Residential HVAC









Furnace & Airhandler

Penetration Driver Highly efficient operation allows OEMs to achieve energy efficiency targets. Quiet motor operation.

Industry leading moisture resistance

Condenser Fan

ECM efficiency supports high SEER targets.
Multiple mounting positions to fit a wide range of condenser designs.











	Perfect Speed	16X4W	SelecTech	EcoTech	EcoApex 48
Operating Mode	Constant CFM Constant Speed Constant Torque	Constant CFM Constant Speed Constant Torque	Constant Speed Constant Torque	Constant Speed Constant Torque	Constant Speed
Input	Serial Communicating PWM 4 Wire Interface	24V Signals PWM 16 Pin Interface	24V Signal Leads 5 Speed Taps	High Voltage 5 Speed Taps	PWM 2 - 24V Speed Taps
НР	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3
Voltage	115V/230V, 277V	115V/230V, 277V	120V, 240V	120V/240V	208V-230V
RPM	300-1250 or 300-1800	300-1250 or 300-1800	600-1200	600-1200	300-1200

Page 1

Nidec EC Motor Application Guide



Geothermal Heat Pumps



Penetration Driver Highly efficient operation allows OEMs to achieve energy efficiency targets. Unrivaled CFM control provides constant airflow across a wide range of parameters. Quiet motor operation.









	Perfect Speed	16X4W	SelecTech	EcoTech
Operating	Constant CFM	Constant CFM	Constant Speed	Constant Speed
Mode	Constant Speed	Constant Speed	Constant Torque	Constant Torque
	Constant Torque	Constant Torque		
Input	Serial Communicating PWM 4 Wire Interface	24V Signals PWM 16 Pin Interface	24V Signal Leads 5 Speed Taps	High Voltage 5 Speed Taps
НР	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1
Voltage	115V/230V, 277V	115V/230V, 277V	120V, 240V	120V, 240V
RPM	300-1250 or 300-1800	300-1250 or 300-1800	600-1200	600-1200

ECM Application Matrix 03/14 Page 2

Commercial Applications





Commercial Roof Top

Penetration Driver

High efficiency outdoor solution Easy integration into existing condenser designs High ambient operating temperature







State of the art design minimizes noise throughout all modes of operation

Wide array of configurations to meet the requirements of most air-moving applications

Through the Wall





	EcoApex 48	EcoApex 56	Perfect Speed	16X4W	SelecTech	EcoTech
Operating Mode	Constant Speed	Constant Speed Constant Torque	Constant CFM Constant Speed Constant Torque	Constant CFM Constant Speed Constant Torque	Constant Speed Constant Torque	Constant Speed Constant Torque
Input	PWM 24V Signals	0-10V DC 4 - 20 mA	Serial Communicating PWM	24V Signals PWM	24V Signal Leads 5 Speed Taps	High Voltage 5 Speed Taps
НР	1/3	2.3	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1
Voltage	208V-230V	230V, 460V	115V/230V, 277V	115V/230V, 277V	120V, 240V, (460V coming soon)	120V/240V
RPM	300-1200	300-1200	300-1250 or 300-1800	300-1250 or 300-1800	600-1200	600-1200
Phase	Single Phase	Three Phase	Single Phase	Single Phase	Single Phase	Single Phase
Shaft Extension	Single	Single	Single or Dual	Single or Dual	Single or Dual	Single

ECM Application Matrix 03/14 Page 3

Light Commercial Applications







DX Fan Coil

Hydronic Fan Coil

Package Terminal Air Conditioner (PTAC)

Penetration Driver Gained efficiency to help meet efficiency requirements Create/Maintain smaller footprint SKU Reduction Gained Efficiency Create/Maintain smaller footprint SKU Reduction











	1 Ja 2				
	Perfect Speed	16X4W	SelecTech	Perfect Speed 120	Perfect Speed 120
Operating Mode	Constant CFM Constant Speed Constant Torque	Constant CFM Constant Speed Constant Torque	Constant Speed Constant Torque	Constant Speed Constant Torque	Constant Speed Constant Torque
Input	Serial Communicating PWM 4 Wire Interface	24V Signals PWM 16 Pin Interface	24V Signal Leads 5 Speed Taps	3 - 24V Speed Taps PWM 0 - 10V DC	3 - 24V Speed Taps PWM 0 - 10V DC
HP	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/8, 1/4	1/8, 1/4
Voltage	115V/230V, 277V	115V/230V, 277V	120V, 240V	120V/240V/277V	120V/240V/277V
RPM	300-1250 or 300-1800	300-1250 or 300-1800	600-1200	600-1800	600-1800
Shaft Extension	Single or Dual	Single or Dual	Single or Dual	Single or Dual	Single or Dual
Other Options	User-Interface Remote mount control	Remote mount control	Remote Mount Control	Belly Band or Resilient Mounting	Belly Band or Resilient Mounting

Page 4

Nidec EC Motor Application Guide

Ventilation





Power Roof Ventilators



Fan Filter Units



Energy Recovery Ventilators

Penetration Driver 0-10V input compatible with common HAC and building management systems.

On-board speed adjustment allows simple "fire and forget" setup and balancing in systems. Flexible mechanical designs integrates into single or dual-shaft applications.









	Perfect Speed	Perfect Speed w/UI	SelecTech	Perfect Speed 120
Operating Mode	Constant CFM Constant Speed Constant Torque	Constant CFM Constant Speed Constant Torque	Constant Speed Constant Torque	Constant Speed Constant Torque
Input	Serial Communicating PWM 4 Wire Interface	0 -10vDC Potentiometer	24V Signal Leads 5 Speed Taps	3 - 24V Speed Taps PWM 0 - 10V DC
HP	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/3, 1/2, 3/4, 1	1/8, 1/4
Voltage	115V/230V, 277V	115V/230V, 277V	120V, 240V	120V/230V/277V
RPM	300-1250 or 300-1800	300-1250 or 300-1800	600-1200	600-1800
Shaft Extension	Single or Dual	Single or Dual	Single or Dual	Single or Dual
Other Options	Remote mount control User-Interface Box	Remote mount control	Remote mount control	Belly Band or Resilient Mounting

ECM Application Matrix 03/14 Page 5

Nidec EC Motor Application Guide



Residential Pump





	In Ground Pool
Penetration	Compliant with pool motor energy legislation
Driver	Easy drop-in installation
	Quiet operation

Spa
Simplifies control pack
Eliminates circulation pack





	ECOTECH EZ	NEMA 56 SPA Pump
		(Coming Soon)
Operating Mode	Constant Speed	Constant Speed
НР	1 1/2, 3	3
Voltage	230V	230V
RPM	1035 - 3600	1000 - 3600
Other Features	"C" or Square Flange Configuration 1.60 (1.5HP) Service Factor 1.15 (3HP) Service Factor	Active Power Factor

ECM Application Matrix 03/14 Page 6

Commercial Pump





Hydronic Pump

Added System Efficiency

Constant Pressure/Flow



Booster Pump

Added System Efficiency Controllability Simplicity









NEMA 48 Booster
Pump Motor
(Coming Soon)

Constant Speed

NEMA 56 SPA Pump (Coming Soon)

NEMA 48 Booster Pump Motor (Coming Soon)

NEMA 56 SPA Pump (Coming Soon)

Operating Mode НР

Penetration

Driver

Constant Speed

Constant Speed

Constant Speed

1

3

Voltage

120V, 240V

240V

120V, 240V

240V

RPM

300-1800

1000 - 1800

300 - 1800

1000 - 3600

Other Features C-Face Mounting 0-10vDC input or potentiometer

"C" or Square Flange Configuration **Active Power Factor**

0-10vDC input or potentiometer

"C" or Square Flange Configuration **Active Power Factor**

ECM Application Matrix 03/14