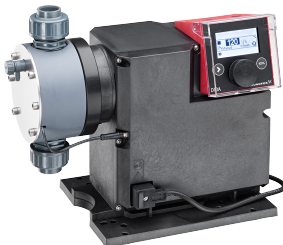


Count	Description
1	<p><b>DDA 60-10</b></p>  <p>Product photo could vary from the actual product</p> <p>Product No.: <a href="#">99159462</a> DDA 60-10 FCM-PVC/V/C-F-31A7A7</p> <p>The SMART Digital DDA is a compact positive displacement, diaphragm dosing pump with variable-speed drive (PMS motor) and intelligent control electronics with minimum energy consumption. The SMART Digital Dosing series operates at full stroke length to ensure optimum accuracy, priming and suction, even for high-viscosity or degassing liquids. The duration of each discharge stroke varies according to the capacity set, resulting in optimum smooth and continuous discharge flow.</p> <p>The mounting plate allows quick installation and service. The control cube can be turned easily into front, left or right position. The click wheel and the multi-coloured backlit graphical, plain-text LC display make commissioning and operation intuitive. The control elements are protected by a transparent cover.</p> <p>The sensor-based FlowControl (FCM) system detects malfunctions directly in the dosing head and displays them in plain text in the alarm menu, e.g. air bubbles, line burst, overpressure. The integrated flow measurement function measures the actual flow and makes additional monitoring and control equipment redundant (accuracy of <math>\pm 1\%</math> of set value in case of trouble-free process). The measured flow is displayed and can be integrated in the process control, e.g. SCADA. Furthermore, the AutoFlowAdapt function automatically adjusts the pump speed according to the process conditions to maintain target flow even at e.g. varying backpressure or air bubbles foaming (degassing drive strategy).</p> <p>The dosing head is composed of:</p> <ul style="list-style-type: none"> <li>- Long lifetime and universal, chemically resistant full double PTFE diaphragm.</li> <li>- Ball valves for highest dosing accuracy.</li> <li>- Deaeration valve for easy startup.</li> <li>- Pressure sensor.</li> </ul> <p>Operating modes:</p> <ul style="list-style-type: none"> <li>- Manual dosing in ml/h, l/h or gph.</li> <li>- Pulse control in ml/pulse (incl. memory function).</li> <li>- Analog control 0/4-20 mA (scalable).</li> <li>- Pulse-based batch function in ml, l or gal.</li> <li>- Timer-based batch function (Dosing timer, cycle or week).</li> <li>- Fieldbus control (GENIbus prepared for Grundfos CIU fieldbus modules).</li> </ul> <p>Other features:</p> <ul style="list-style-type: none"> <li>- Auto deaeration during pump standby to avoid breakdowns due to air-locking.</li> <li>- Two SlowMode steps (anti-cavitation), 50 % (maximum flow: 7.925 US gal/hour) and 25 % (maximum flow: 3.963 US gal/hour), e.g. for high-viscosity or degassing liquids.</li> <li>- Service information display to show when service and which wear-part order number is required.</li> <li>- Two-step key lock function to protect the pump against unauthorised access.</li> <li>- Additional display function to provide further information, e.g. the actual mA input signal.</li> <li>- Counter for total dosed volume (resettable), operating hours, etc.</li> <li>- Save and load customised settings as well as reload of factory settings.</li> </ul> <p>Signal inputs/outputs:</p> <ul style="list-style-type: none"> <li>- Input for pulse, analog 0/4-20mA and external stop.</li> </ul>

Count	Description
	<ul style="list-style-type: none"> <li>- Input for low-level and empty-tank signal.</li> <li>- Two potential-free output relays for maximum 30 V AC/DC (configurable, e.g. alarm, stroke signal, pump dosing, timer etc.)</li> <li>- Output analog 0/4-20mA.</li> <li>- Fieldbus communication interface (GENIbus, for connection of the Grundfos CIU fieldbus converter).</li> </ul> <p><b>Controls:</b></p> <p>Control variant: FCM</p> <p>Level control: YES</p> <p>Analog input: 0/4-20 mA</p> <p>Pulse control: YES</p> <p>Ext. Stop input: YES</p> <p>Analog output: 0/4-20 mA</p> <p>Output relays: 2</p> <p>Bus communication: YES</p> <p><b>Liquid:</b></p> <p>Pumped liquid: Water</p> <p>Liquid temperature range: 32 .. 104 °F</p> <p>Liquid temperature during operation: 68 °F</p> <p>Density: 62.29 lb/ft³</p> <p><b>Technical:</b></p> <p>Type key: DDA 60-10 FCM-PVC/V/C-F-31A7A7</p> <p>Max. Flow: 15.85 US gal/hour</p> <p>Max. flow in slow mode 50%: 7.925 US gal/hour</p> <p>Max. flow in slow mode 25%: 3.963 US gal/hour</p> <p>Min flow: 75 ml/h</p> <p>Turn-down ratio: 1:800</p> <p>Approvals on nameplate: CE, CSA-US, NSF61, RCM</p> <p>Valve type: Standard</p> <p>Maximum viscosity at 100 %: 150 mPas</p> <p>Maximum viscosity in slow mode 50 %: 2000 mPas</p> <p>Maximum viscosity in slow mode 25 %: 3000 mPas</p> <p>Accuracy of repeatability: 1 %</p> <p><b>Materials:</b></p> <p>Dosing head: PVC (Polyvinyl chloride)</p> <p>Valve ball: Ceramic</p> <p>Gasket: FKM</p> <p><b>Installation:</b></p> <p>Range of ambient temperature: 32 .. 113 °F</p> <p>Maximum operating pressure: 145 psi</p> <p>Installation set: NO</p> <p>Installation type: No installation set</p> <p>Pump inlet: Conn. Threaded 3/4#NPTM CodeA7</p> <p>Pump outlet: Conn. Threaded 3/4#NPTM CodeA7</p> <p>Max. Suction lift during operation: 9.843 ft</p> <p>Max. Suction lift during priming: 4.922 ft</p> <p><b>Electrical data:</b></p> <p>Maximum power input - P1: 62 W</p> <p>Main frequency: 60 Hz</p> <p>Rated voltage: 1 x 100-240 V</p> <p>Enclosure class (IEC 34-5): IP65 / NEMA 4X</p> <p>Length of cable: 4.922 ft</p> <p>Type of cable plug: USA, Canada</p>



Company name:

Created by:

Phone:

Date:

12/11/2018

Count	Description
	Inrush current: 70A at 240V (35A/100V) for 2ms
	<b>Others:</b>
	Net weight: 13.2 lb
	Gross weight: 15.4 lb
	COLOR: RED



Company name:

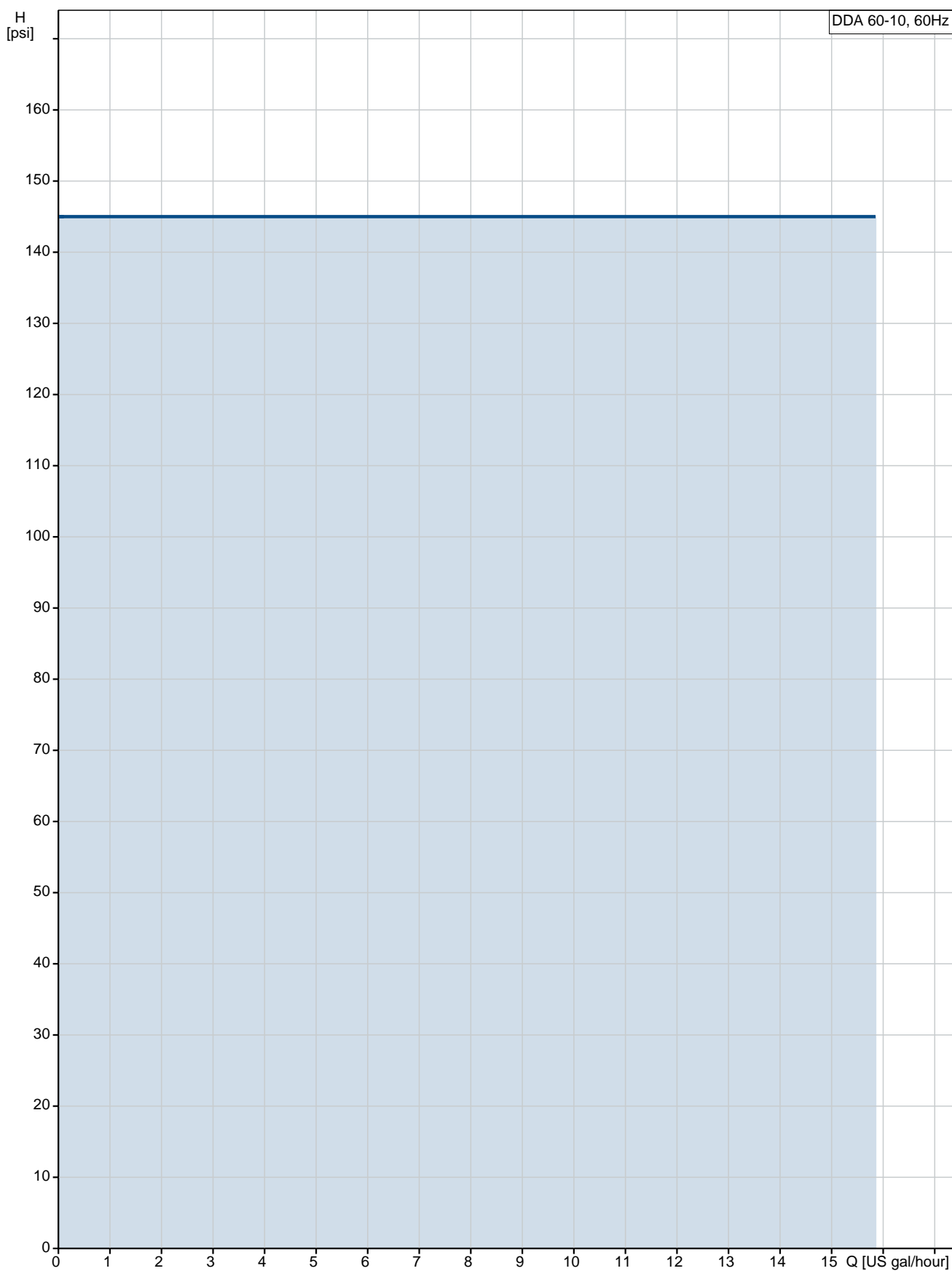
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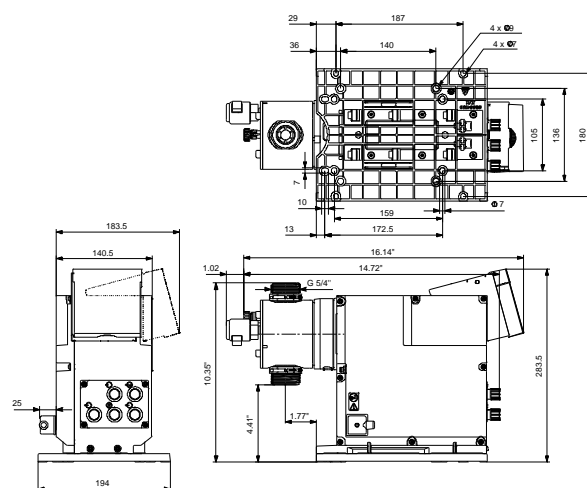
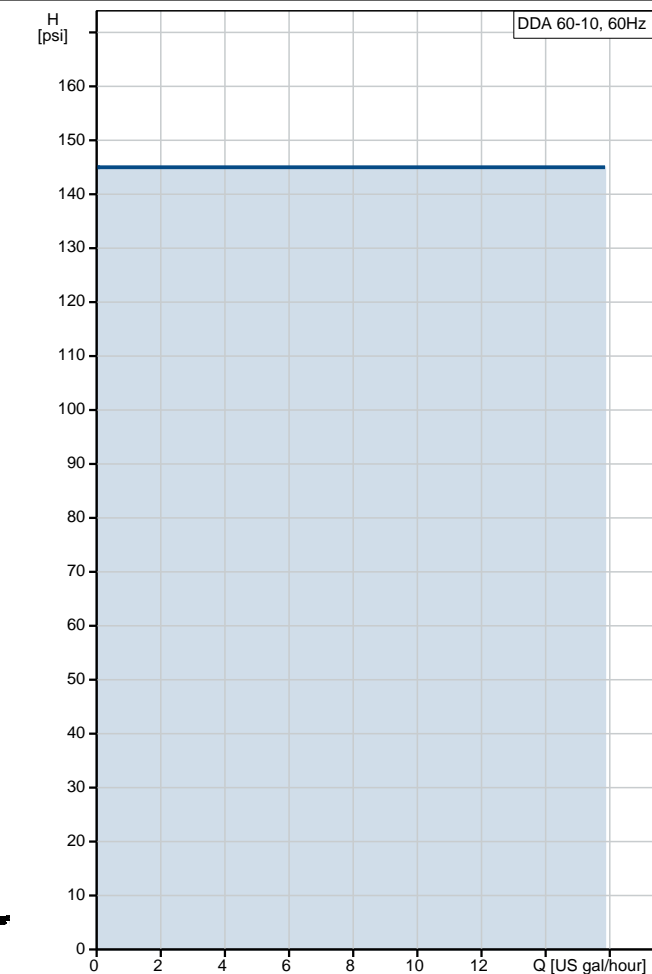
Date:

12/11/2018

## 99159462 DDA 60-10 60 Hz



Description	Value
<b>General information:</b>	
Product name:	DDA 60-10
Product No.:	99159462
EAN:	5712607842505
<b>Technical:</b>	
Type key:	DDA 60-10 FCM-PVC/V/C-F-31A7A7
Max. Flow:	15.85 US gal/hour
Max. flow in slow mode 50%:	7.925 US gal/hour
Max. flow in slow mode 25%:	3.963 US gal/hour
Min flow:	75 ml/h
Turn-down ratio:	1:800
Approvals on nameplate:	CE,CSA-US,NSF61,RCM
Valve type:	Standard
Maximum viscosity at 100 %:	150 mPas
Maximum viscosity in slow mode 50 %:	2000 mPas
Maximum viscosity in slow mode 25 %:	3000 mPas
Accuracy of repeatability:	1 %
<b>Materials:</b>	
Dosing head:	PVC (Polyvinyl chloride)
Valve ball:	Ceramic
Gasket:	FKM
<b>Installation:</b>	
Range of ambient temperature:	32 .. 113 °F
Maximum operating pressure:	145 psi
Installation set:	NO
Installation type:	No installation set
Pump inlet:	Conn. Threaded 3/4#NPTM CodeA7
Pump outlet:	Conn. Threaded 3/4#NPTM CodeA7
Max. Suction lift during operation:	9.843 ft
Max. Suction lift during priming:	4.922 ft
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	32 .. 104 °F
Liquid temperature during operation:	68 °F
Density:	62.29 lb/ft <sup>3</sup>
<b>Electrical data:</b>	
Maximum power input - P1:	62 W
Main frequency:	60 Hz
Rated voltage:	1 x 100-240 V
Enclosure class (IEC 34-5):	IP65 / NEMA 4X
Length of cable:	4.922 ft
Type of cable plug:	USA, Canada
Inrush current:	70A at 240V (35A/100V) for 2ms
<b>Controls:</b>	
Control variant:	FCM
Control panel:	FRONT-MOUNTED
Level control:	YES
Analog input:	0/4-20 mA
Pulse control:	YES
Ext. Stop input:	YES
Analog output:	0/4-20 mA
Output relays:	2
Bus communication:	YES
<b>Others:</b>	
Net weight:	13.2 lb





Company name:

Created by:

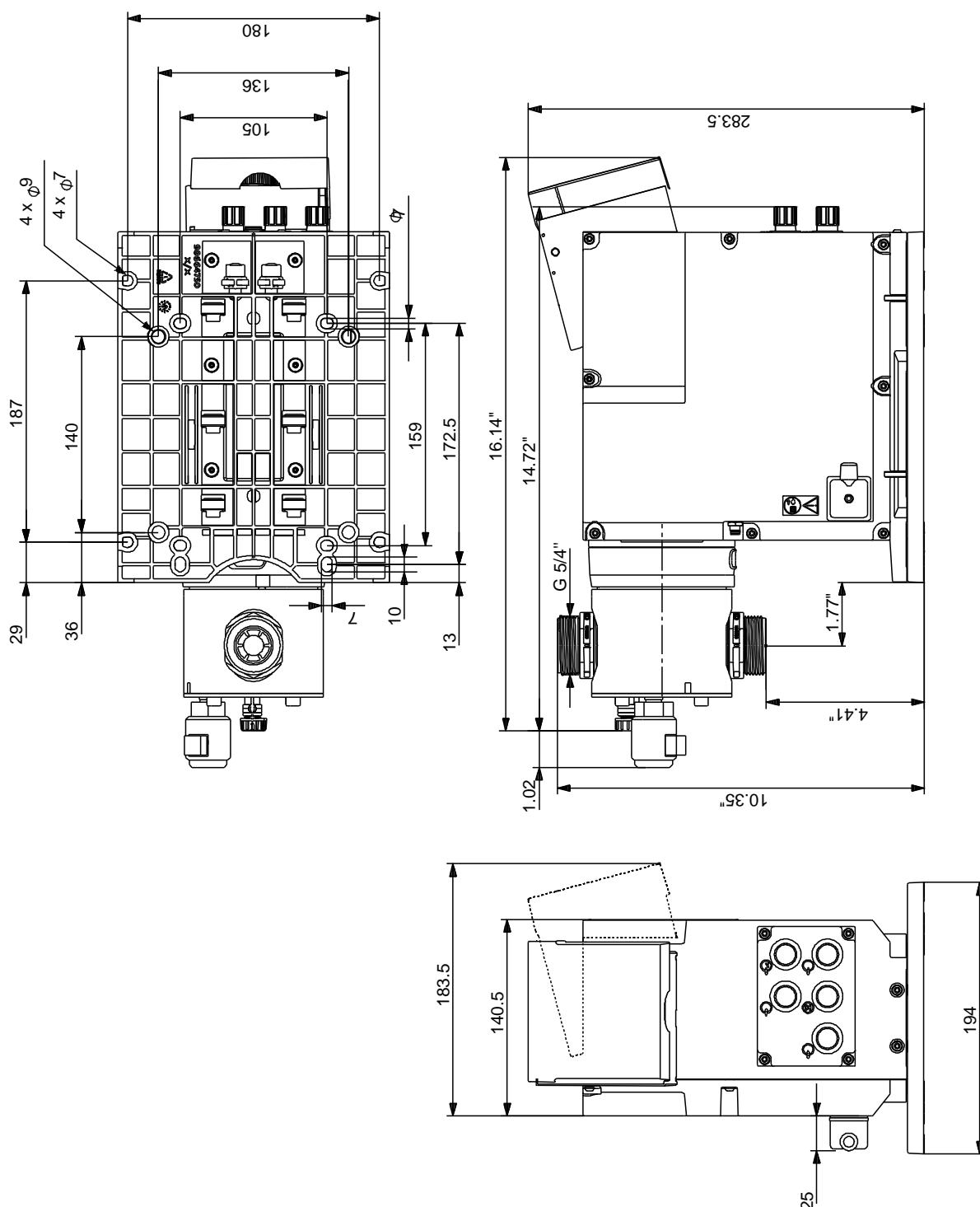
Phone:

Date:

12/11/2018

Description	Value
Gross weight:	15.4 lb
COLOR:	RED

**99159462 DDA 60-10 60 Hz**



Note! All units are in [mm] unless otherwise stated.  
Disclaimer: This simplified dimensional drawing does not show all details.