



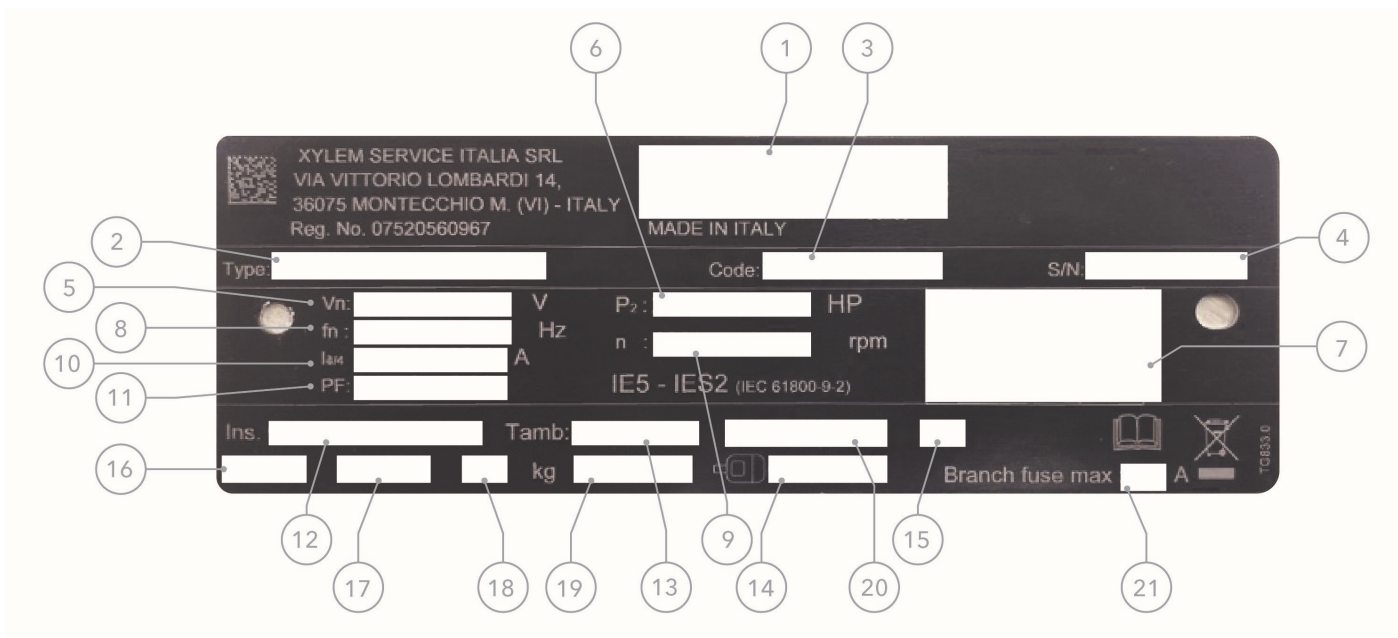
# hydrovar® X Smart Motor

## Specifications

**EXM143-145/3.030BH4**

3 HP, 1200-2000 RPM, 3PH, 60HZ, 200-240V  
143-145 Frame, TEFC

### hydrovar X Nameplate Legend



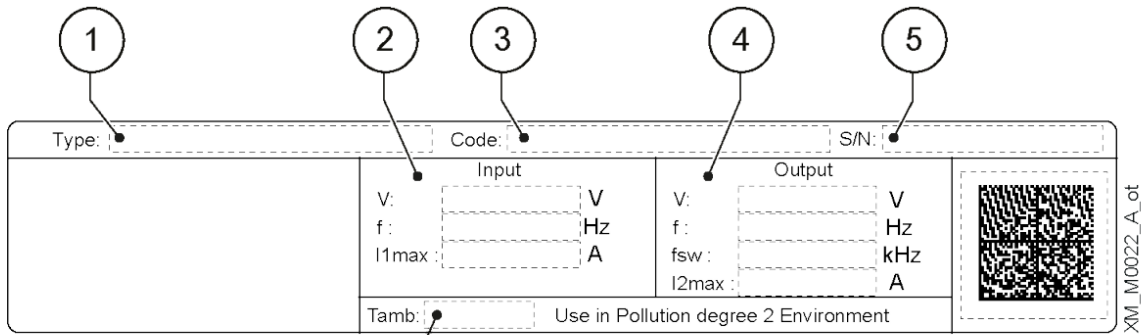
- |   |  |
|---|--|
| 1. Certification markings (CE, UKCA, UL Recognized)                     | 11. Power factor                         |
| 2. Motor type   | 12. Insulation class                     |
| 3. Motor code   | 13. Ambient operating temperature        |
| 4. Unique motor serial number   | 14. Non-drive end bearing                |
| 5. Voltage range  | 15. Service factor                       |
| 6. Output power (kW / HP)   | 16. IP environmental protection rating   |
| 7. Full load rated PDS efficiency (motor and drive combined efficiency) | 17. NEMA environmental protection rating |
| 8. Frequency compatibility  | 18. Weight                               |
| 9. Full load rated speed  | 19. Drive end bearing                    |
| 10. Full load rated current range                                       | 20. Duty cycle rating                    |
|   | 21. Circuit protection requirement       |

### hydrovar X Nameplate Information (representative example)\*

XYLEM SERVICE ITALIA SRL VIA VITTORIO LOMBARDI 14, 36075 MONTECCHIO M. (VI) - ITALY Reg. No. 07520560967		<b>CE UK CA</b>	MADE IN ITALY								
Type: EXM143-145/3.030BH4	Code:	S/N:									
Vn: 3~ 200-240 V	P <sub>2</sub> : 2.2 kW/ 3 HP	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">PDS Eff. 230V</td> <td style="text-align: center;">4/4</td> </tr> <tr> <td style="text-align: center;">1500 rpm</td> <td style="text-align: center;">86.0</td> </tr> <tr> <td style="text-align: center;">1800 rpm</td> <td style="text-align: center;">87.9</td> </tr> <tr> <td style="text-align: center;">2000 rpm</td> <td style="text-align: center;">88.9</td> </tr> </table>		PDS Eff. 230V	4/4	1500 rpm	86.0	1800 rpm	87.9	2000 rpm	88.9
PDS Eff. 230V	4/4										
1500 rpm	86.0										
1800 rpm	87.9										
2000 rpm	88.9										
fn: 50/60 Hz	n: 1500 - 2000 rpm										
I <sub>4/4</sub> : 7.9-6.7 A											
PF: 0.93	IE5 - IES2 (IEC 61800-9-2)										
Ins. Cl. 155 (F) DV155-J	Tamb: -20 - 50°C	S1 - Continuous	SF1								
IP 55	ENC.4	kg 6306 -ZZ	6305-ZZ								
		Branch fuse max :0 A									


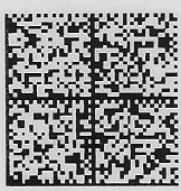
\*This is a representative example of the actual data that will be displayed on the Nameplate for the motor combination featured in this document.

### hydrovar X Data Plate Legend



1. Model
2. Input operating limits
3. Identification code
4. Output operating limits
5. Serial number
6. Room temperature range

### hydrovar X Data Plate Information (representative) image\*

Type: 10534394-0005		Code: 130141051		S/N: 93748WIJ0000K	
XYLEM SERVICE ITALIA SRL VIA VITTORIO LOMBARDI 14, 36075 MONTECCHIO M. (VI) - ITALY Reg. No. 07520560967 MADE IN GERMANY  US E529771	<b>Input</b>		<b>Output</b>		
	V:	3 ~ 200 – 480	V	V:	
f:	50 / 60	Hz	f:	0 ÷ 133	Hz
I1max:	13	A	fsw:	2 ÷ 16	kHz
			I2max:	12	A
Tamb:		-20 ÷ 50°C		Use in Pollution degree 2 Environment	

\*Data Plate contains values for the motor combinations specified in this document.

**Motor Type: EXM143-145/3.030BH4**

NEMA Frame	Part Number	Weight lbs (kg)
143-145T	130635731	53 (24)
143-145TC	130635771	53 (24)
143-145JM	130635811	56 (25)
143-145JM (footed)	130637931	56 (25)

**Combined Motor and Drive Specifications**

Description	Value			
<b>Motor HP</b>	3			
<b>Enclosure</b>	TEFC			
<b>Frame Material</b>	Cast Iron/Aluminum			
<b>Nominal Voltage @ Frequency</b>	230V @ 60Hz			
<b>XP Class</b>	None			
<b>XP Division</b>	Not Applicable			
<b>Agency Approvals</b>	UL	CE		
	FCC	UKCA		
<b>Insulation Class</b>	F			
<b>Bearing Grease Type</b>	Polymer 400			
<b>Lifting Lugs</b>	Standard			
<b>Voltage</b>	200-240 V (+/- 10%)			
<b>Phase</b>	3			
<b>Input Current (200-240V)</b>	7.9-6.7 A			
<b>Power Factor</b>	0.93			
<b>Enclosure Rating</b>	IP55			
	NEMA4			
<b>Tamb</b>	-4 to +122° F			
	-20 to +50° C			
<b>DE Bearing</b>	6306-ZZ			
<b>ODE Bearing</b>	6305-ZZ			
<b>Duty Cycle</b>	S1			

**Combined Motor and Drive Performance (Nominal Voltage)<sup>1</sup>**

Rated Speed	Torque (lb.ft)	Efficiency 100%	Efficiency 75%	Efficiency 50%	Sound Pressure dB(A) <sup>2</sup>
2000 RPM	7.74	88.9	88.9	87.9	50
1800 RPM	8.63	87.9	87.7	86.8	48
1500 RPM	10.33	86.0	86.3	86.2	48

<sup>1</sup>Motor may operate below 1500 RPM at partial load. Efficiency represents PDS (power-drive-system) efficiency.

<sup>2</sup>Sound power measured at 1m distance in no-load condition according to ISO 9614-2 and sound pressure values determined according to the ISO 11203 method. Sound pressure tolerance is +/- 2 dB for all voltages.

**Drive Features and Specifications**

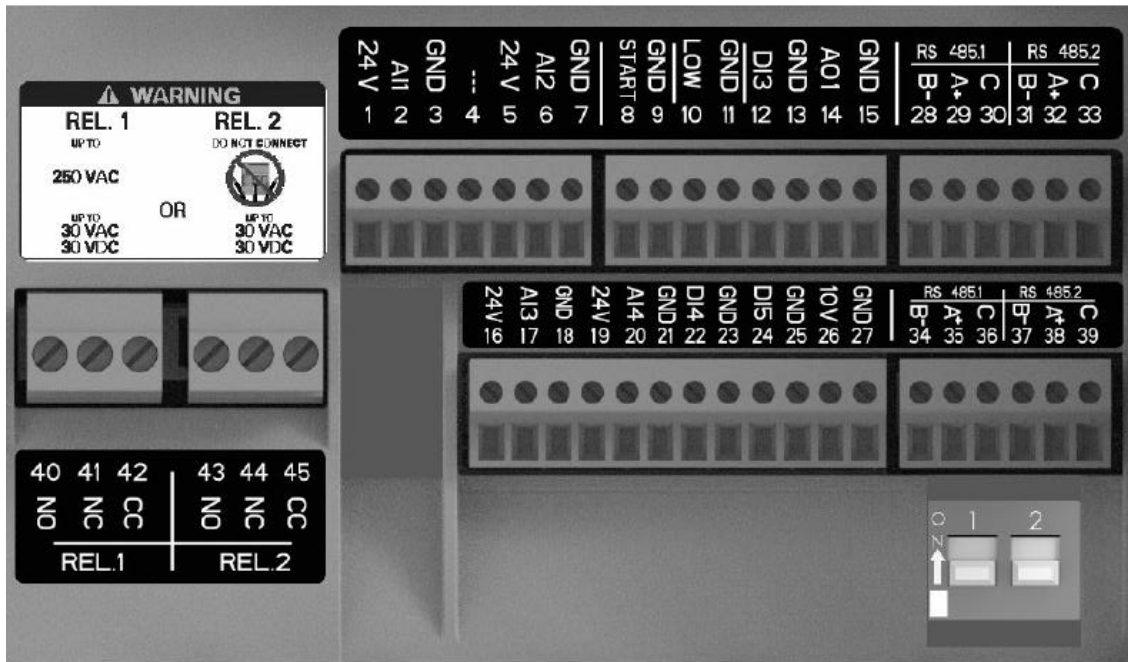
Description	Value
<b>Display</b>	Graphic color display
<b>Communication Protocols</b>	MODBUS® RTU BACnet MS/TP
<b>Mobile App</b>	Bluetooth®
<b>Control Modes</b>	Actuator, Constant pressure, Proportional pressure, Proportional quadratic pressure, Constant flow, Constant temperature, Constant level
<b>RS485 Ports</b>	2
<b>Analog Inputs</b>	4
<b>Analog Input Configuration</b>	0-20 mA / 4-20 mA / 0-10V / 2-10V
<b>Digital Inputs*</b>	5
<b>Analog Outputs</b>	1
<b>Analog Output Configuration</b>	0-20 mA / 4-20 mA / 0-10V / 2-10V
<b>Relay Output (Form C)*</b>	2
<b>10V Supply</b>	1
<b>Leakage Current</b>	< 3.5 mA
<b>Storage Temperature</b>	-40 to +158° F -40 to +70° C
<b>Altitude (without derating)</b>	0 to 3281 ft [0-1000 m]
<b>Humidity</b>	Max 95% non-condensing

\* See Auxiliary Connections data on the next page for more detail.

**hydrovar X with Feet**



Auxiliary Connections



XM\_M0020\_A\_ph

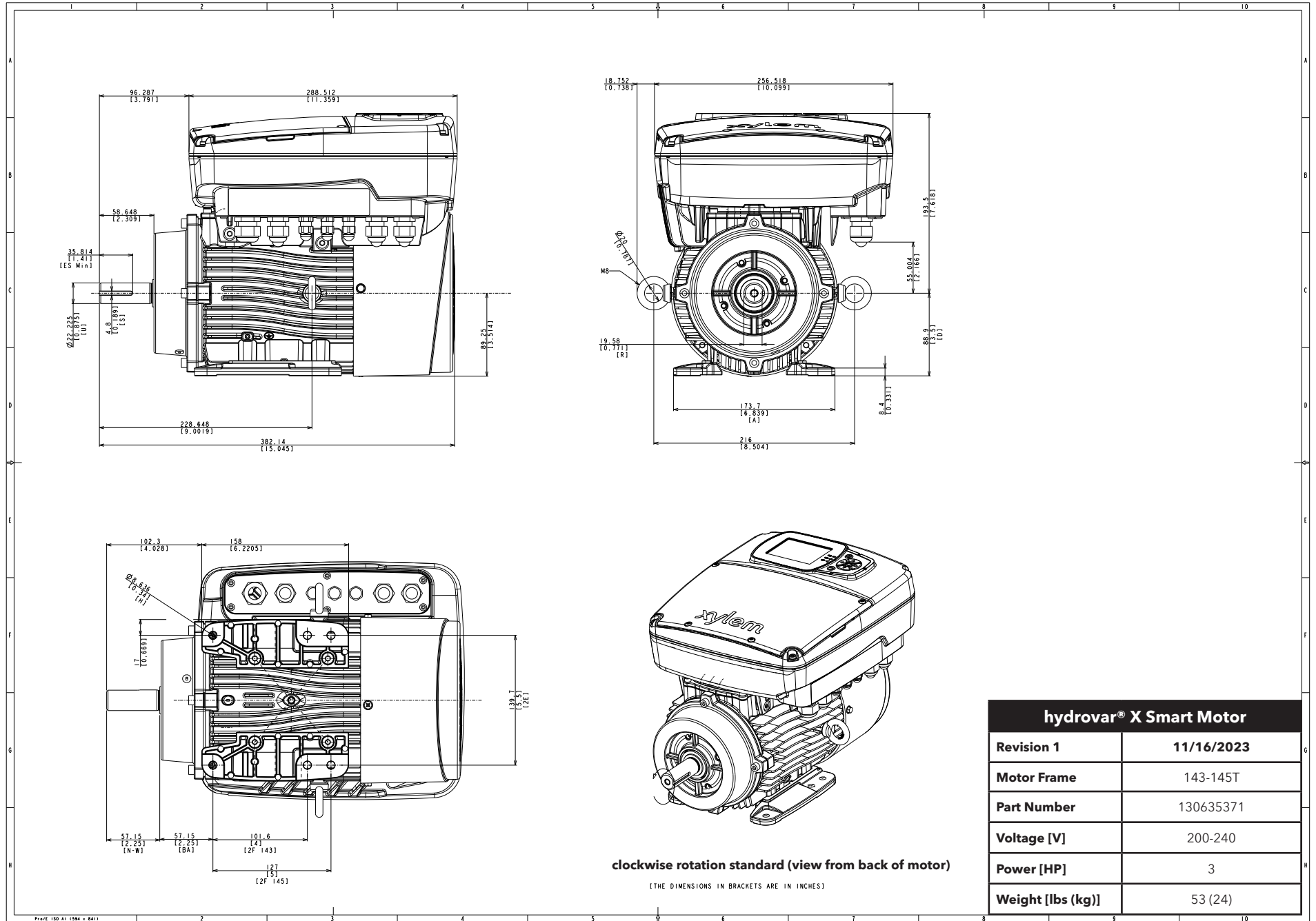
Position number	Name	Description	Default setting
1	Analog input 1	Power supply +24 VDC, max. 60 mA (total, terminals 1 + 5)	Pressure sensor 1
2		Configurable Analog input 1	
3		Electronic GND	
4	Reserved	For internal use, do not connect	-
5	Analog input 2	Power supply +24 VDC, max. 60 mA (total, terminals 1 + 5)	Not selected
6		Configurable Analog input 2	
7		Electronic GND	
8	External start/stop	Digital start/stop input, internal pull-up +24 VDC, contact current 6 mA	-
9		Electronic GND	
10	External lack of water	Low water level digital input, internal pull-up +24 VDC, contact current 6 mA	-
11		Electronic GND	
12	Digital Input 3	Configurable digital input 3, internal pull-up +24 VDC, contact current 6 mA	Emergency start at maximum speed
13		Electronic GND	
14	Analog output	Configurable Analog output	Motor Speed
15		Electronic GND	
16	Analog input 3	Power supply +24 VDC, max. 60 mA (total, terminals 16 and 19)	Not selected
17		Configurable Analog input 3	
18		Electronic GND	

**Auxiliary Connections (Continued)**

Position number	Name	Description	Default Setting
19	Analog input 4	Power supply +24 VDC, max. 60 mA (total, terminals 16 and 19)	Not selected
20		Configurable Analog input 4	
21		Electronic GND	
22	Digital input 4	Configurable digital input 4, internal pull -up +24 VDC, contact current 6mA	Not selected
23		Electronic GND	
24	Digital input 5	Configurable digital input 4, internal pull -up +24 VDC, contact current 6mA	Not selected
25		Electronic GND	
26	10 VDC power supply	Power supply +10 VDC, max. 3 mA	-
27		Electronic GND	
28	Communication Bus 1	RS485 port 1: RS485-1B N (-)	Multipump
29		RS485 port 1: RS485-1A P (+)	
30		RS485 port 1: RS485-COM	
31	Communication Bus 2	RS485 port 2: RS485-2B (-)	MODBUS
32		RS485 port 2: RS485-2A P (+)	
33		RS485 port 2: RS485-COM	
34	Communication Bus 1	RS485 port 1: RS485-1B N (-)	Multipump
35		RS485 port 1: RS485-1A P (+)	
36		RS485 port 1: RS485-COM	
37	Communication Bus 2	RS485 port 2: RS485-2B N (-)	MODBUS
38		RS485 port 2: RS485-2A P (+)	
39		RS485 port 2: RS485-COM	
40	Relay 1	Configurable relay 1: normally open	Error Reporting
41		Configurable relay 1: normally closed	
42		Configurable relay 1: normally contact	
43	Relay 2	Configurable relay 2: normally open	Motor start
44		Configurable relay 2: normally closed	
45		Configurable relay 2: normally contact	

# hydrovar® X EXM143-145/3.030BH4 - 3 HP, 1200-2000 RPM, 3PH, 60HZ, 200-240V, 143-145, TEFC

## hydrovar X Smart Motor Drawings

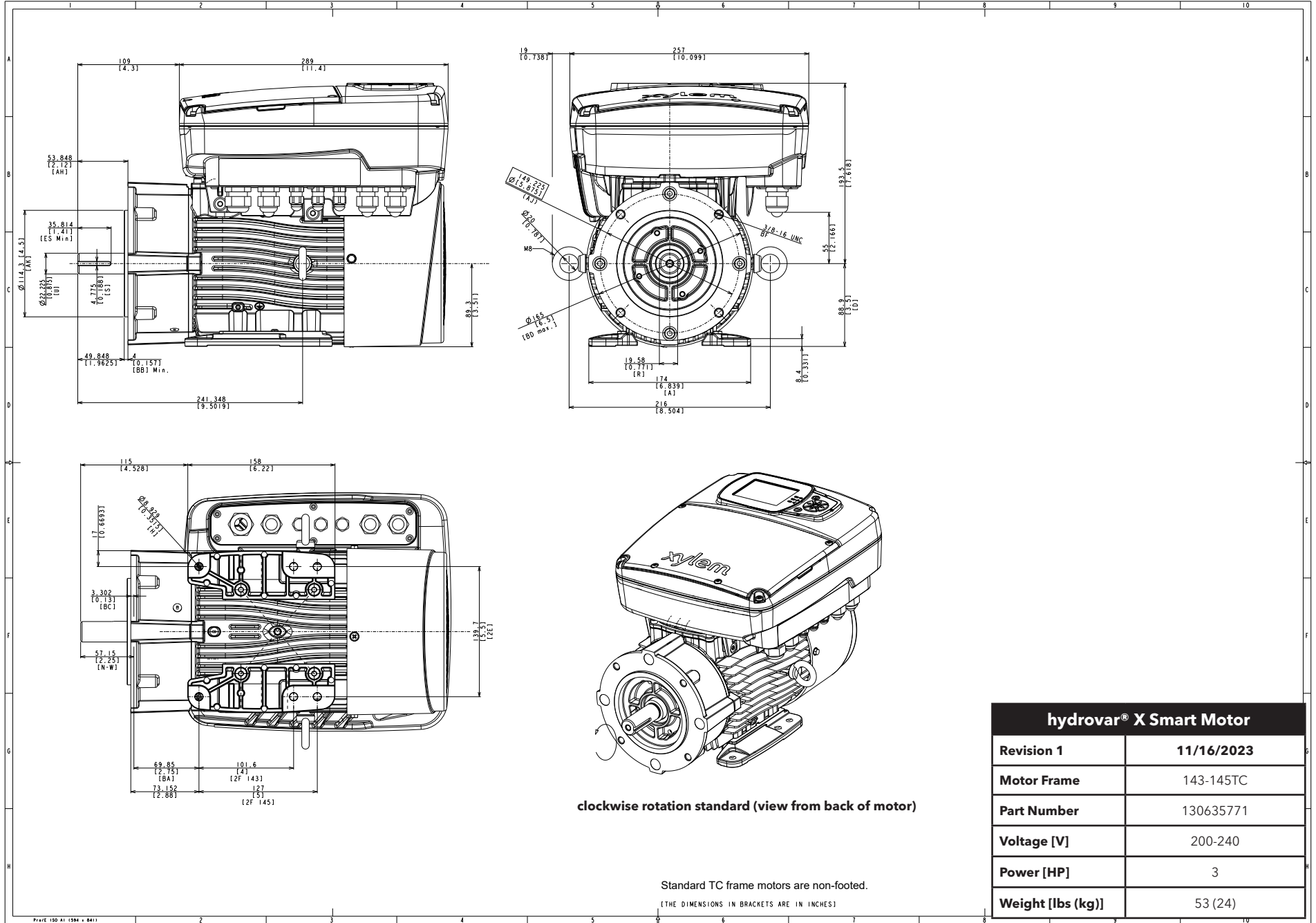


hydrovar® X Smart Motor	
Revision 1	11/16/2023
Motor Frame	143-145T
Part Number	130635371
Voltage [V]	200-240
Power [HP]	3
Weight [lbs (kg)]	53 (24)



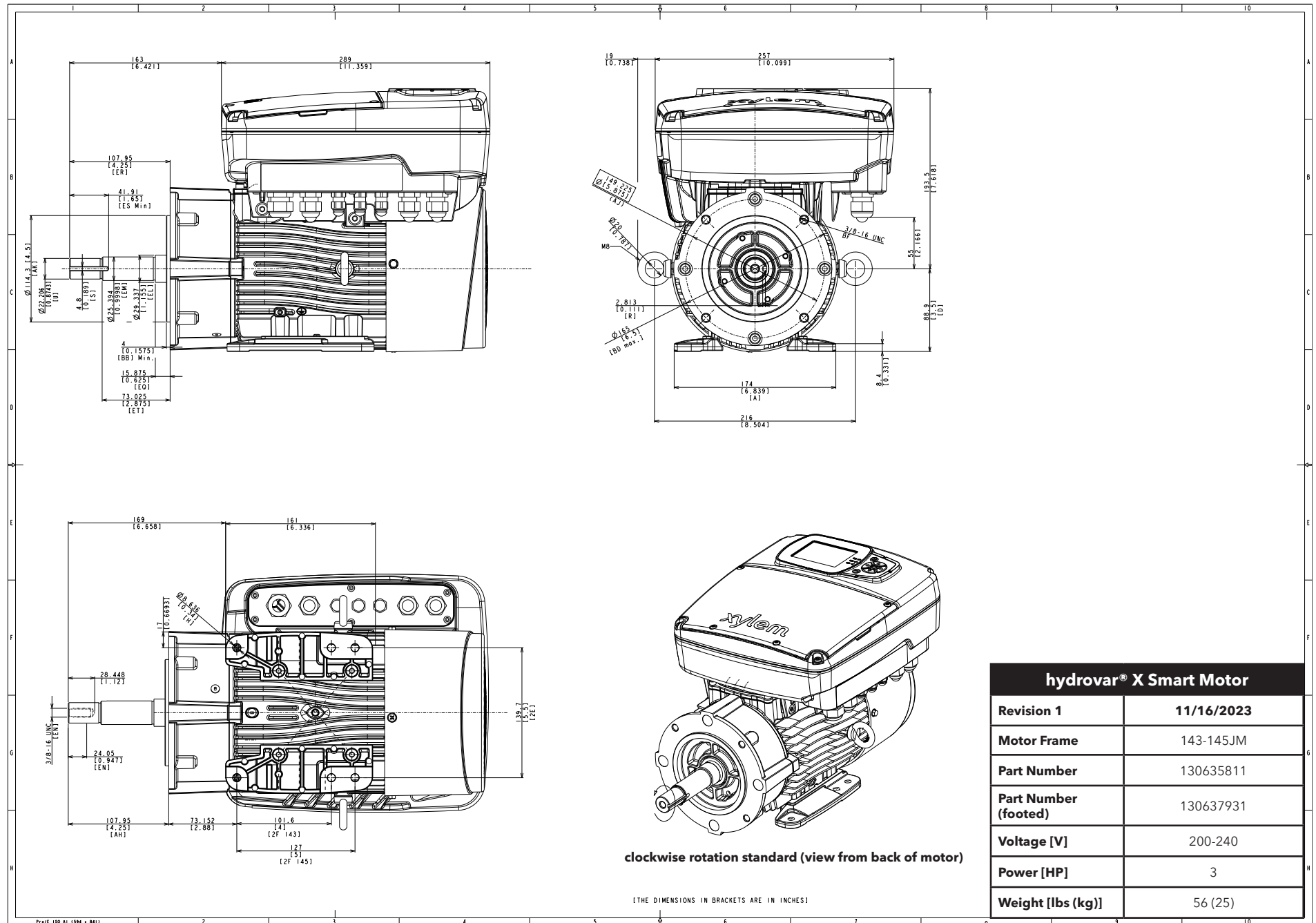
# hydrovar® X EXM143-145/3.030BH4 - 3 HP, 1200-2000 RPM, 3PH, 60HZ, 200-240V, 143-145, TEFC

## hydrovar X Smart Motor Drawings



# hydrovar® X EXM143-145/3.030BH4 - 3 HP, 1200-2000 RPM, 3PH, 60HZ, 200-240V, 143-145, TEFC

## hydrovar X Smart Motor Drawings



hydrovar® X Smart Motor	
Revision 1	11/16/2023
Motor Frame	143-145JM
Part Number	130635811
Part Number (footed)	130637931
Voltage [V]	200-240
Power [HP]	3
Weight [lbs (kg)]	56 (25)

**NOTES**

# Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

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