

IVS-102 | ADJUSTABLE FREQUENCY DRIVES | SUBMITTAL

File No: 94.65
Date: DECEMBER 12, 2016
Supersedes: 94.65
Date: SEPTEMBER 17, 2016

Job: _____ Representative: _____

Order No: _____ Date: _____

Engineer: _____ Submitted by: _____ Date: _____

Contractor: _____ Approved by: _____ Date: _____

PUMP DESIGN DATA

No. of pumps: _____ Tag: _____

Capacity: _____ USgpm (L/s) Head: _____ ft (m)

Power supply: 3-phase - see motor data
1-phase - 200V-240V only

MOTOR DESIGN DATA

HP: _____

Volts[†]: _____ Hertz: 50 Hz/60 Hz

Phase: _____

[†]For 1-phase power supply use 200V-240V AC 3-phase motor only.

STANDARD FUNCTIONALITY AND CONSTRUCTION

User interface: Multifunction keypad with the following features:

- Graphical display (shows bars and graphs)
- Quick setup menu
- 2 Level password protection
- Intuitive help functionality

Power isolation: Optional integrated disconnect switch.

Pump protection:

- Preventative maintenance scheduling.
- Dry running and end of curve protection.

Energy conservation: Automatic energy optimizer (AEO)

- For accurate load matching.
- Energy monitoring for measuring kWh consumption.
- Flow compensation for locally mounted DP sensor(s).

Motor protection: Automatic current limiting and fault protection as standard.

Condensation protection: Motor pre-heat function to prevent condensation build-up.

DRIVE DATA

Sensorless Control:

Minimum system pressure to be maintained: _____ ft (m)*

Protocol (standard): Modbus RTU Johnson[®] N2
 Siemens[®] FLN BACnet[™]

Enclosure: NEMA/UL type 1
 NEMA/UL type 12

3-phase Options: Real-time clock Relay card
 General I/O

Disconnect switch: 3-ph fused 1-ph non-fused

3-phase EMI/RFI control: Integrated filter designed to meet EN61800-3.

Harmonic suppression: Dual DC-link reactors (Equivalent: 5% AC line reactor) supporting IEEE 519-1992 requirements**

Cooling: Fan-cooled through back channel.

Ambient temperature: -10°C to +45°C up to 1000 meters above sea level (14°F to +113°F, 3300 ft).

Analog I/O: 2 current or voltage inputs, 1 current output

Digital I/O: 6 programmable inputs (2 can be configured as outputs)

Pulse inputs: 2 programmable

Relay outputs: 2 programmable

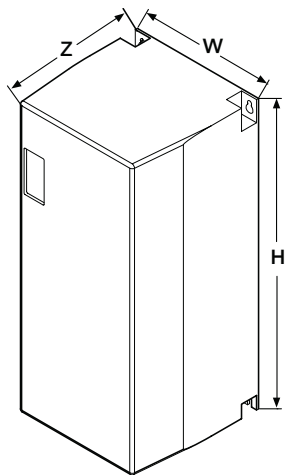
Communication port: 1-RS485, 1-USB

*If minimum maintained system pressure is not known: Default to 40% of design head.

**The IVS 102 drive is a low harmonic drive via built-in DC line reactors. This does not guarantee performance to any system wide harmonic specification or the costs to meet a system wide specification. If supplied with the system electrical details, Armstrong will run a computer simulation of the system wide harmonics. If system harmonic levels are exceeded Armstrong can also recommend additional harmonic mitigation and the costs for such mitigation.

ARMSTRONG DRIVE DATA - MAXIMUM DIMENSIONS AND WEIGHT

POWER RANGE - HP			DCD	INDOOR UL TYPE 1			INDOOR UL TYPE 12			OUTDOOR UL TYPE 4X			OUTDOOR UL TYPE 4X WITH WEATHER SHIELD			WEIGHT lbs (kg)	
200V - 240V 1 PH	3 PH	380V-480V		525V - 600V	H	W	Z	H	W	Z	H	W	Z	H	W		Z
—	1.5-3	1.5-5		A2	19.11 (486)	5.21 (132)	8.15 (207)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	31 (14.0)
—	5	7.5-10	1.5-10	A3	19.11 (486)	5.21 (132)	8.15 (207)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	31 (14.0)
1-1.5	1.5-5	1.5-10	1.5-10	A5	N/A	N/A	N/A	17.00 (420)	9.53 (242)	7.87 (200)	16.54 (420)	9.53 (242)	7.87 (200)	TBA	TBA	TBA	31 (14.0)
2-7.5	7.5-15	15-25	15-25	B1	18.90 (480)	9.53 (242)	10.24 (260)	18.90 (480)	9.53 (242)	10.24 (260)	18.90 (480)	9.53 (242)	10.24 (260)	TBA	TBA	TBA	51 (23.0)
—	20	30-40	30-40	B2	25.59 (650)	9.53 (242)	10.24 (260)	25.59 (650)	9.53 (242)	10.24 (260)	25.59 (650)	9.53 (242)	10.24 (260)	TBA	TBA	TBA	60 (27.0)
—	25-40	50-75	50-75	C1	26.77 (680)	12.13 (308)	12.20 (310)	26.77 (680)	12.13 (308)	12.20 (310)	26.77 (680)	12.13 (308)	12.20 (310)	TBA	TBA	TBA	99 (45.0)
—	50-60	100-125	100-125	C2	30.31 (770)	14.57 (370)	13.19 (335)	30.31 (770)	15.57 (370)	13.19 (335)	30.31 (770)	14.57 (370)	13.19 (335)	TBA	TBA	TBA	143 (65.0)
—	—	150-250	150-200	D1	N/A	N/A	N/A	35.47 (901)	12.80 (325)	14.88 (378)	N/A	N/A	N/A	N/A	N/A	N/A	137 (62.0)
—	—	300-450	250-400	D2	N/A	N/A	N/A	43.58 (1107)	16.54 (420)	14.88 (378)	N/A	N/A	N/A	N/A	N/A	N/A	276 (125.0)
—	—	150-250	150-200	D3	35.79 (909)	9.84 (250)	14.76 (375)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	137 (62.0)
—	—	300-450	250-400	D4	44.17 (1122)	13.78 (350)	14.76 (375)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	276 (125.0)
—	—	150-250	150-200	D5	N/A	N/A	N/A	52.13 (1324)	12.80 (325)	15.00 (381)	N/A	N/A	N/A	N/A	N/A	N/A	218 (99.0)
—	—	300-450	250-400	D7	N/A	N/A	N/A	77.87 (1978)	16.54 (420)	15.20 (386)	N/A	N/A	N/A	N/A	N/A	N/A	408 (185.0)
—	—	500-600	450-600	E1	78.74 (2000)	23.62 (600)	19.45 (494)	78.74 (2000)	23.62 (600)	19.45 (494)	N/A	N/A	N/A	N/A	N/A	N/A	690 (313.0)
—	—	650-1000	700-1000	F1	86.77 (2204)	55.12 (1400)	23.86 (606)	86.77 (2204)	55.12 (1400)	23.86 (606)	N/A	N/A	N/A	N/A	N/A	N/A	2213 (1004.0)
—	—	1250	1250	F2	86.81 (2205)	70.87 (1800)	23.86 (606)	86.77 (2204)	70.87 (1800)	23.86 (606)	N/A	N/A	N/A	N/A	N/A	N/A	2746 (1246.0)

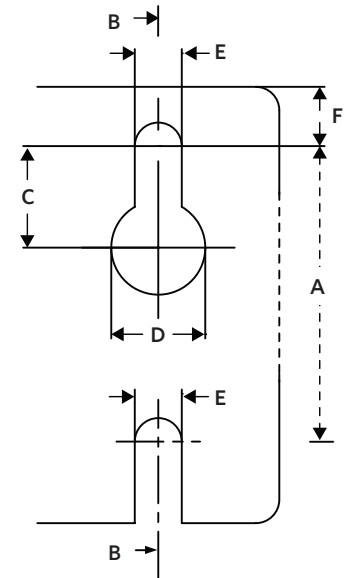


NOTE:

- dcd-Drive chassis designation.
- Mounting details on page 3.
- Dimensions are shown in inches (mm).

MOUNTING DETAILS FOR ARMSTRONG IVS-102 ADJUSTABLE FREQUENCY DRIVES

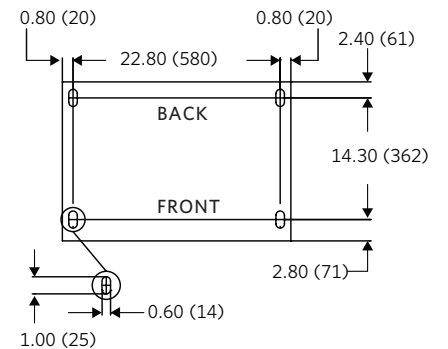
DCD	TOP AND BOTTOM MOUNTING HOLE DIMENSIONS - INCHES (mm)					
	A	B	C	D	E	F
A2	17.62 (447)	4.33 (110)	0.31 (8)	0.43 (11)	0.22 (6)	0.35 (9)
A3	17.62 (447)	4.33 (110)	0.31 (8)	0.43 (11)	0.22 (6)	0.35 (9)
A5	15.83 (402)	8.46 (215)	0.32 (8)	0.47 (12)	0.26 (6)	0.35 (9)
B1	17.87 (454)	8.27 (210)	0.47 (12)	0.75 (19)	0.35 (9)	0.35 (9)
B2	24.57 (624)	8.27 (210)	0.47 (12)	0.75 (19)	0.35 (9)	0.35 (9)
C1	25.51 (648)	10.71 (272)	0.47 (12)	0.75 (19)	0.35 (9)	0.39 (10)
C2	29.09 (739)	13.15 (334)	0.47 (12)	0.75 (19)	0.35 (9)	0.39 (10)



**TOP & BOTTOM MOUNTING HOLES
(A2, A3, A5, B1, B2, C1, C2)**

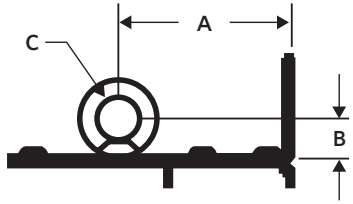
DCD	LIFTING EYE AND MOUNTING HOLES DIMENSIONS - INCHES (mm)					
	A	B	C	D	E	F
D1	3.23 (82)	0.71 (18)	0.79 (20)	0.79 (20)	0.43 (11)	0.79 (20)
D2	5.59 (142)	0.75 (19)	0.79 (20)	0.79 (20)	0.43 (11)	0.94 (24)
D3	3.23 (82)	0.71 (18)	0.79 (20)	0.79 (20)	0.43 (11)	0.79 (20)
D4	5.59 (142)	0.75 (19)	0.79 (20)	0.79 (20)	0.43 (11)	0.94 (24)
D5	4.53 (115)	0.91 (23)	0.79 (20)	0.79 (20)	0.43 (11)	0.94 (24)
D7	6.14 (156)	0.91 (23)	0.98 (25)	N/A	N/A	N/A

DCD	LIFTING EYE AND MOUNTING HOLES DIMENSIONS - INCHES (mm)					
	G	H	I	J	J2	K
D1	0.31 (8)	2.48 (63)	0.98 (25)	1.30 (33)	N/A	0.43 (11)
D2	0.35 (9)	2.95 (75)	0.98 (25)	1.30 (33)	N/A	0.43 (11)
D3	0.31 (8)	0.98 (25)	0.98 (25)	1.30 (33)	N/A	0.43 (11)
D4	0.35 (9)	1.57 (40)	0.98 (25)	1.30 (33)	N/A	0.43 (11)
D5	0.35 (9)	2.52 (64)	0.98 (25)	0.59 (15)	2.48 (63)	0.43 (11)
D7	N/A	N/A	0.98 (25)	0.91 (23)	2.76 (70)	0.43 (11)

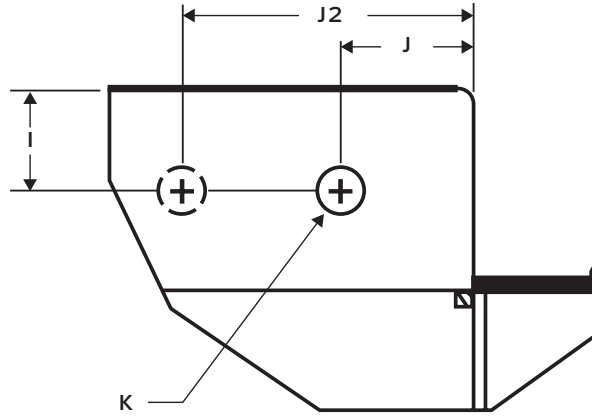


**BASE PLATE MOUNT - INCHES (MM)
(E1)**

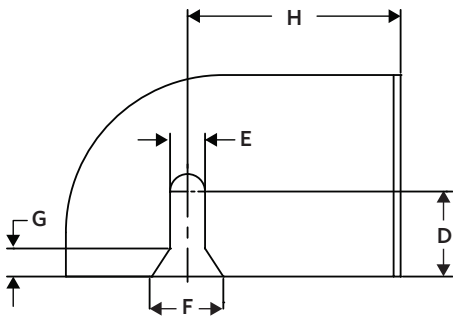
IVS D CHASSIS MOUNTING DIMENSIONS (D1, D2, D3, D4, D5, D7)



LIFTING EYE



TOP MOUNTING HOLES



BOTTOM MOUNTING HOLES

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