



aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



# PDV AC Variable Speed Drive HVAC-R

Intelligent control of Pumps,  
Fans & Refrigeration Compressors  
1.5 -132kW 2 - 200HP



ENGINEERING YOUR SUCCESS.

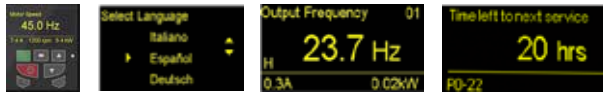
## SMART PROCESS CONTROL

Parker PDV AC drive is designed to optimise energy saving and improve flow control in HVAC-R applications by matching precisely, the system capacity of the pump, fan, or compressor, to the actual load demand. Improving system efficiency and lowering energy costs by up to 20%.

## SIMPLE TO USE KEYPAD – FAST SET UP

The OLED display, provides high visibility of keypad data in all light conditions, and from almost any angle; combined with an intuitive and simple to use keypad, makes drive setup and commissioning easy and fast.

- Clear multi-line text display
- Operates -10c to 50c
- Wide viewing angle
- Multi- language selection
- Hand / Auto keypad
- Maintenance interval timer
- Simple & intuitive navigation keys



## EASY TO INSTALL

Parker PDV AC drives are available in IP20/UL type 1 and IP66 / IP55 UL type 12

- Mounting on the wall - lower installation and cabling cost
- Din rail mounting and keyhole slots, for fast installation
- Pluggable terminal and rely connector, for quick connection
- Large cable chamber for IP66/55 rated drives, easy & fast connection
- Removable gland plates for larger drive, making wiring up easier
- EMC filters Class C residential restricted distribution built-in

## STRAIGHTFORWARD COMMUNICATION

Built-in Modbus RTU & BACnet MS/TP, built-in as standard. Easy to plug in modules support other major fieldbus options:

- BACnet/IP, PROFIBUS DP, DeviceNet, EtherNet/IP, Modbus TCP, PROFINET & EtherCat.

## LOW HARMONICS CURRENT DISTORTION

Parker PDV drive uses pioneering techniques that provide higher drive efficiency, 98% and at the same time, lowers the harmonic distortion levels to the minimum. All 3 phase drives, up to frame 5, come with film capacitors in the DC link. This advanced technology provides exceptionally low harmonic current distortion, without lowering efficiency. Frame size 6 and above include traditional DC chokes and electrolytic capacitors.

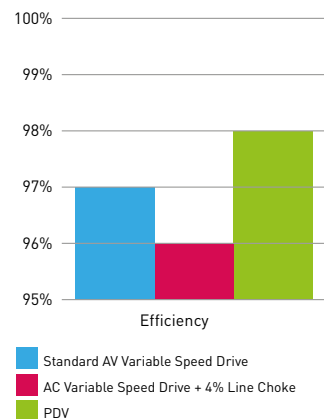
Parker PDV drive range complies with the requirements of EN6100-3-12.

Parker PDV drive delivers energy saving

- Improved efficiency > 98%
- Reduced lifetime costs
- Improved true power factor
- Lower mains supply current



Typical efficiency comparison for PDV vs other AC variable speed drives



## RATINGS AND DIMENSIONS

200 - 240 (+/- 10%) VAC Three Phase 50/60 Hz IP20	Amps	kW / HP	Frame Size	Size HxWxD (mm/inch)	Weight (kg / lbs)
PDV-3-220070-3F12-SN	7	1.5 / 2	2	221x110x185 / 8.7x4.5x7.28	1.8 / 4
PDV-3-220105-3F12-SN	10,5	2.2 / 3	2	221x110x185 / 8.7x4.5x7.28	1.8 / 4
PDV-3-320180-3F12-SN	18	4 / 5	2	221x110x185 / 8.7x4.5x7.28	1.8 / 4
PDV-3-320240-3F12-SN	24	5.5 / 7.5	3	261x131x205 / 10.2x5.1x8.0	3.5 / 7.7

200 - 240 (+/- 10%) VAC Three Phase 50/60Hz IP66/55	Amps	kW / HP	Frame Size	Size WxHxD (mm/inch)	Weight (kg / lbs)
PDV-3-220070-3F1X-TN	7	1.5 / 2	2	257x188x239 / 10.1x7.4x9.4	4.8 / 10.6
PDV-3-220105-3F1X-TN	10,5	2.2 / 3	2	257x188x239 / 10.1x7.4x9.4	4.8 / 10.6
PDV-3-320180-3F1X-TN	18,5	4 / 5	3	310x211x266 / 12.2x8.2x10.7	7.7 / 18.7
PDV-3-320240-3F1X-TN	24	5.5 / 7.5	3	310x211x266 / 12.2x8.2x10.7	7.7 / 18.7
PDV-3-420300-3F1X-TN	30	7.5 / 10	4	450x171x252 / 17.3x6.7x9.9	11.5 / 25.4
PDV-3-420460-3F1X-TN	46	11 / 15	4	450x171x252 / 17.3x6.7x9.9	11.5 / 25.4
PDV-3-520600-3F1X-TN	60	15 / 20	4	450x171x252 / 17.3x6.7x9.9	11.5 / 25.4
PDV-3-520720-3F1X-TN	72	18.5 / 25	5	540x235x270 / 21.6x9.2x10.6	23 / 50.9
PDV-3-520900-3F1X-TN	90	22 / 30	5	540x235x270 / 21.6x9.2x10.6	23 / 50.9
PDV-3-621100-3F1X-TN	110	30 / 40	6	865x330x330 / 34.0x12.9x12.9	55 / 121.2
PDV-3-621500-3F1X-TN	150	37 / 50	6	865x330x330 / 34.0x12.9x12.9	55 / 121.2
PDV-3-621800-3F1X-TN	180	45 / 60	6	865x330x330 / 34.0x12.9x12.9	55 / 121.2
PDV-3-722020-3F1X-TN	202	55 / 75	7	1280x330x360 / 50.3x12.9x14.1	89 / 196.2
PDV-3-722480-3F1X-TN	248	75 / 100	7	1280x330x360 / 50.3x12.9x14.1	89 / 196.2



IP20 Drive



380 - 480 (+/- 10%) VAC Three Phase 50/60 Hz IP20	Amps	kW / HP	Frame Size	Size WxHxD (mm/inch)	Weight (kg / lbs)
PDV-3-240041-3F12-SN	4,1	1.5 / 2	2	221x110x185 / 8.7x4.5x7.28	1.8 / 4
PDV-3-240058-3F12-SN	5,8	2.2 / 3	2	221x110x185 / 8.7x4.5x7.28	1.8 / 4
PDV-3-240095-3F12-SN	9,5	4 / 5	2	221x110x185 / 8.7x4.5x7.28	1.8 / 4
PDV-3-340140-3F12-SN	14	5.5 / 7.5	3	261x131x205 / 10.2x5.1x8.0	3.5 / 7.7
PDV-3-340180-3F12-SN	18	7.5 / 10	3	261x131x205 / 10.2x5.1x8.0	3.5 / 7.7
PDV-3-340240-3F12-SN	24	11 / 15	3	261x131x205 / 10.2x5.1x8.0	3.5 / 7.7

380 - 480 (+/- 10%) VAC Three Phase 50/60 Hz IP66/55	Amps	kW / HP	Frame Size	Size WxHxD (mm/inch)	Weight (kg / lbs)
PDV-3-240041-3F1X-TN	4,1	1.5 / 2	2	257x188x239 / 10.1x7.4x9.4	4.8 / 10.6
PDV-3-240058-3F1X-TN	5,8	2.2 / 3	2	257x188x239 / 10.1x7.4x9.4	4.8 / 10.6
PDV-3-240095-3F1X-TN	9,5	4 / 5	2	257x188x239 / 10.1x7.4x9.4	4.8 / 10.6
PDV-3-340140-3F1X-TN	14	5.5 / 7.5	3	310x211x266 / 12.2x8.2x10.7	7.7 / 18.7
PDV-3-340180-3F1X-TN	18	7.5 / 10	3	310x211x266 / 12.2x8.2x10.7	7.7 / 18.7
PDV-3-340240-3F1X-TN	24	11 / 15	3	310x211x266 / 12.2x8.2x10.7	7.7 / 18.7
PDV-3-440300-3F1N-TN	30	15 / 20	4	450x171x252 / 17.3x6.7x9.9	11.5 / 25.4
PDV-3-440390-3F1N-TN	39	18.5 / 25	4	450x171x252 / 17.3x6.7x9.9	11.5 / 25.4
PDV-3-440460-3F1N-TN	46	22 / 30	4	450x171x252 / 17.3x6.7x9.9	11.5 / 25.4
PDV-3-540610-3F1N-TN	61	30 / 40	5	540x235x270 / 21.6x9.2x10.6	23 / 50.9
PDV-3-540720-3F1N-TN	72	37 / 50	5	540x235x270 / 21.6x9.2x10.6	23 / 50.9
PDV-3-540900-3F1N-TN	90	45 / 60	5	540x235x270 / 21.6x9.2x10.6	23 / 50.9
PDV-3-641100-3F1N-TN	110	55 / 75	6	865x330x330 / 34.0x12.9x12.9	55 / 121.2
PDV-3-641500-3F1N-TN	150	75 / 100	6	865x330x330 / 34.0x12.9x12.9	55 / 121.2
PDV-3-641800-3F1N-TN	180	90 / 150	6	865x330x330 / 34.0x12.9x12.9	55 / 121.2
PDV-3-742020-3F1N-TN	202	110 / 175	7	1280x330x360 / 50.3x12.9x14.1	89 / 196.2
PDV-3-742400-3F1N-TN	240	132 / 200	7	1280x330x360 / 50.3x12.9x14.1	89 / 196.2

500 - 600 (+/- 10%) VAC Three Phase 50/60 Hz IP20	Amps	kW / HP	Frame Size	Size WxHxD (mm/inch)	Weight (kg / lbs)
PDV-3-260031-3F12-SN	3,1	1.5 / 2	2	221x110x185 / 8.7x4.5x7.28	1.8 / 4
PDV-3-260041-3F12-SN	4,1	2.2 / 3	2	221x110x185 / 8.7x4.5x7.28	1.8 / 4
PDV-3-260065-3F12-SN	6,5	4 / 5	2	221x110x185 / 8.7x4.5x7.28	1.8 / 4
PDV-3-260090-3F12-SN	9	5.5 / 7.5	2	261x131x205 / 10.2x5.1x8.0	3.5 / 7.7
PDV-3-360120-3F12-SN	12	7.5 / 10	3	261x131x205 / 10.2x5.1x8.0	3.5 / 7.7
PDV-3-360170-3F12-SN	17	11 / 15	3	261x131x205 / 10.2x5.1x8.0	3.5 / 7.7

500 - 600 (+/- 10%) VAC Three Phase 50/60 Hz IP66/55	Amps	kW / HP	Frame Size	Size WxHxD (mm/inch)	Weight (kg / lbs)
PDV-3-260031-3F1X-TN	3,1	1.5 / 2	2	257x188x239 / 10.1x7.4x9.4	4.8 / 10.6
PDV-3-260041-3F1X-TN	4,1	2.2 / 3	2	257x188x239 / 10.1x7.4x9.4	4.8 / 10.6
PDV-3-260065-3F1X-TN	6,5	4 / 5	2	257x188x239 / 10.1x7.4x9.4	4.8 / 10.6
PDV-3-260090-3F1X-TN	9	5.5 / 7.5	2	310x211x266 / 12.2x8.2x10.7	7.7 / 18.7
PDV-3-360120-3F1X-TN	12	7.5 / 10	3	310x211x266 / 12.2x8.2x10.7	7.7 / 18.7
PDV-3-360170-3F1X-TN	17	11 / 15	3	310x211x266 / 12.2x8.2x10.7	7.7 / 18.7
PDV-3-460220-3F1X-TN	22	15 / 20	4	450x171x252 / 17.3x6.7x9.9	11.5 / 25.4
PDV-3-460280-3F1X-TN	28	18.5 / 25	4	450x171x252 / 17.3x6.7x9.9	11.5 / 25.4
PDV-3-460340-3F1X-TN	34	22 / 30	4	450x171x252 / 17.3x6.7x9.9	11.5 / 25.4
PDV-3-460430-3F1X-TN	43	30 / 40	4	540x235x270 / 21.6x9.2x10.6	23 / 50.9
PDV-3-560540-3F1X-TN	54	37 / 50	5	540x235x270 / 21.6x9.2x10.6	23 / 50.9
PDV-3-560650-3F1X-TN	65	45 / 60	5	540x235x270 / 21.6x9.2x10.6	23 / 50.9
PDV-3-560780-3F1X-TN	78	55 / 75	5	865x330x330 / 34.0x12.9x12.9	55 / 121.2
PDV-3-661050-3F1X-TN	105	75 / 100	6	865x330x330 / 34.0x12.9x12.9	55 / 121.2
PDV-3-661300-3F1X-TN	130	90 / 125	6	865x330x330 / 34.0x12.9x12.9	55 / 121.2
PDV-3-661500-3F1X-TN	150	110 / 150	6	1280x330x360 / 50.3x12.9x14.1	89 / 196.2



Options	Description
PDV-2-STICK	Copystick Bluetooth Commissioning Tool up / down load parameter sets
PDV-2-OPPAD	Remote Keypad & Display
PDV-2-BNTIP	BACnet/IP Interface module
PDV-2-PROFB	PROFIBUS DP Interface module
PDV-2-DEVNT	DeviceNet Interface module
PDV-2-ETHNT	EtherNet/IP Interface module
PDV-2-MODIP	Modbus TCP Interface module
PDV-2-PFNET	PROFINET Interface module
PDV-2-ETCAT	EtherCat Interface module
PDV-2-EXTION	Extended I/O unit 3 Digital inputs - 1 relay output
PDV-2-CASCD	Cascade control module 3 relay outputs
PDV-2-ISOL4	Main Isolator Switch Frame 4
PDV-2-ISOL5	Main Isolator Switch Frame 5

# TECHNICAL DATA

<b>Input Rating</b>	Supply voltages	200..240V; 380..480v..500..600v -10% ..+10%	
	Input Frequency	48-62Hz	
	Power Factor	> 98	
	Phase Imbalance	3% Maximum allowed	
	Power Cycle	120 per hour maximum evenly spaced	
<b>Output ratings</b>	Output power	230V 3Ph, input 1.5 - 75kW (2-100HP) 400V 3Ph, input 1.5 - 132kW (2-200HP) 600V 3Ph, input 1.5-110kW (2-150HP)	
	Overload	110% for 60 seconds * 150% 3 seconds	
	Output Frequency	0 -120 Hz, 0.1Hz resolution	
	Typical Efficiency	> 98%	
	<b>Ambient conditions</b>	Temperature	Storage -40c to 60c / operating -10c to 50c
Humidity		95% maximum non condensing	
Altitude		up to 1000m ASL without derate up to 2000m maximum UL approval up to 4000m maximum (non UL)	
Vibration		Conforms to EC 60068-2-6 Sinusoidal vibration 10-57Hz @ 0.075mm Plc 57 - 150Hz @ 1g Plc	
<b>Enclosures</b>		Ingress protection	IP20, IP55, (Nema 12) IP66 (Nema 4 x )
<b>Programming</b>	Keypad	Built-in keypad Optional remote mounting keypad	
	Display	Multi language OLED (IP66/55) 7 Segment LED (IP20)	
	PC	PDVTools	
	<b>Control Specification</b>	Control Mode	Sensorless vector V/F - CT Open loop BLDC vector Open loop Permanent magnet vector
PWM Frequency		4-32Hz Effective	
Stopping mode		Ramp to stop-Coast to stop	
Breaking		Motor flux breaking	
Skip Frequency		Single point adjustable	
Speed Signals		0-10V, - 10 to 0 volts, -10 to +10V - 0..20mA 20..0mA, 4..20mA, 20..4mA	
Digital		Modbus RTU, BACnet MS/TP	
<b>I/O specification</b>		Programmable inputs	5 as standard (optional 3 additional) 3 x Digital ( optional 3 additional) 2 x Analog / Digital selectable
		Programmable outputs	4 as standard (optional 3 additional) 2 x Analog / Digital selectable 2 x Relay (optional 3 additional)
		Relay output	Maximum voltage 250 VAC, 30 VDC, Switching current capacity 6A AC, 5A DC
	Analog output	0-10V,0..20mA, 4..20mA	
	<b>Standards</b>	Low Voltage Directive	Adjustable speed electrical power drive systems EMC required
		EMC Directive	2004/108/EC - 230V 1Ph C1 According to EN61800-3-2004 400V 3Ph C2 According to EN61800-3-2004
Machinery Directive		2006/42/EC	
Conformance		CE,UL, Ctick, ECA	
Harmonic Distortion		EN 61000-3-12	



CopyStick  
Rapid up/down load  
of parameters Bluetooth  
output to PC tool

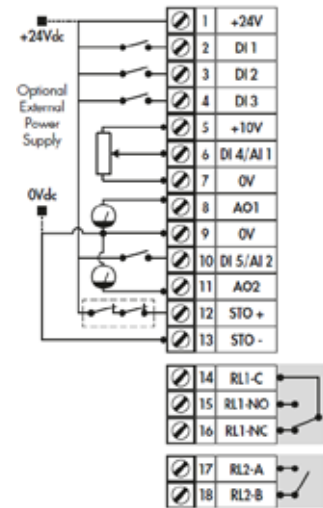


Remote OLED  
keypad display  
Clear multi-line text  
Multiple language  
IP55 rated



Fieldbus  
option modules

Connection Diagram



- ✓ Saving Energy
- ✓ Easy installation
- ✓ Simple set-up

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