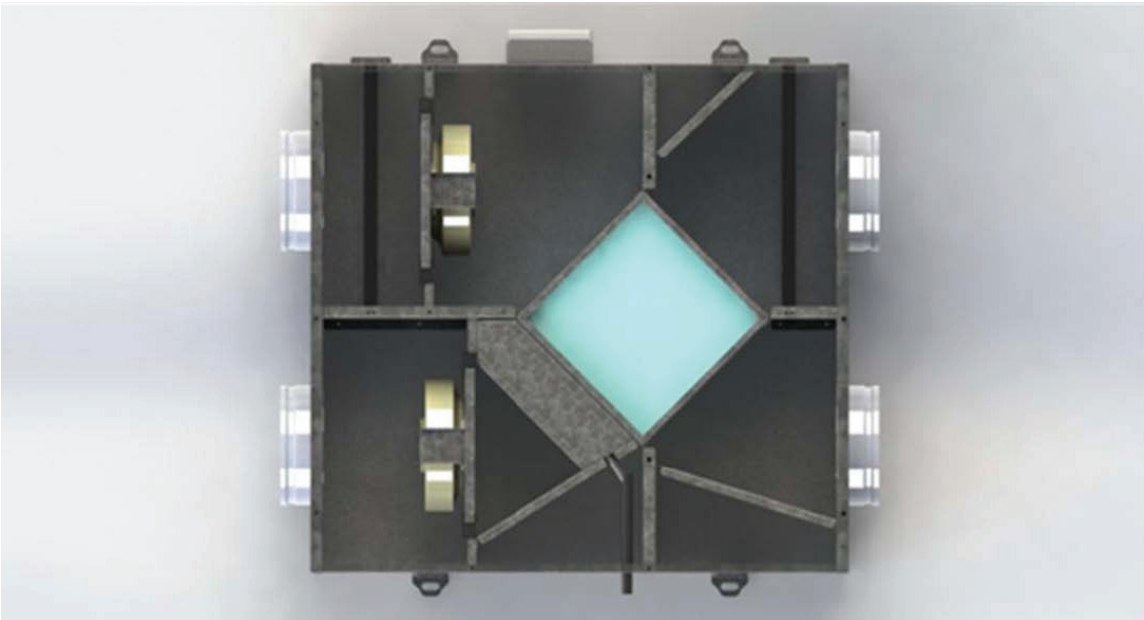
Distributed by: Simx Limited
Phone: +64 9 916 2099
Email: hvac@simx.co.nz
www.simx.co.nz

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General Information



Alaskon Heat Recovery Ventilation Units (VHR) are designed for saving energy and also improving indoor air quality. VHR units provide the facilities of air-conditioning applications (residential, commercial and industrial areas) by using plate type exchangers, recovering heat from air to air. The heat is effectively transferred from warm to cold air by the exchangers with high conductivity, efficiency and performance.

- 7 standard models, with TSEK certification, CE marked and GOST-R certification in compliance with applicable directives,
- High efficient, direct driven EC Fans with low noise level,
- Proper ventilation with two 5-speed fans controlled separately,
- The compact design provides easy installation and maintenance,
- Aluminum plate type heat exchangers with high conductivity and performance. Energy recovery exchangers also available
- Indoor air quality with polyurethane filters,

- Excellent sound and heat isolation with fully insulated powder coated cabinet

Electronic Controller

“Supplied with the unit as standard”



By-Pass Connection Kit (BCK)

Alaskon Heat recovery units are used to transfer the heat from the exhaust air to supply air. In the transition seasons, it is much more suitable to supply the fresh air directly to indoor by not passing through the heat exchanger. By-pass connection kit allows controlling the outdoor air automatically and supplying the outdoor air directly to the indoor when it is necessary. Heat recovery units with BCK have the following heights and weights.



By-Pass Kit Model	BCK 04	BCK 07	BCK 09	BCK 11	BCK 16	BCK 20	BCK 23	BCK 29	BCK 29 EC-H	BCK 36	BCK 51	BCK 51 EC-H
Height*	mm	340	400	400	475	520	520	520	520	520	700	920
Weight*	kg	40	45	45	75	75	85	100	125	125	145	190

* Total values for the units with BCK

ACCESSORIES

Duct Type Electrical Heater (VCE)

Alaskon electrical heaters have TSEK certification, CE marked and GOST-R certification. The technical specifications of products meet the essential requirements in the directives EMC 89/336/EEC and are tested according to the standards EN 55014-1, EN 61000-3-2/3-3 for EMC. Electrical heaters are produced in single phase or three phase upon request in standard spiral duct dimensions. The heaters have two overheating protections. VENCO electrical heaters are used with heat recovery units frequently. The electrical heaters can be used for two different purposes.

- It can be used when the outdoor temperature is low as a preheater to prevent freezing inside the heat exchanger
- It can be used as post heater to bring the fresh air temperature to the comfort conditions.



The standard electrical heaters' capacity and their specifications are at the following table.

Electrical Heater	VCE 04	VCE 07	VCE 09	VCE 11	VCE 16	VCE 29	VCE 29 EC-H	VCE 36	VCE 51	VCE 51 EC-H
Capacity	1(0,5+0,5) KW	2(1+1) KW	3(1,5+1,5) KW	3(1,5+1,5) KW	4(2+2) KW	7(3,5+,3,5) KW	7(3,5+,3,5) KW	10(5+5) KW	12(6+6) KW	12(6+6) KW
Electrical Data	230 V / 1~					400 V / 3~				

Duct Type Water Coil (HWC-CWC)

Alaskon duct water coils are produced as hot water coil (HWC) or cold water coil (CWC) at standard capacities. High efficient heat transfer can be achieved with high performance heat exchangers. The design provides fast and easy installation and maintenance.

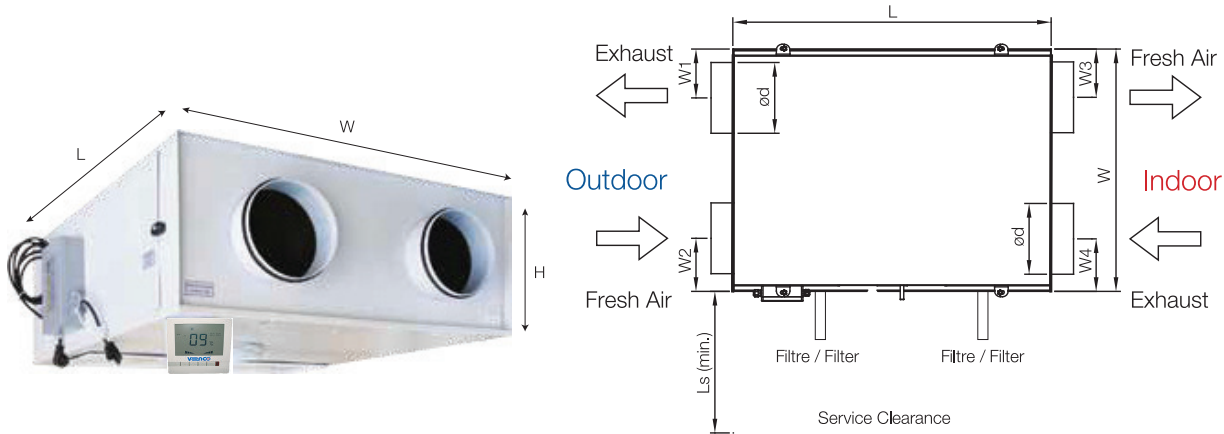


Hot Water Coil		HWC 04	HWC 07	HWC 09	HWC 11	HWC 16	HWC 29	HWC 29 EC-H	HWC 36	HWC 51	HWC 51 EC-H
Heating Capacity	kW	2,2	3,7	5,3	5,7	7,5	14,4	14,4	21,2	28,9	28,9
Pressure Drop	Pa	9	21	20	22	22	25	25	25	25	25

Cold Water Coil		CWC 04	CWC 07	CWC 09	CWC 11	CWC 16	CWC 29	CWC 29 EC-H	CWC 36	CWC 51	CWC 51 EC-H
Heating Capacity	kW	1,5	1,9	3,1	3,2	4,1	8,6	8,6	11,2	17,3	17,3
Pressure Drop	Pa	23	38	36	40	40	45	45	45	44	44

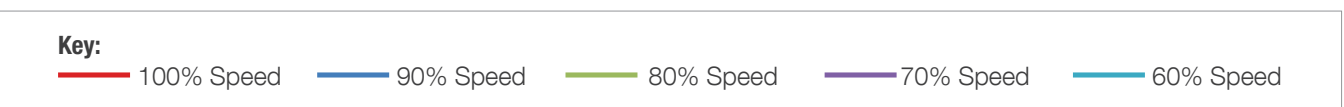
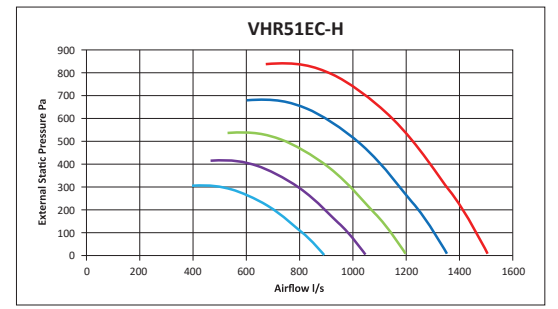
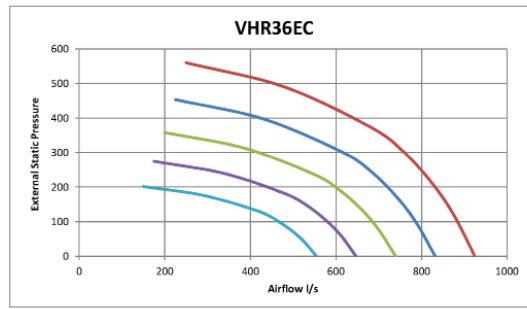
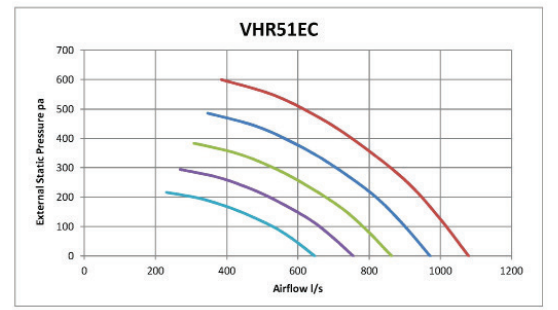
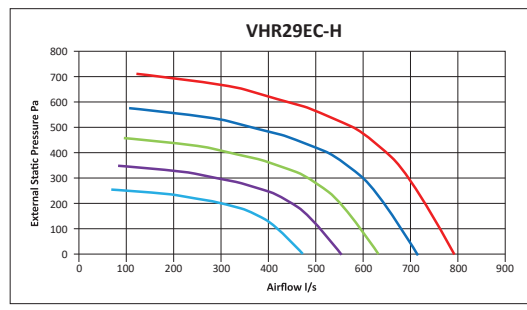
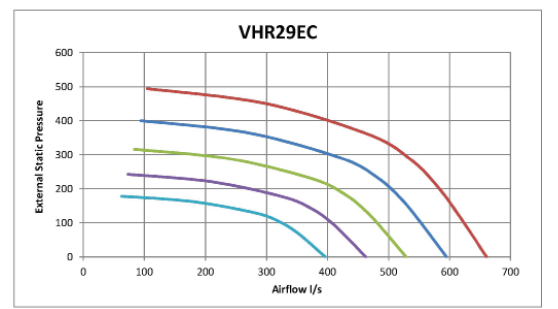
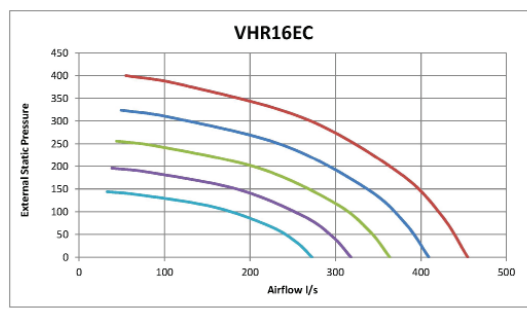
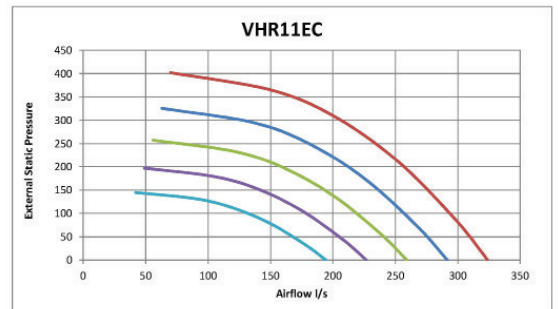
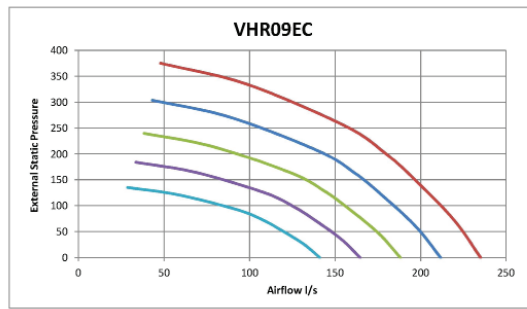
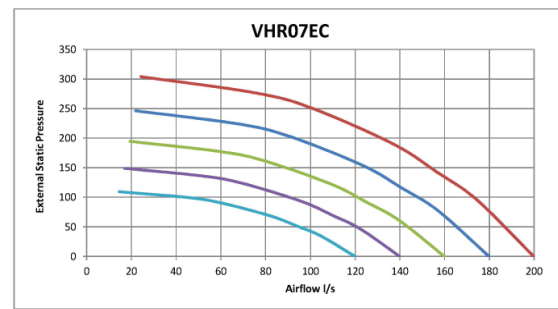
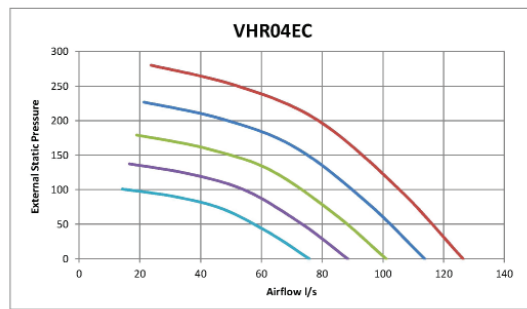
Specifications

ALASKON MODEL		VHR 04 EC	VHR 07 EC	VHR 09 EC	VHR 11 EC	VHR 16 EC	VHR 29 EC	VHR 29 EC-H	VHR 36 EC	VHR 51 EC	VHR 51 EC-H
Air Flow 0 Pa*	l/s	126	200	235	324	454	660	793	860	1078	860
Air Flow 150 Pa*	l/s	92	151	195	275	395	600	736	924	980	924
Heat Recovery Efficiency	%	Efficiency up to 70%, depending on working conditions									
Electrical Data	230 Volt / 50 Hz / 1~										
	W	2x85	2x85	2X170	2X170	2X450	2X500	2X1040	2X740	2X750	2X2200
Specific Fan Power SFP**	SFP	1.01	1.01	1.29	1.09	1.73	1.4	1.38	1.53	1.36	1.42
Air Filter	Polyurethane Filters for Fresh and Exhaust Air										
*External static pressure **According to EN 13779 at 150 Pa operating point											



ALASKON MODEL		VHR 04 EC	VHR 07 EC	VHR 09 EC	VHR 11 EC	VHR 16 EC	VHR 29 EC	VHR 29 EC-H	VHR 36 EC	VHR 51 EC	VHR 51 EC-H
Length (mm)	L	800	900	900	940	1.115	1.585	1.400	1.635	1.700	1.650
Width (mm)	W	740	860	860	1.020	1.030	1.030	980	1.150	1.210	1.160
Height (mm)	H	295	335	335	450	430	435	420	680	700	690
Duct Connection (mm)	Ø d	160	200	200	200	300	355	355	400	450	450
Weight (kg)		28	40	40	63	65	90	110	140	155	160
Other Dimensions (mm)	W1	180	215	215	250	255	255	235	260	290	285
	W2	195	225	225	270	265	265	240	250	270	270
	W3	180	215	215	250	255	255	265	300	350	345
	W4	195	225	225	270	265	265	240	245	270	270
Service Clearance (mm)	LS	400	450	450	500	550	550	500	600	600	500

Air Flow - External Static Pressure



Electronic Control & Sensors

FEC - Functional Electronic Controller

FEC is supplied with Alaskon Heat Recovery Units as standard and it has the following features.

Unit On/Off Control

Adjusting Fresh Air Speed and Exhaust Air Speed Separately (5 Stages)

It is possible to supply and exhaust the air depending on the request. Also positive or negative pressure can be obtained in the ventilation room.

Control of Electrical Heater Manually or Automatically

Alaskon Electrical Heaters can be controlled with FEC. Thus, there is no need another controller. It is possible to turn the heater On or Off and adjust stages manually. Also it can be controlled automatically depending on the set temperature. If heat recovery unit or its supply air fan is turned off, fresh air fan keeps working for 30 seconds to cool the heater. And FEC doesn't allow the electrical heater to run if fresh air fan of heat recovery unit isn't working.

Control of Hot / Cold Water Coil Valve Manually or Automatically

The 2-way valve or 3-way valve of the hot water coil can be controlled as On/Off by FEC. It is possible to open or close the valve of the water coil manually. Also it can be controlled automatically depending on the set temperature by FEC.

Connectability to Building Management System (BMS) and VRV/VRF Systems

FEC can turn the heat recovery unit on or off depending on the signal from BMS, VRV/VRF System or similar automation systems. And it can send a status signal of being On or Off to these applications.

Timer Function

It is possible to set the requested running hours of the heat recovery unit. Thus, heat recovery unit can run differently on the requested working days, Saturday and Sunday.

By-pass Damper Control (Optional)

Please look at the accessories page for more information about by-pass damper.

Control of Air Quality (Optional) and Carbon Dioxide (Optional) Sensors

It is possible to improve indoor air quality by using air quality or carbon dioxide sensors. The fan speed is adjusted automatically from the carbondioxide sensor or air quality sensor that could be connected to the unit.

PIR Detector(optional)

Heat Recovery Unit can run depending on the signal from the PIR detector that is connected to the unit by using FEC.

Control with Modbus

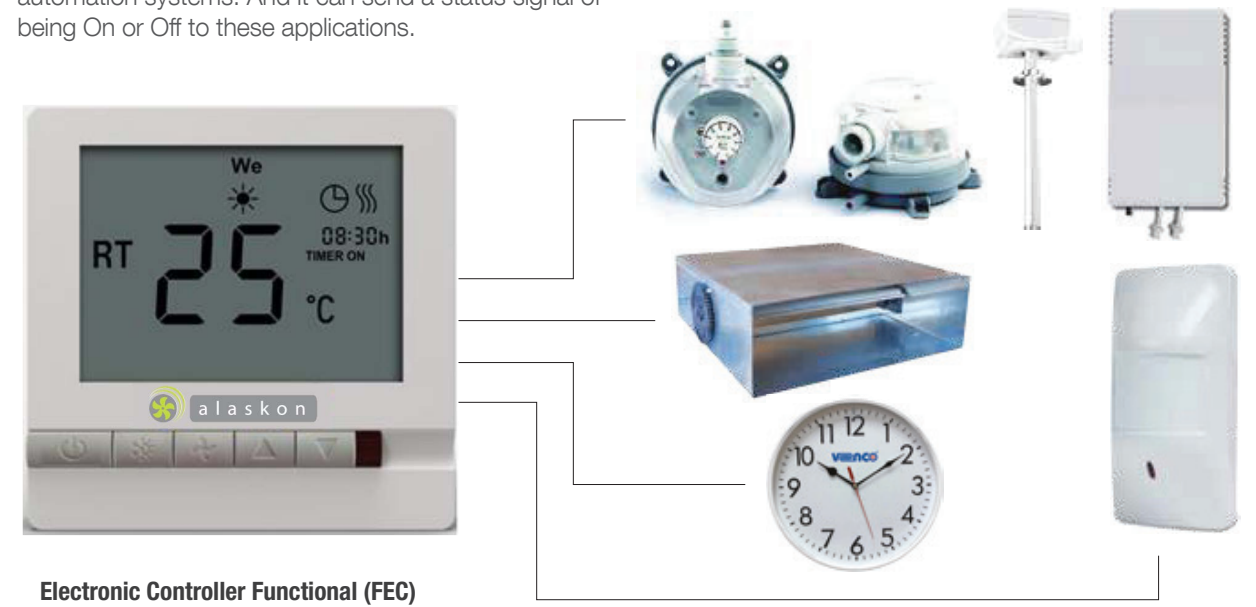
FEC can communicate with a BMS through Modbus Network. This allows the BMS to monitor the heat recovery unit and control all parameters of the unit.

Warning for Clogged Filter (Optional)

FEC gives warning when the filters are dirty.

Frost Protection for Heat Exchanger (Optional)

When the freezing temperature is detected, fresh air fan switches to minimum stage and exhaust air fan switches to maximum stage automatically.



Electronic Controller Functional (FEC)