

SIEMENS
Ingenuity for life



BT300™ Variable Frequency Drives

Built for reliable performance under
today's rigorous demands

usa.siemens.com/hvac

Save 20-50% on energy costs and gain reliable control of HVAC equipment with new BT300 VFDs

While constantly expected to do more with less, managing energy consumption and optimizing occupant comfort remains of utmost importance to facility managers. They also require products that will integrate seamlessly into existing equipment and building management systems. The highly efficient BT300 delivers all this and more.

Available in frame sizes up to 250 hp, the BT300 is well-suited for demanding HVAC environments. Using the BT300 helps save 20-50% of energy compared to equipment with little or no control. Built-in features – like a real-time clock, energy savings optimization programming, and a sleep function – help measure energy savings. An easy to use, read, and understand interface uses built-in wizards that get HVAC equipment up and running quickly and accurately. Anyone can safely and quickly commission the BT300 using default parameters that are optimized for typical HVAC applications.

In addition to the HVAC functions, BT300 drives provide a special control function in the event of fire. The ensures escape routes are kept free of smoke.

Simplify the maintenance of motors, pumps and fans

The maintenance of motors, pumps and fans is simplified with VFD components that are designed to last. The drive's diagnostic alert function informs staff if a belt is broken or a pump is empty or jammed, reducing the time it takes to

diagnose and fix a problem. An always available and easy to understand built-in manual highlights possible causes and remedies to situations.

Easy integration with open protocols, including APOGEE and BACnet

BT300 VFDs are ready to communicate with Building Management System, embedded RS485 and Ethernet HVAC protocols:

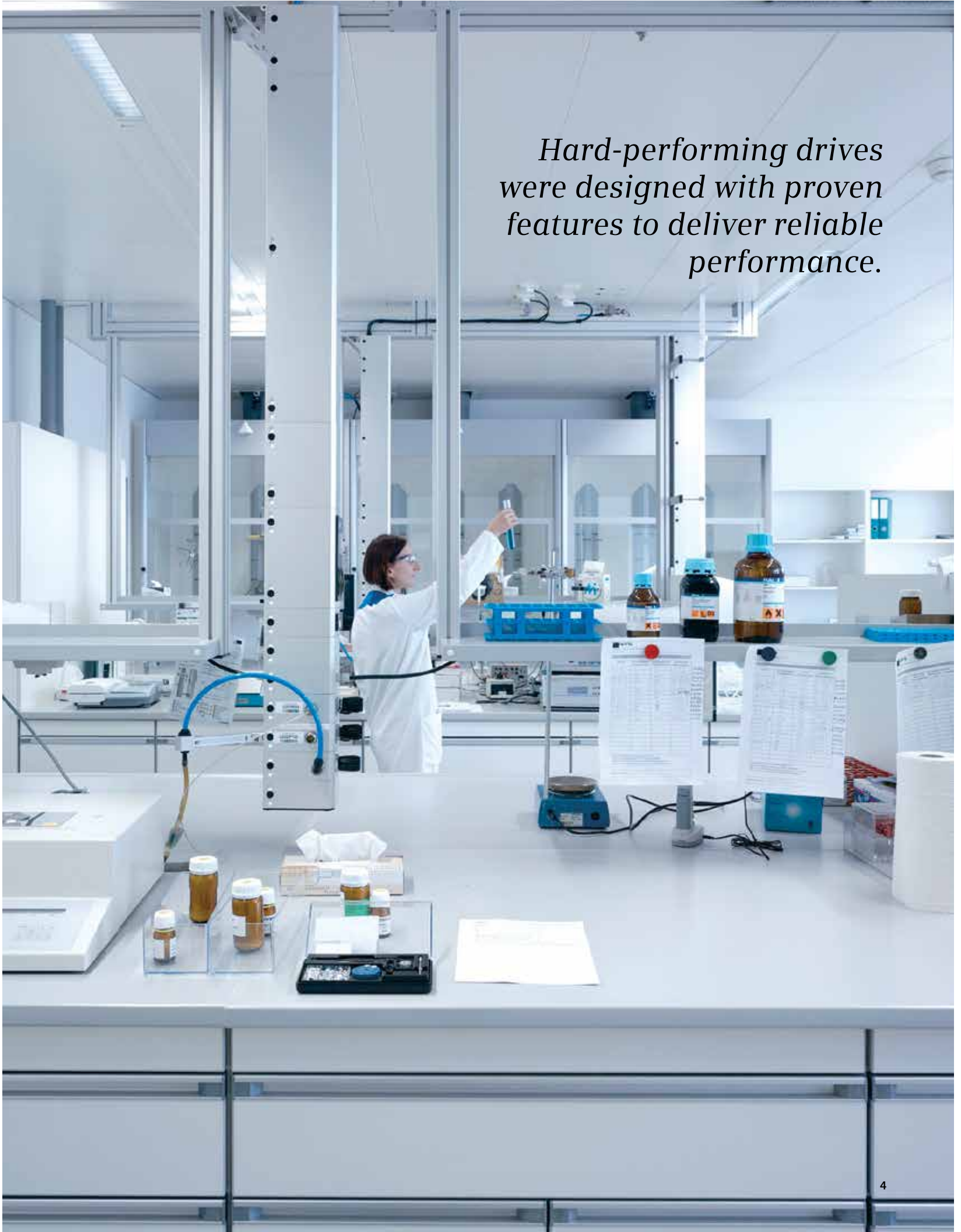
- APOGEE® FLN
- BACnet® MSTP
- BACnet IP
- Modbus TCP
- Modbus RTU
- Metasys N2

World-class technical support available for the life of the product

Siemens is trusted for innovative solutions, advanced technology, and superior quality. We also strive for excellence in customer service. No matter how easy the BT300 is to install and commission, it is reassuring to know help is available locally. Count on our technical expertise and services for the life of the product, from integration to ongoing service and support.



*Hard-performing drives
were designed with proven
features to deliver reliable
performance.*



BT300 Features

Sophisticated features and an easy-to-use menu structure speed up installation and commissioning and drive down energy costs.

1 **Advanced Keypad with Start-Up Wizards and Multiline Graphics and Displays**

Built-in simplicity with an easy to use, read, and understand interface. Push button speed control and 10-step commissioning make programming easy.

- Multilingual and multiline clear text display
- Nine user-defined values can be monitored and displayed at one time
- Graphical keypad features help texts and clear fault info including possible causes and remedies

2 **Real Time Clock & Sleep Mode Function**

Built-in features like the real time clock, energy savings optimization programming, and sleep function allows you to measure energy savings.

- Real time clock can be programmed to control the HVAC in different ways when the office is busy and when it is closed
- Sleep mode starts and stops the drive automatically on demand. If demand is low, more energy can be saved. If demand increases, the drive automatically switches on

3 **Onboard kWh Meter**

The BT300 monitors the kWh consumption and allows you to calculate the actual energy savings.

- Integrated kWh meter is displayed via the keypad
- Reset the meter to start metering predefined by the user

4 **Energy Efficient**

State of the art power electronics and innovative transistor technologies ensure maximum energy efficiency.

- Low heat loss
- Low operating temperature

5 **Two PID Controllers**

Achieve fast and accurate process control.

- Actuators can be controlled through the drive I/O

6 **Power Capacitors - Rapid Startup**

The BT300's thin film capacitors save time during drive startup and service replacement.

- No capacitor conditioning required
- Unlimited shelf life
- Out of the box installation

7 **Smaller Footprint**

Both UL Type 1 and Type 12 have the same footprint, a smaller housing that fits nicely into tight spaces.

- Easier installations
- Smallest Type 12 footprint on the market reduces shipping costs

8 **Fire Mode**

In case of an emergency or fire, the BT300 overrides the self-protection and motor protection diagnostics and keeps smoke exhaust fans functioning.

- Save on costs of additional equipment in stairways and escape routes

9 **Multipump/Fan Application**

With the BT300 you can control several pumps or fans connected direct-on-the-line in addition to the unit that is speed controlled.

- Eliminates the need for additional controllers

10 **Built-in Integration Features**

All the necessary standard and optional hardware to integrate the drive into the automation and electrical networks are built in.

- No additional input reactors required due to built-in harmonic filters
- Circuit boards designed to withstand active mechanical and chemical substances including hydrogen sulfide and sulfur dioxide.
- EMI filters
- Serial bus and Ethernet all built in and powered in – no need for extra equipment
- Optional I/O expansion cards



HIGHLIGHTS

- Energy savings of up to 50% when operating fans and pumps
- Drives up to 250 hp
- User friendly control panel with intuitive interface
- Reliable control for a wide range of HVAC applications, including special control option in the event of fire
- Complete system integration with Siemens expertise
- Ethernet capabilities include BACnet IP and Modbus TCP
- Environment safe – RoHS Compliant

Product Ordering

Your Product Number																				
Example Product Number	B	T	3	0	0	-	0	0	1	X	2	-	0	1	X					
Example Product Number	B	T	3	0	0	-	0	0	1	5	4	-	1	2	D					
Model(s)																				
BT300 VFD only																				
<i>Separator</i>																				
HP																				
1 ¹ , 1.5 ² , 2 ² , 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60, 75 ³ , 100 ³ , 125 ³ , 150 ⁴ , 200 ⁴ , 250 ⁵																				
X = no fraction, 5 = ½ hp																				
Voltage																				
2 208 Vac to 240 Vac																				
4 380 Vac to 500 Vac																				
4 525 Vac to 600 Vac																				
<i>Separator</i>																				
NEMA																				
00 ⁶ Chassis Version (IP 00)																				
01 NEMA Type 1 (IP 21)																				
12 NEMA Type 12 (IP 54)																				
Type																				
X Drive Only																				
D Disconnect ⁷																				

Table Notes:

- ¹Available only with voltage code 2.
- ²Available only with voltage code 2 or 4.
- ³Use with voltages equal to or greater than 230 Vac.
- ⁴Available only with voltage code 4 or 6.
- ⁵Available only with voltage code 4.
- ⁶Available only with 50hp and above @ 208 Vac or 100 hp and above @ 480 Vac (FS8 & FS9).
- ⁷Available only with NEMA Type 12 with 30hp and below @ 240 Vac or 60hp and below @ 480 Vac or 50hp and below @ 600 Vac.

Example Product Numbers:

BT300-001X2-01X = BT300, 1 HP, 208-240Vac, NEMA Type 1, Drive Only.
 BT300-00154-12D = BT300, 1.5 HP, 380-500Vac, NEMA Type 12, Drive with Disconnect.

Type 1 and 12 Frame Sizes and Power Range

Input Voltage	HP	1	1.5	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	250	
	KW	0.75	1.1	1.5	2.2	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	
208-240	Frame Size	4				5			6		7			8			9		NA			
380-500		N/A	4					5			6			7			8		9			
525-600		N/A		5					6			7			8			9		NA		

Output Ratings

Voltage (±10%)	Product Number			Output Rating		Rated Continuous Current	Frame Size
	UL Type 1	UL Type 12	UL Type 12 with Drive Disconnect	HP	kW		
208V (3-Phase)	BT300-001X2-01X	BT300-001X2-12X	BT300-001X2-12D	1.0	0.75	4.8	FS4
	BT300-00152-01X	BT300-00152-12X	BT300-00152-12D	1.5	1.1	6.7	FS4
	BT300-002X2-01X	BT300-002X2-12X	BT300-002X2-12D	2.0	1.5	8.0	FS4
	BT300-003X2-01X	BT300-003X2-12X	BT300-003X2-12D	3.0	2.2	11.0	FS4
	BT300-005X2-01X	BT300-005X2-12X	BT300-005X2-12D	5.0	4.0	18.0	FS5
	BT300-00752-01X	BT300-00752-12X	BT300-00752-12D	7.5	5.5	24.0	FS5
	BT300-010X2-01X	BT300-010X2-12X	BT300-010X2-12D	10.0	7.5	31.0	FS5
	BT300-015X2-01X	BT300-015X2-12X	BT300-015X2-12D	15.0	11.0	48.0	FS6
	BT300-020X2-01X	BT300-020X2-12X	BT300-020X2-12D	20.0	15.0	62.0	FS6
	BT300-025X2-01X	BT300-025X2-12X	BT300-025X2-12D	25.0	18.5	75.0	FS7
	BT300-030X2-01X	BT300-030X2-12X	BT300-030X2-12D	30.0	22.0	88.0	FS7
	BT300-040X2-01X	BT300-040X2-12X	—	40.0	30.0	105.0	FS7
	BT300-050X2-01X	BT300-050X2-12X	—	50.0	37.0	140.0	FS8
	BT300-060X2-01X	BT300-060X2-12X	—	60.0	45.0	170.0	FS8
230V (3-Phase)	BT300-075X2-01X	BT300-075X2-12X	—	75.0	55.0	205.0	FS8
	BT300-100X2-01X	BT300-100X2-12X	—	100.0	75.0	261.0	FS9
	BT300-125X2-01X	BT300-125X2-12X	—	125.0	90.0	310.0	FS9
380V to 500V (3-Phase)	BT300-00154-01X	BT300-00154-12X	BT300-00154-12D	1.5	1.1	3.7	FS4
	BT300-002X4-01X	BT300-002X4-12X	BT300-002X4-12D	2.0	1.5	5.3	FS4
	BT300-003X4-01X	BT300-003X4-12X	BT300-003X4-12D	3.0	2.2	6.2	FS4
	BT300-005X4-01X	BT300-005X4-12X	BT300-005X4-12D	5.0	4.0	10.6	FS4
	BT300-00754-01X	BT300-00754-12X	BT300-00754-12D	7.5	5.5	13.2	FS4
	BT300-010X4-01X	BT300-010X4-12X	BT300-010X4-12D	10.0	7.5	16.0	FS5
	BT300-015X4-01X	BT300-015X4-12X	BT300-015X4-12D	15.0	11.0	23.0	FS5
	BT300-020X4-01X	BT300-020X4-12X	BT300-020X4-12D	20.0	15.0	31.0	FS5
	BT300-025X4-01X	BT300-025X4-12X	BT300-025X4-12D	25.0	18.5	38.0	FS6
	BT300-030X4-01X	BT300-030X4-12X	BT300-030X4-12D	30.0	22.0	46.0	FS6
	BT300-040X4-01X	BT300-040X4-12X	BT300-040X4-12D	40.0	30.0	61.0	FS6
	BT300-050X4-01X	BT300-050X4-12X	BT300-050X4-12D	50.0	37.0	72.0	FS7
	BT300-060X4-01X	BT300-060X4-12X	BT300-060X4-12D	60.0	45.0	87.0	FS7
	BT300-075X4-01X	BT300-075X4-12X	—	75.0	55.0	105.0	FS7
	BT300-100X4-01X	BT300-100X4-12X	—	100.0	75.0	140.0	FS8
	BT300-125X4-01X	BT300-125X4-12X	—	125.0	90.0	170.0	FS8
	BT300-150X4-01X	BT300-150X4-12X	—	150.0	110.0	205.0	FS8
	BT300-200X4-01X	BT300-200X4-12X	—	200.0	132.0	261.0	FS9
BT300-250X4-01X	BT300-250X4-12X	—	250.0	160.0	310.0	FS9	
525 V to 600 V	BT300-003X6-01X	BT300-003X6-12X	BT300-003X6-12D	3	2.2	3.9	FS5
	BT300-005X6-01X	BT300-005X6-12X	BT300-005X6-12D	5	4	6.1	FS5
	BT300-00756-01X	BT300-00756-12X	BT300-00756-12D	7.5	5.5	9	FS5
	BT300-010X6-01X	BT300-010X6-12X	BT300-010X6-12D	10	7.5	11	FS5
	BT300-015X6-01X	BT300-015X6-12X	BT300-015X6-12D	15	11	18	FS6
	BT300-020X6-01X	BT300-020X6-12X	BT300-020X6-12D	20	15	22	FS6
	BT300-025X6-01X	BT300-025X6-12X	BT300-025X6-12D	25	18.5	27	FS6
	BT300-030X6-01X	BT300-030X6-12X	BT300-030X6-12D	30	22	34	FS6
	BT300-040X6-01X	BT300-040X6-12X	BT300-040X6-12D	40	30	41	FS7
	BT300-050X6-01X	BT300-050X6-12X	BT300-050X6-12D	50	37	52	FS7
	BT300-060X6-01X	BT300-060X6-12X	BT300-060X6-12D	60	45	62	FS7
	BT300-075X6-01X	BT300-075X6-12X	—	75	55	80	FS8
	BT300-100X6-01X	BT300-100X6-12X	—	100	75	100	FS8
	BT300-125X6-01X	BT300-125X6-12X	—	125	90	125	FS8
	BT300-150X6-01X	BT300-150X6-12X	—	150	110	144	FS9
	BT300-200X6-01X	BT300-200X6-12X	—	200	132	208	FS9

**VFD products are only available through authorized distribution channels.
To locate an authorized distributor, please contact a Siemens Building
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