

## DESIGN ENVELOPE 4312 TWIN | 8020-022.0 | SUBMITTAL

**File No:** 100.4774IN  
**Date:** AUGUST 14, 2015  
**Supersedes:** 100.4774IN  
**Date:** MAY 27, 2015

Job: \_\_\_\_\_ Representative: \_\_\_\_\_

Order No: \_\_\_\_\_ Date: \_\_\_\_\_

Engineer: \_\_\_\_\_ Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_

Contractor: \_\_\_\_\_ Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

### PUMP DESIGN DATA

No. of pumps: \_\_\_\_\_ Tag: \_\_\_\_\_  
 Capacity: \_\_\_\_\_ m<sup>3</sup>/h(USgpm) Head: \_\_\_\_\_ m (ft)  
 Liquid: \_\_\_\_\_ Viscosity: \_\_\_\_\_  
 Temperature: \_\_\_\_\_ °C (°F) Specific gravity: \_\_\_\_\_  
 Suction: 80mm (3") Discharge: 80mm (3")

### MOTOR DESIGN DATA

kW: \_\_\_\_\_ RPM: \_\_\_\_\_ Enclosure: \_\_\_\_\_  
 Volts: \_\_\_\_\_ Hertz: 50 Hz Phase: 3  
 Efficiency:  IE2 Frame size: \_\_\_\_\_

### MAXIMUM PUMP OPERATING CONDITIONS

#### PN 16

16 bars at 149°C (232 psig at 300°F)  
 7 bars at 150°C (100 psig at 300°F)

#### PN 25

25 bars at 149°C (375 psig at 300°F)  
 21 bars at 150°C (260 psig at 300°F)

- Tolerance of ±3 mm (±0.125") should be used
- For exact installation, data please write factory for certified dimensions

### MECHANICAL SEAL DESIGN DATA

See file no. 43.50 for standard mechanical seal details as indicated below

Armstrong seal reference number

c1 (a)  Others: \_\_\_\_\_

### CONTROLS DATA

**Sensorless control:** Standard

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

**Protocol (standard):**  Modbus RTU  BACnet™ MS/TP  
 Johnson® N2  Siemens® FLN

**Protocol (optional):**  LonWorks®

**Enclosure:**  Indoor - IP55  
 Outdoor - IP66

**Fused disconnect switch:**

**Duty/standby pre-wired bridge:**

**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:** Two current or voltage inputs, one current output

**Digital I/O:** Six programmable inputs (two can be configured as outputs)

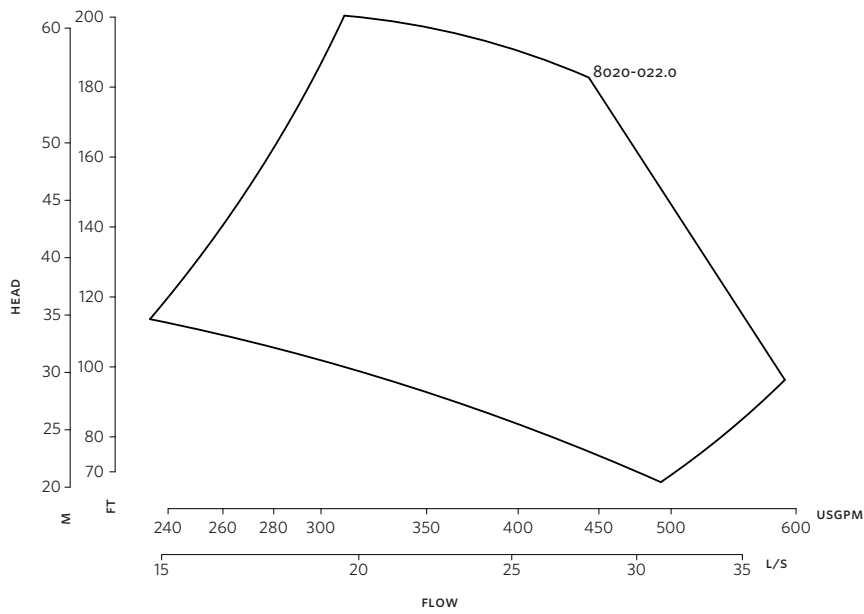
**Pulse inputs:** Two programmable

**Relay outputs:** Two 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 guaranty 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.

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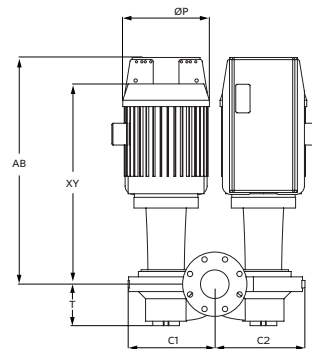
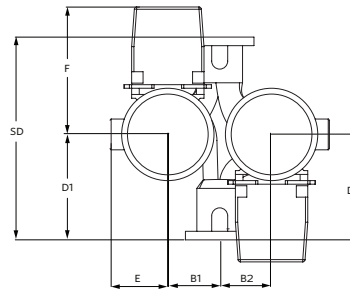
**DIMENSION DATA**

INDOOR	
IP55	
<b>Frame size:</b>	180M
<b>Size:</b>	8020-022.0
<b>kW:</b>	22
<b>RPM:</b>	3600
<b>AB:</b>	985(38.86)
<b>B1:</b>	250(10.28)
<b>B2:</b>	250(10.28)
<b>C1:</b>	412(16.22)
<b>C2:</b>	412(16.22)
<b>D1:</b>	200(07.96)
<b>D2:</b>	230(09.14)
<b>E:</b>	248(09.85)
<b>F:</b>	450(17.71)
<b>P:</b>	316(12.44)
<b>SD:</b>	400(15.74)
<b>T:</b>	158(06.22)
<b>XY:</b>	952(37.57)
<b>Weight:</b>	295.29(651)

Performance curves are for reference only.  
Confirm current performance data with Armstrong acE Online selection software.

Dimensions - mm (inch)  
Weight - kg (lbs)

**INDOOR**



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