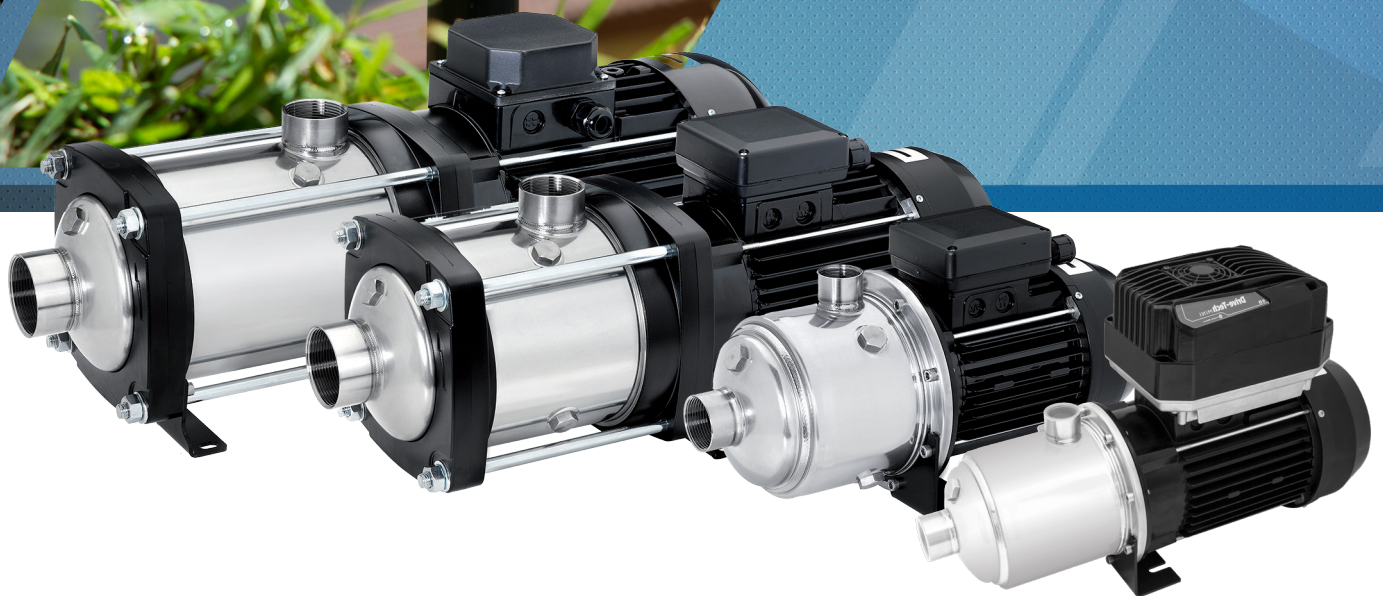




**Franklin Electric**

# HORIZONTAL MULTISTAGE PUMPS 50 Hz

EH SERIES, EH DTm SERIES (WITH DRIVE-TECH MINI)





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Franklin Electric reserves the right to amend specification without prior notice.

For the most up-to-date product information, visit [franklinwater.eu](http://franklinwater.eu).

## PRODUCT OVERVIEW

### FEATURES AND BENEFITS

### APPLICATIONS



Water Distribution  
Pressure Boosting



Circulation of hot and cold  
water for heating, cooling,  
conditioning systems



Irrigation  
Gardening  
Sprinklers



Wash down unit



Domestic, industrial and  
agricultural systems

### COMPACT CLOSE-COUPLED DESIGN

- Reinforced with tie rods and corrosion resistance (EH 15-20)
- Materials WRAS and ACS certificated
- Flexible application base plate (only for EH and EH DTm)
- Floating neck ring in PPS
- Heavy duty oversize motor shaft
- Impellers and diffusers are made of stainless steel
- Easy maintenance
- Connections: Rp threaded for inlet and outlet (NPT optional)
- Mechanical seal Type E0 = Carbon graphite / Ceramic alumina / EPDM: EH 3-5-9, EH DTm 3-5-9
- Mechanical seal Type E1 = Carbon graphite / Silicon carbide / EPDM: EH 15-20

### SUPERIOR EFFICIENCY AND PERFORMANCE

- Flow: up to 29 m<sup>3</sup>/h
- Head: up to 104 m
- Maximum working pressure: 10 Bar
- Max. altitude at nominal load: 1000 m
- Maximum allowable amount of sand: 50 g/m<sup>3</sup> (EH)
- Maximum ambient temperature: 40 °C
- The hydraulic characteristics are guaranteed, according to ISO standard 9906:2012, grade 3B

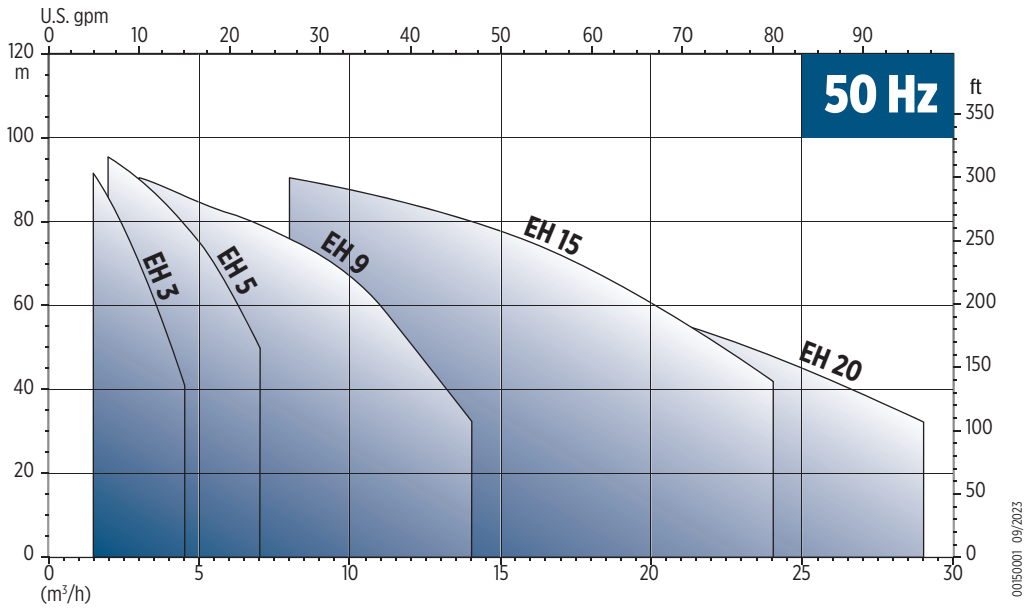
### CONSTRUCTION OPTIONS

- Special mechanical seal (EH)
- Inlet and outlet connections NPT threaded

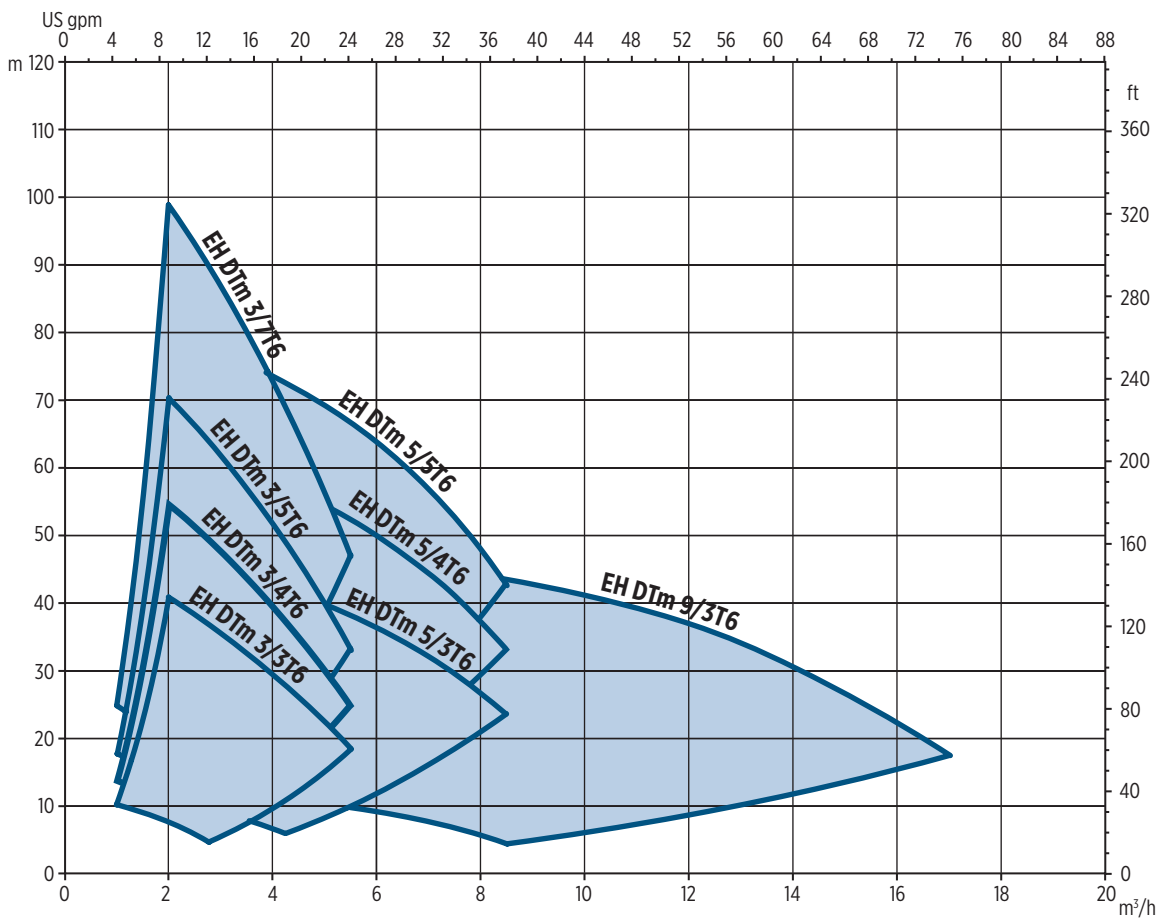


# FAMILY CURVES

## EH



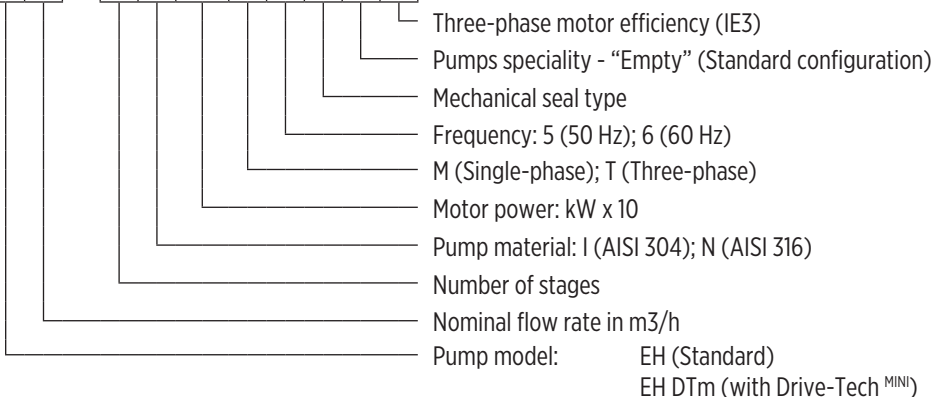
## EH DTm



# PUMP IDENTIFICATION CODE

## PUMP IDENTIFICATION CODE

15 / 3 I 022 T 5 E1



00140001EN/05/2021

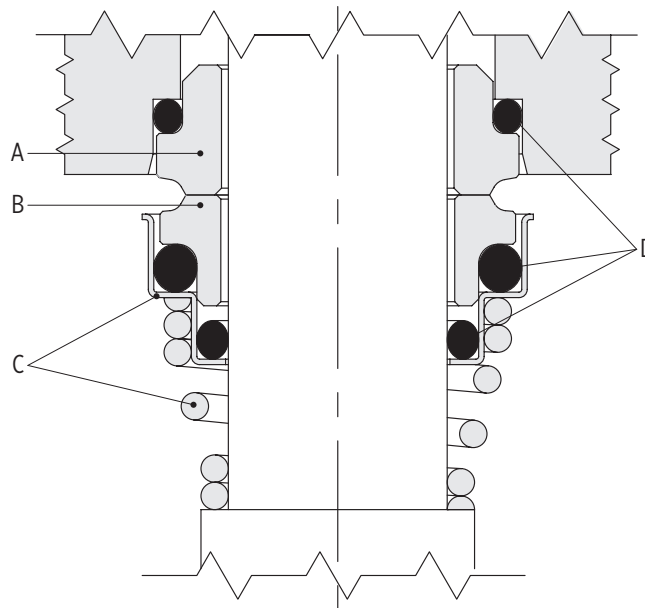
## GENERAL FEATURES

Model		3	5	9	15	20
Nominal flow [m3/h]		3.2	5.1	9.1	16.4	19
Maximum liquid temperature [°C]	Single-phase	55	55	55	55	55
	Three-phase (only industrial uses)	110	110	110	110	110
	Three-phase (domestic, commercial, other uses)	85	85	85	85	85
	Three-phase (drinking water)	85	85	85	85	85
	Version with Drive-Tech <sup>MINI</sup>	85	85	85	-	-
Max. η hydraulic	Standard version	45.5	56.8	61	66.7	68.2
	Version with Drive-Tech <sup>MINI</sup>	42	56.8	61	-	-
Range [m3/h]	Standard version	1.5 - 4.5	2 - 7	3 - 14	8 - 24	10 - 28
	Version with Drive-Tech <sup>MINI</sup>	1.0 - 5.5	1.2 - 8.5	3 - 17	-	-
Max. pression [bar]	Standard version	10	10	10	10	10
Material versions	I (AISI 304)	•	•	•	•	•
	N (AISI 316L)	•	•	•	•	•
Hydraulic connection (Dimensions)	Rp (inlet - outlet) - Standard	1"1/4 - 1"	1"1/4 - 1"	1"1/2 - 1"1/4	2" - 1"1/2	2" - 1"1/2
	NPT (inlet - outlet) - Optional	1"1/4 - 1"	1"1/4 - 1"	1"1/2 - 1"1/4	2" - 1"1/2	2" - 1"1/2

"-" = not available  
 • = available



# MECHANICAL SEAL SPECIFICATIONS



00130012 05/2017

## STANDARD VERSION

Model	Type				Position				Temperature [°C]
					A Stationary part	B Rotating part	C Other components	D Elastomers	
EH 3-5-9 / EH DTm 3-5-9									
E0	V	B	G	E	Ceramic alumina	Carbon graphite	AISI 316	EPDM	-15 / +110
EH 15-20									
E1	B	Q	G	E	Carbon graphite	Silicon Carbide	AISI 316	EPDM	-15 / +110

## AVAILABLE ON REQUEST

Model	Type				Position				Temperature [°C]
					A Stationary part	B Rotating part	C Other components	D Elastomers	
E2	Q	Q	G	E	Silicon Carbide	Silicon Carbide	AISI 316	EPDM	-15 / +110
V3*	Q	Q	G	V	Silicon Carbide	Silicon Carbide	AISI 316	FKM	-10 / +110
V8*	Q	U	G	V	Silicon Carbide	Tungsten Carbide	AISI 316	FKM	-10 / +110

\* On request version with stopper pin

Type	Material
B	Carbon graphite
E	EPDM
G	AISI 316
Q	Silicon Carbide
V	FKM
V	Ceramic alumina
U	Tungsten Carbide

## MOTOR SPECIFICATIONS 50 Hz - EH

- Asynchronous, TEFC (Totally Enclosed, Fan-Cooled)
- 2 poles
- Protection degree: IPX5
- Insulation class: F
- Frequency of starts:
  - Max. 60 starts/hour for motor power up to 3 kW (with min. 1 minute resting time)
  - Max. 30 starts/hour for motor power from 4 kW (with min. 2 minute resting time)

### SINGLE-PHASE VERSION

- High Efficiency single-phase motors according to EU Regulation 2019/1781
- Standard voltage: 220-240 V ± 5%
- Thermal protection built into the motor

Efficiency class	P <sub>N</sub> [kW]	MOTOR SIZE	INPUT CURRENT I <sub>N</sub> [A]	Capacitor		230 V - 50 Hz							
				230 V	[μF]	[V]	n <sub>N</sub> [min <sup>-1</sup> ]	I <sub>s</sub> [A]	Eta <sub>N</sub> [%]	cos φ	T <sub>N</sub> [Nm]	T <sub>S</sub> [Nm]	T <sub>MAX</sub> [Nm]
IE2	0.37	71	2.9	20	450	2930	18	69.5	0.85	1.2	1.2	5.1	
	0.55	71	3.6	20	450	2900	18	74.1	0.91	1.8	1.2	5.1	
	0.75	71	4.6	20	450	2860	18	77.4	0.95	2.5	1.2	5.1	
	1.1	80	6.3	25	450	2850	25	79.6	0.96	3.7	1.1	6.6	
	1.5	80	8.4	30	450	2890	40	81.3	0.95	5.0	1.9	9.8	

### THREE-PHASE VERSION

- High Efficiency three-phase motors of 0.75 kW according to EU Regulation 2019/1781
- Efficiency class: IE3 (Premium Efficiency) according to IEC 60034-30-1:2014
- Electrical performance according to IEC 60034-2-1:2007
- Standard voltage:
  - 220-240 / 380-415 V ± 5 % up to 3 kW
  - 380-415 / 660-690 V ± 5 % from 4 kW
- Thermal protection to be provided into the starter panel by the installer

P <sub>N</sub> [kW]	Efficiency η <sub>N</sub> %						IE
	Δ 230 V Y 400 V			Δ 400 V Y 690 V			
	4/4	3/4	2/4	4/4	3/4	2/4	
0.75	80.9	81.5	79.6	-	-	-	3
1.1	82.7	84.6	84.2	-	-	-	
1.5	84.3	85.7	85.3	-	-	-	
2.2	86.1	86.7	85.4	-	-	-	
3	87.1	87.5	86.1	-	-	-	
4	-	-	-	88.1	88.7	87.7	
5.5	-	-	-	89.2	89.4	88.1	

## MOTOR SPECIFICATIONS 50 Hz - EH

P <sub>N</sub> [kW]	MOTOR SIZE	N. of poles	f <sub>N</sub> [Hz]	400 V - 50 Hz				
				cos φ	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> [Nm]	T <sub>s</sub> / T <sub>N</sub>	T <sub>M</sub> / T <sub>N</sub>
0.75	71	2	50	0.83	6.8	2.6	3.6	3.7
1.1	71			0.82	5.9	3.7	3.2	3.1
1.5	80			0.79	6.8	5.1	3.2	3.2
2.2	90			0.8	9.6	7.3	4.3	4.4
3	90			0.83	9.6	9.9	4.7	4.9
4	100			0.85	8.1	13.2	2.8	3
5.5	112			0.81	8.4	18.1	4.3	4.5

P <sub>N</sub> [kW]	VOLTAGE U <sub>N</sub>				n <sub>N</sub> [min <sup>-1</sup> ]	Motor operating conditions		
	Δ 230 V	Y 400 V	Δ 400 V	Y 690 V		Altitude above sea level [m]	T. amb min/max [°C]	ATEX
	I <sub>N</sub> [A]							
0.75	2.8	1.6	-	-	2800	≤ 1000	-15 / +40	NO
1.1	4.1	2.3	-	-	2840			
1.5	5.7	3.3	-	-	2830			
2.2	8	4.6	-	-	2880			
3	10.4	6	-	-	2900			
4	-	-	7.7	4.4	2900			
5.5	-	-	11	6.4	2900			



## MOTOR SPECIFICATIONS THREE-PHASE 60 Hz - EH DTm

- Asynchronous, TEFC (Totally Enclosed, Fan-Cooled)
- 2 poles
- Protection degree: IP55
- Insulation class: F
- Efficiency class: IE3 (Premium Efficiency) according to IEC 60034-30-1:2014
- Electrical performance according to IEC 60034-2-1:2007
- Standard voltage: 220÷230 V ± 5 % up to 3 kW

P <sub>N</sub> [kW]	Efficiency η <sub>N</sub> %			IE
	Δ 230 V Y 400 V			
	4/4	3/4	2/4	
0.75	82.5	82.6	80.4	3
1.1	84	84.5	82.8	
1.5	85.5	85.7	83.7	
2.2	86.9	87.6	86.8	

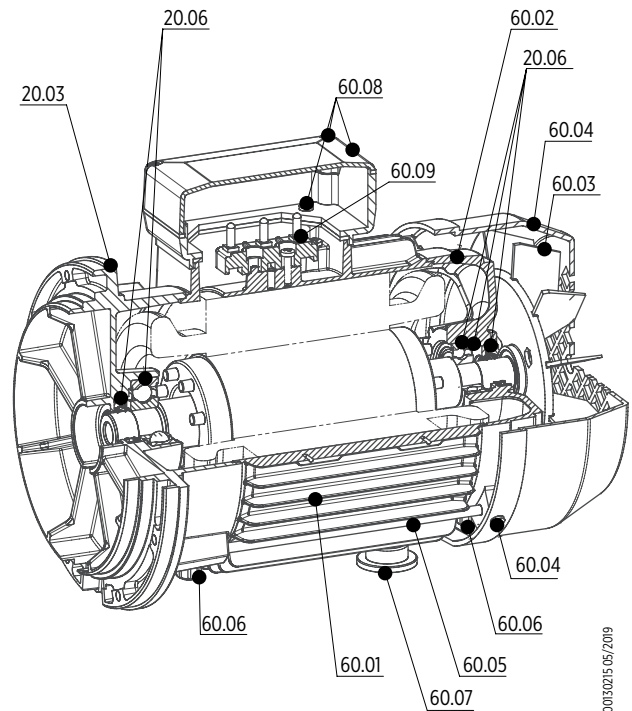
P <sub>N</sub> [kW]	MOTOR SIZE	N. of poles	f <sub>N</sub> [Hz]	230 V - 60 Hz				
				cos φ	I <sub>s</sub> / I <sub>N</sub>	T <sub>N</sub> [Nm]	T <sub>s</sub> / T <sub>N</sub>	T <sub>M</sub> / T <sub>N</sub>
0.75	71	2	60	0.85	7.9	2.1	3.9	4
1.1	71			0.85	6.6	3.1	3	3.1
1.5	80			0.85	8.2	4.1	3.1	3.2
2.2	90			0.89	9.8	6.0	4	4.1

P <sub>N</sub> [kW]	VOLTAGE U <sub>N</sub>		n <sub>N</sub> [min <sup>-1</sup> ]	Motor operating conditions		
	Δ 230 V	Y 400 V		Altitude above sea level [m]	T. amb min/max [°C]	ATEX
	I <sub>N</sub> [A]					
0.75	2.8	1.6	3440	≤ 1000	-15 / +40	NO
1.1	4.0	2.3	3440			
1.5	5.4	3.1	3480			
2.2	7.5	4.3	3490			

# MOTOR SPARE PARTS

## MOTOR SPARE PARTS

Ref. No.	Parts description
20.03	Motor bracket
20.06	Kit bearings
60.01	Motor housing and stator
60.02	Bearing housing
60.03	Fan
60.04	Fan cover and screws
60.05	Motor tie rods
60.06	Kit motor spare components
60.07	Motor housing foot
60.08	Terminal box cover and base
60.09	Terminal board



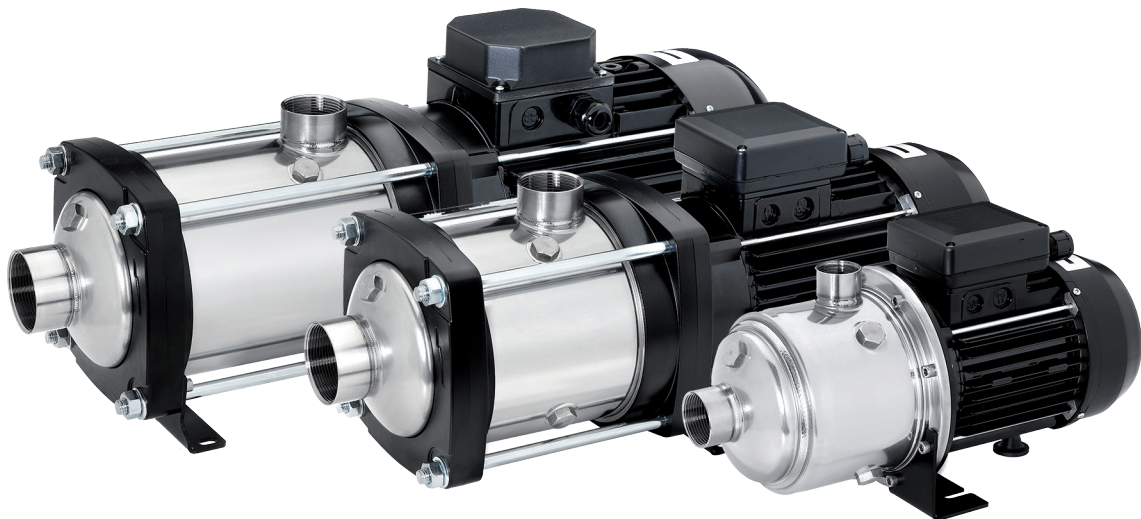
0030215 05/2019

## ErP REGULATION

### Information related to energy performance of the motor, according to Reg. 2019/1781 CE and modifications:

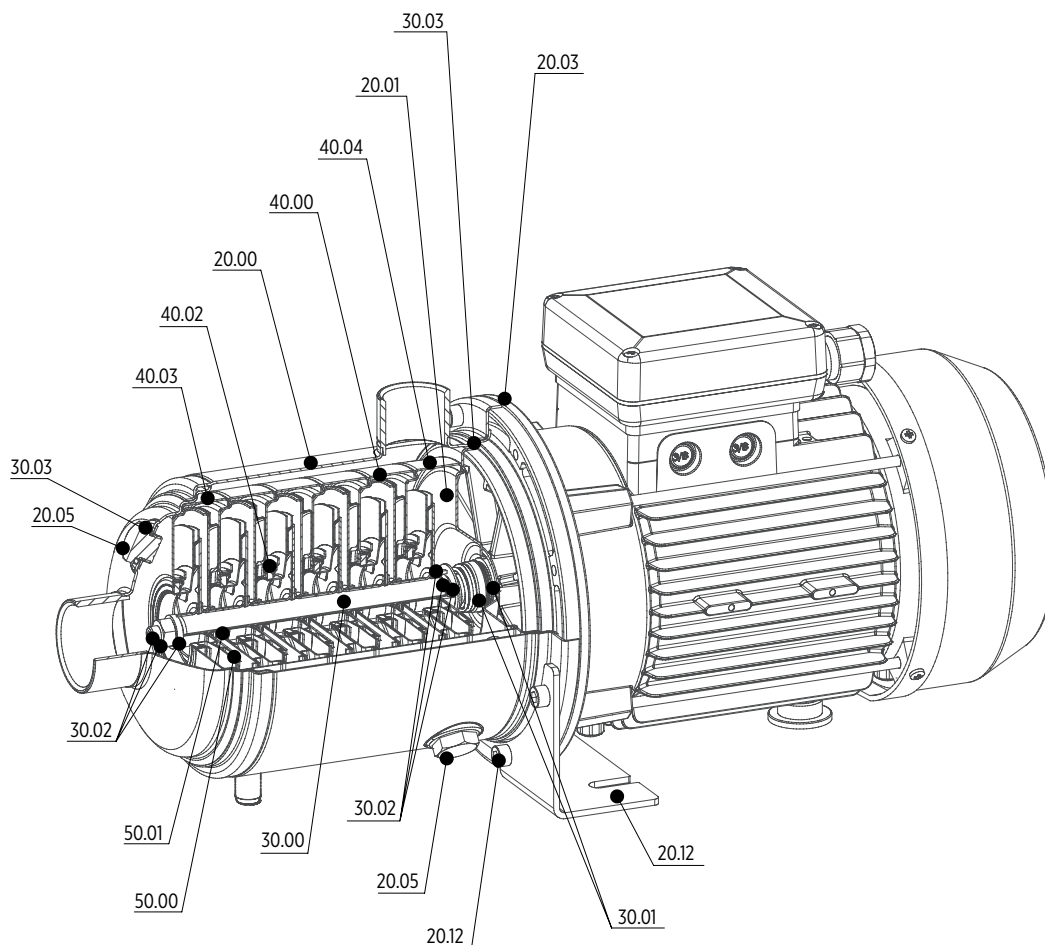
1. Nominal efficiency ( $\eta$ ) at the full, 75 % and 50 % rated load and voltage (UN): see motor nameplate or the catalogue (<http://franklinwater.eu/products/>);
2. Efficiency level: see motor nameplate or the catalogue (<http://franklinwater.eu/products/>);
3. The year of manufacture: see motor nameplate;
4. Manufacturer's name or trade mark, commercial registration number and place of manufacturer: see the motor nameplate;
5. Product's model number: see motor nameplate or the catalogue (<http://franklinwater.eu/products/>);
6. Number of poles of the motor: see motor nameplate or the catalogue (<http://franklinwater.eu/products/>);
7. The rated power output(s) or range of rated power output (kW): see motor nameplate or the catalogue (<http://franklinwater.eu/products/>);
8. The rated input frequency(s) of the motor (Hz): see motor nameplate or the catalogue (<http://franklinwater.eu/products/>);
9. The rated voltage(s) or range of rated voltage (V): see motor nameplate or the catalogue (<http://franklinwater.eu/products/>);
10. The rated speed(s) or range of rated speed (rpm): see motor nameplate or the catalogue (<http://franklinwater.eu/products/>);
11. Information relevant for disassembly, recycling or disposal at end-of-life: see the motor Instruction manual;
12. Information on the range of operating conditions for which the motor is specifically designed (<http://franklinwater.eu/products/>):
  - a. Altitudes above sea-level: 0-1000 m;
  - b. Ambient air temperature: max. 40°C;
  - c. ---;
  - d. Maximum operating temperature: max. 60°C;
  - e. ---

**EH Series**  
**Horizontal Multistage Pumps**  
**3-5-9-15-20**  
**50 Hz**



# SPARE PARTS AND MATERIALS

EH 3-5-9



00500071/2018

## PARTS IN CONTACT WITH LIQUID

Ref. No.	Parts description	Material	Standard			
			I version		N version	
			ASTM/AISI	DIN/EN	ASTM/AISI	DIN/EN
20.00	Outer case	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
20.01	Mechanical seal housing	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
20.05	Filling plug	Stainless steel	AISI 304	14.301	AISI 316	14.401
30.00	Pump shaft	Stainless steel	AISI 304	14.301	AISI 316	14.401
30.01	Kit mechanical seal	Carbon graphite / Ceramic alumina / EPDM				
30.02	Mechanical seal fastening kit	Stainless steel	AISI 304	14.301	AISI 316	14.401
30.03	Kit O-rings	EPDM				
40.00	Stage housing and diffuser	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
40.02	Floating neck ring	Stainless steel / PPS	AISI 304	14.301	AISI 316 L	14.404
40.03	Initial stage housing	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
40.04	Last Stage with diffuser	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
50.00	Impeller	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
50.01	Impeller spacers	Stainless steel	AISI 304	14.301	AISI 316 L	14.404



## SPARE PARTS AND MATERIALS

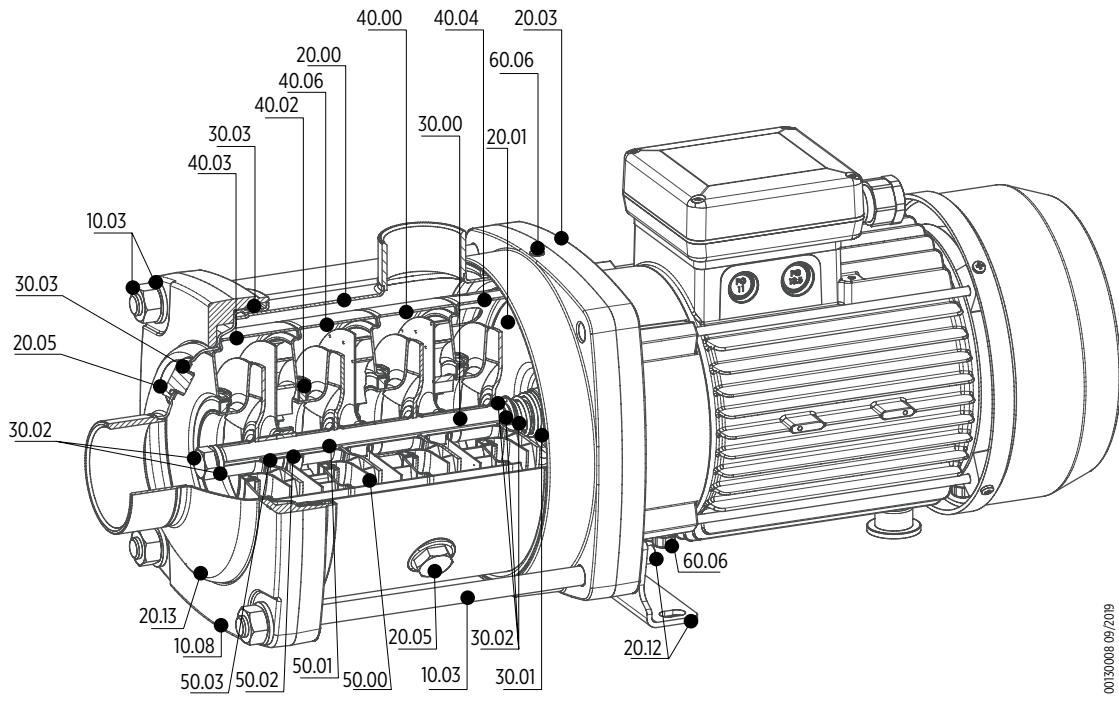
### SPARE PARTS LIST

Ref. No.	Parts description
20.00	Outer case
20.01	Mechanical seal housing
20.03	Motor bracket
20.05	Filling plug
20.12	Support foot and screws
30.00	Pump shaft
30.01	Kit mechanical seal
30.02	Mechanical seal fastening kit

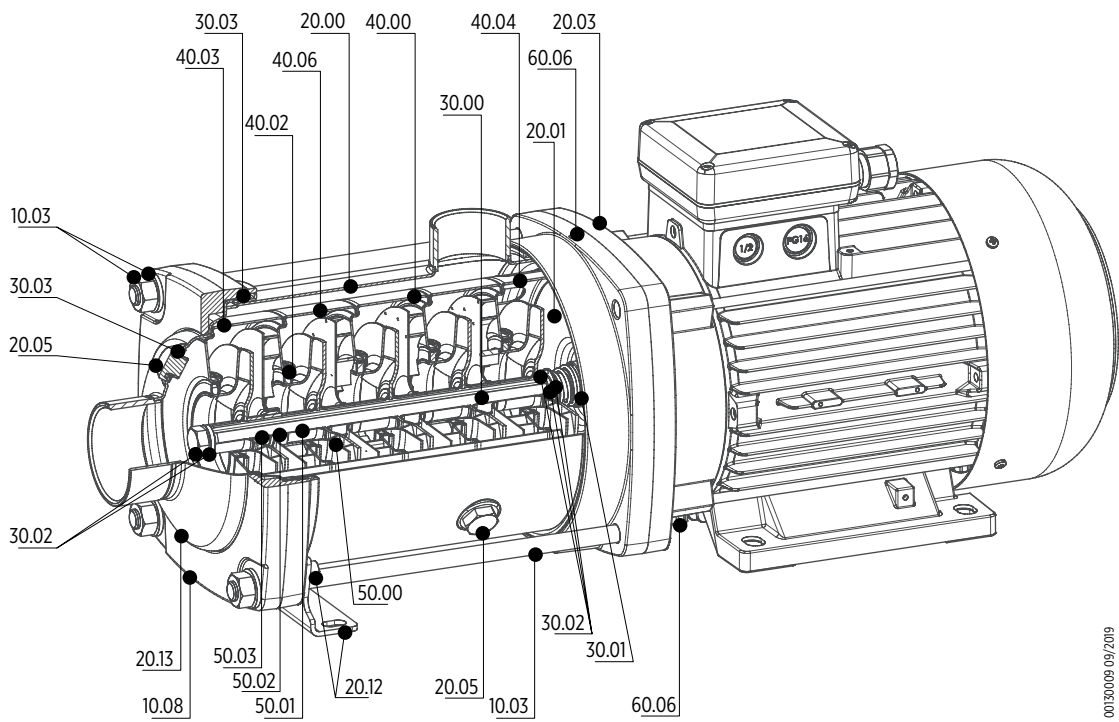
Ref. No.	Parts description
30.03	Kit O-rings
40.00	Stage housing and diffuser
40.02	Floating neck ring
40.03	Initial stage housing
40.04	Last Stage with diffuser
50.00	Impeller
50.01	Impeller spacer

# SPARE PARTS AND MATERIALS

EH 15-20



00130008 09/2019



00130009 09/2019



## SPARE PARTS AND MATERIALS

### PARTS IN CONTACT WITH LIQUID

Ref. No.	Parts description	Material	Standard			
			I version		N version	
			ASTM/AISI	DIN/EN	ASTM/AISI	DIN/EN
20.00	Outer case	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
20.01	Mechanical seal housing	Stainless steel	AISI 304	14.301	AISI 316	14.401
20.05	Filling plug	Stainless steel	AISI 304	14.301	AISI 316	14.401
20.13	Inlet cover	Stainless steel	AISI 304	14.301	AISI 316	14.401
30.00	Pump shaft	Stainless steel	AISI 304	14.301	AISI 316	14.401
30.01	Kit mechanical seal	Carbon graphite / Silicon Carbide (SiC) / EPDM				
30.02	Mechanical seal fastening kit	Stainless steel	AISI 304	14.301	AISI 316	14.401
30.03	Kit O-rings	EPDM				
40.00	Stage housing and diffuser	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
40.02	Floating neck ring	Stainless steel and PPS	AISI 304	14.301	AISI 316 L	14.404
40.03	Initial stage housing	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
40.04	Last Stage with diffuser	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
40.06	Stage housing and diffuser with bearing	Stainless steel / Silicon Carbide (SiC)	AISI 304	14.301	AISI 316 L	14.404
50.00	Impeller	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
50.01	Impeller spacer	Stainless steel	AISI 304	14.301	AISI 316 L	14.404
50.02	Intermediary sleeve	Silicon Carbide (SiC)				
50.03	Intermediary sleeve spacer	Stainless steel	AISI 304	14.301	AISI 316 L	14.404

### SPARE PARTS LIST

Ref. No.	Parts description
10.03	Tie bolts, washers and nuts
10.08	Pre-load flange
20.00	Outer case
20.01	Mechanical seal housing
20.03	Motor bracket
20.05	Filling plug
20.12	Support foot and screws
20.13	Inlet cover
30.00	Pump shaft
30.01	Kit mechanical seal
30.02	Mechanical seal fastening kit

Ref. No.	Parts description
30.03	Kit O-rings
40.00	Stage housing and diffuser
40.02	Floating neck ring
40.03	Initial stage housing
40.04	Last Stage with diffuser
40.06	Stage housing and diffuser with bearing
50.00	Impeller
50.01	Impeller spacer
50.02	Intermediate sleeve
50.03	Intermediate sleeve spacer
60.06	Kit motor spare components



# TECHNICAL DATA AND PERFORMANCE CURVES AT 50 Hz

## HYDRAULIC PERFORMANCE AT 50 Hz

Pump model	Q = DELIVERY																
	l/min 0	16.7	25.0	33.3	50.0	75.0	100.0	116.7	133.0	166.7	200.0	233.3	283.3	333.3	400.0	466.7	533.3
	m <sup>3</sup> /h 0	1.0	1.5	2.0	3.0	4.5	6.0	7.0	8.0	10.0	12.0	14.0	17.0	20.0	24.0	28.0	32
	US gpm 0	4.4	6.6	8.8	13.2	19.8	26.4	30.8	35.2	44.0	52.8	61.6	74.7	87.9	105.5	123.1	140.9
H = TOTAL METERS HEAD OF WATER COLUMN [m]																	
EH 3/2	22.4		20.0	18.7	15.5	9.7											
EH 3/3	33.2		29.3	27.4	22.5	13.8											
EH 3/4	43.7		38.3	35.6	29.1	17.5											
EH 3/5	54.0		46.8	43.4	35.2	20.7											
EH 3/6	65.1		56.7	52.6	42.8	25.4											
EH 3/7	75.3		65.1	60.2	48.7	28.4											
EH 3/8	87.6		77.0	71.7	58.8	35.6											
EH 3/9	98.0		85.8	79.8	65.2	39.1											
EH 5/2	23.5			21.7	20.5	18.3	15.0	11.8									
EH 5/3	34.8			31.9	30.0	26.5	21.3	16.5									
EH 5/4	46.2			42.4	39.9	35.2	28.4	21.9									
EH 5/5	57.3			52.1	48.8	42.7	34.0	25.8									
EH 5/6	69.5			64.0	60.3	53.4	43.2	33.6									
EH 5/7	80.7			73.9	69.5	61.3	49.2	37.9									
EH 5/8	93.9			87.1	82.6	73.8	60.6	47.9									
EH 5/9	105.4			97.5	92.3	82.4	67.4	53.0									
EH 9/2	23.7				22.0	20.8	19.7	18.9	18.1	15.6	11.9	6.9					
EH 9/3	35.3				32.7	30.8	29.1	27.9	26.6	22.8	17.2	9.7					
EH 9/4	47.4				44.2	41.9	39.7	38.2	36.5	31.7	24.3	14.4					
EH 9/5	60.1				56.6	54.0	51.4	49.7	47.8	42.1	33.0	20.7					
EH 9/6	71.8				67.4	64.2	61.0	58.9	56.5	49.5	38.5	23.7					
EH 9/7	84.3				79.4	75.8	72.2	69.9	67.1	59.2	46.5	29.3					
EH 9/8	96.0				90.3	86.1	81.9	79.2	76.0	66.8	52.2	32.5					
EH 15/2	28.5								25.0	24.0	22.9	21.7	19.2	19.2	10.3		
EH 15/3	43.3								38.3	36.9	35.3	33.5	29.9	29.9	16.5		
EH 15/4	57.9								51.4	49.5	47.4	45.0	40.3	40.3	22.5		
EH 15/5	72.6								64.5	62.2	59.6	56.7	50.8	50.8	28.6		
EH 15/6	87.5								78.2	75.5	72.5	69.0	62.1	62.1	35.6		
EH 15/7	101.9								90.8	87.5	84.0	79.8	71.7	71.7	40.7		
EH 20/2	31.2									27.9	27.2	26.5	25.3	23.1	18.5	12.7	
EH 20/3	46.8									41.9	40.8	39.8	37.8	34.6	27.7	19.0	
EH 20/4	62.5									56.0	54.6	53.2	50.6	46.3	37.2	25.6	
EH 20/5	78.5									70.6	68.9	67.3	64.1	58.9	47.6	33.2	



# EH 3 - TECHNICAL DATA

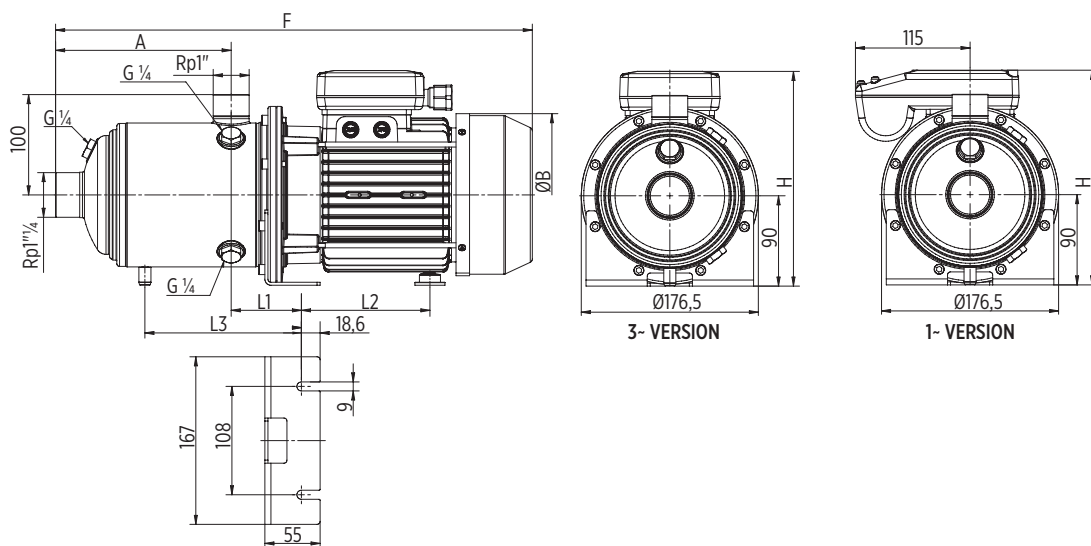
## 1 ~ ELECTRIC PUMP TECHNICAL DATA

Pump model	Motor size	Motor nominal power		Input power [kW]	Capacitor 450 V [µf]	Input current [A] 220-240 V	Dimensions [mm]						Weight [kg]	
		[kW]	[HP]				A	F	ØB	H	L1	L2		L3
EH 3/2	71	0.37	0.5	0.53	20	2.9	103	361	144	207	70	101	-	11.2
EH 3/3	71	0.55	0.75	0.74	20	3.6	103	361	144	207	70	101	-	11.4
EH 3/4	71	0.55	0.75	0.74	20	3.6	127	385	144	207	70	101	-	11.8
EH 3/5	71	0.75	1	0.97	20	4.6	151	409	144	207	70	101	-	12.4
EH 3/6	80	1.1	1.5	1.38	25	6.3	175	470	162	214	70	128	-	16
EH 3/7	80	1.1	1.5	1.38	25	6.3	199	494	162	214	70	128	180	16.6
EH 3/8	80	1.5	2	1.85	30	8.4	223	523	162	214	70	128	204	18.8
EH 3/9	80	1.5	2	1.85	30	8.4	247	547	162	214	70	128	228	19.4

## 3 ~ ELECTRIC PUMP TECHNICAL DATA

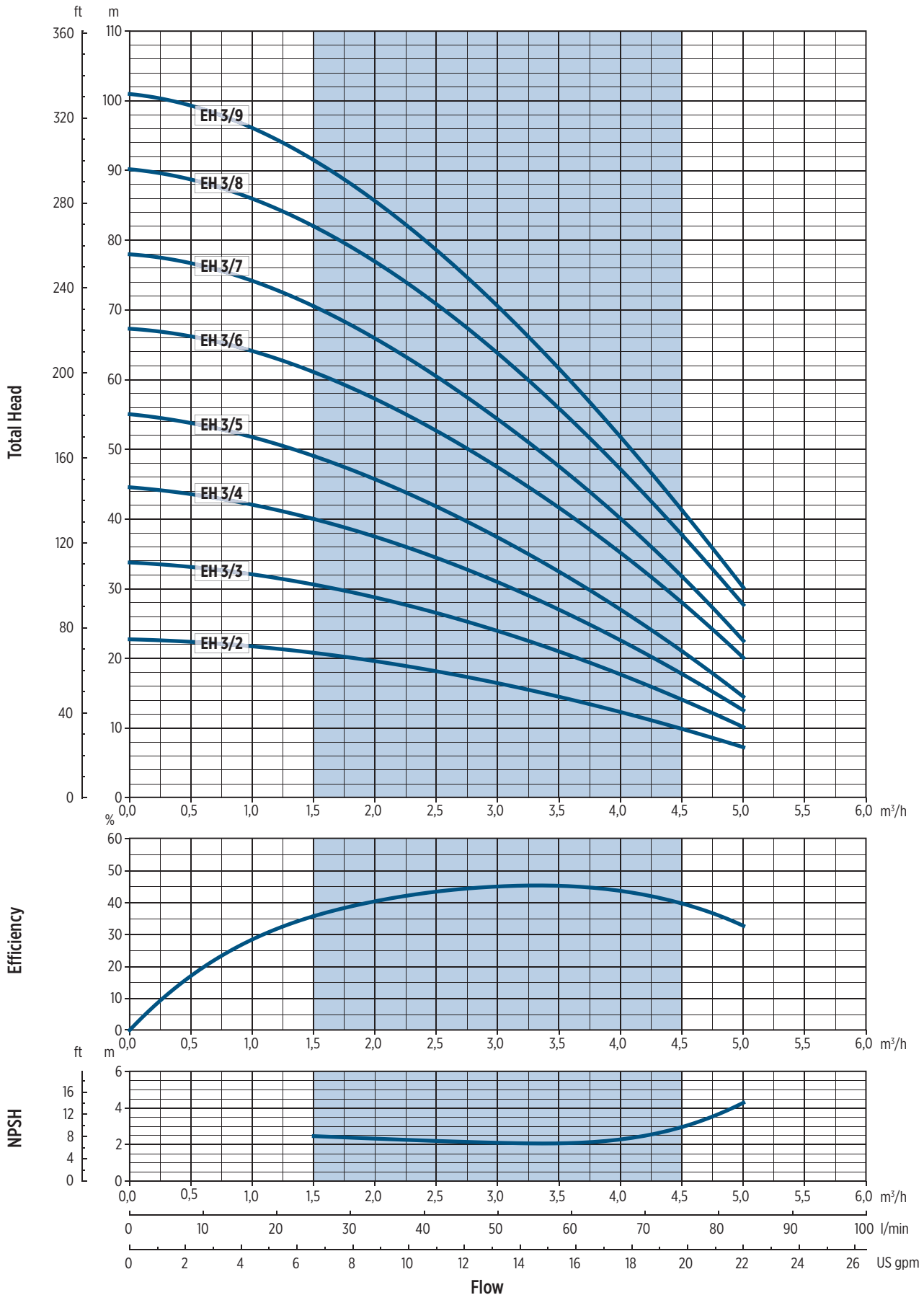
Pump model	Motor size	Motor nominal power		Input power [kW]	Input current [A]		Dimensions [mm]						Weight [kg]	
		[kW]	[HP]		220-240 V	380-415 V	A	F	ØB	H	L1	L2		L3
EH 3/2T	71	0.75	1	0.41	1.9	1.1	103	363	144	207	70	101	-	10.8
EH 3/3T	71	0.75	1	0.57	2.1	1.2	103	363	144	207	70	101	-	11
EH 3/4T	71	0.75	1	0.72	2.4	1.4	127	387	144	207	70	101	-	11.6
EH 3/5T	71	0.75	1	0.87	2.7	1.6	151	411	144	207	70	101	-	12
EH 3/6T	71	1.1	1.5	1.02	3.3	1.9	175	435	144	207	70	101	-	13.2
EH 3/7T	71	1.1	1.5	1.17	3.6	2.1	199	459	144	207	70	101	180	13.8
EH 3/8T	80	1.5	2	1.39	4.8	2.8	223	520	162	214	70	128	204	17.6
EH 3/9T	80	1.5	2	1.55	5.1	3.0	247	544	162	214	70	128	228	18.2

## DIMENSIONAL DRAWINGS



00300031T 05/2017

# EH 3 - PERFORMANCE CURVES AT 50 Hz



# EH 5 - TECHNICAL DATA

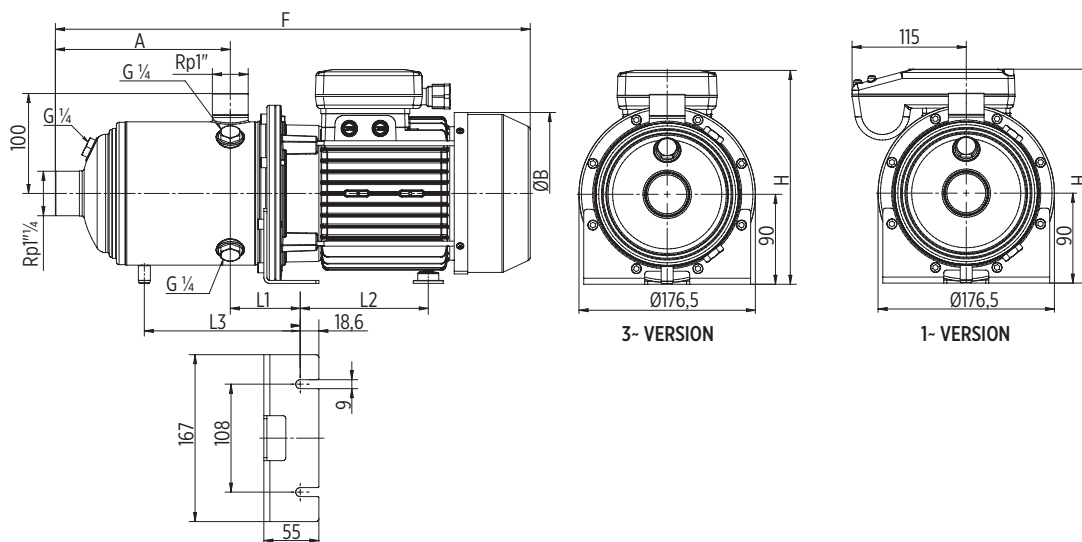
## 1 ~ ELECTRIC PUMP TECHNICAL DATA

Pump model	Motor size	Motor nominal power		Input power [kW]	Capacitor 450 V [µf]	Input current [A] 220-240 V	Dimensions [mm]						Weight [kg]	
		[kW]	[HP]				A	F	ØB	H	L1	L2		L3
EH 5/2	71	0.55	0.75	0.74	20	3.6	103	361	144	207	70	101	-	11.2
EH 5/3	71	0.55	0.75	0.74	20	3.6	103	361	144	207	70	101	-	11.4
EH 5/4	80	1.1	1.5	1.38	25	6.3	127	422	162	214	70	128	-	14.8
EH 5/5	80	1.1	1.5	1.38	25	6.3	151	446	162	214	70	128	-	15.4
EH 5/6	80	1.5	2	1.85	30	8.4	175	475	162	214	70	128	-	17.8
EH 5/7	80	1.5	2	1.85	30	8.4	199	499	162	214	70	128	180	18.2

## 3 ~ ELECTRIC PUMP TECHNICAL DATA

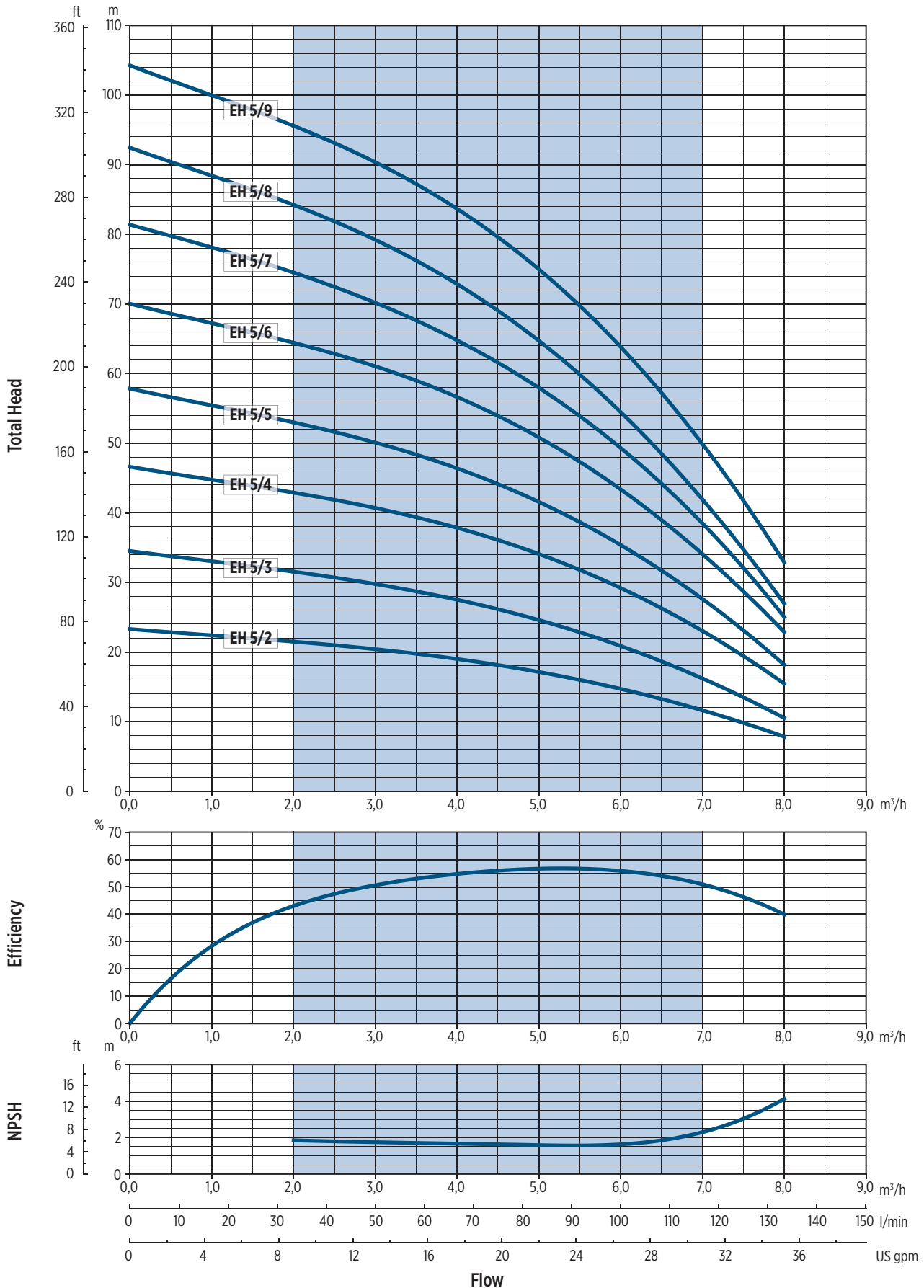
Pump model	Motor size	Motor nominal power		Input power [kW]	Input current [A]		Dimensions [mm]						Weight [kg]	
		[kW]	[HP]		220-240 V	380-415 V	A	F	ØB	H	L1	L2		L3
EH 5/2T	71	0.75	1	0.55	2.1	1.2	103	363	144	207	70	101	-	10.8
EH 5/3T	71	0.75	1	0.77	2.5	1.4	103	363	144	207	70	101	-	11
EH 5/4T	71	1.1	1.5	0.99	3.2	1.9	127	387	144	207	70	101	-	12.2
EH 5/5T	71	1.1	1.5	1.21	3.7	2.2	151	411	144	207	70	101	-	12.6
EH 5/6T	80	1.5	2	1.50	5.0	2.9	175	472	162	214	70	128	-	16.6
EH 5/7T	80	1.5	2	1.72	5.5	3.2	199	496	162	214	70	128	180	17
EH 5/8T	90	2.2	3	2.06	6.8	3.9	223	567	179	221	70	172	204	23
EH 5/9T	90	2.2	3	2.29	7.4	4.3	247	591	179	221	70	172	228	23.4

## DIMENSIONAL DRAWINGS



001300031T 05/2017

# EH 5 - PERFORMANCE CURVES AT 50 Hz



# EH 9 - TECHNICAL DATA

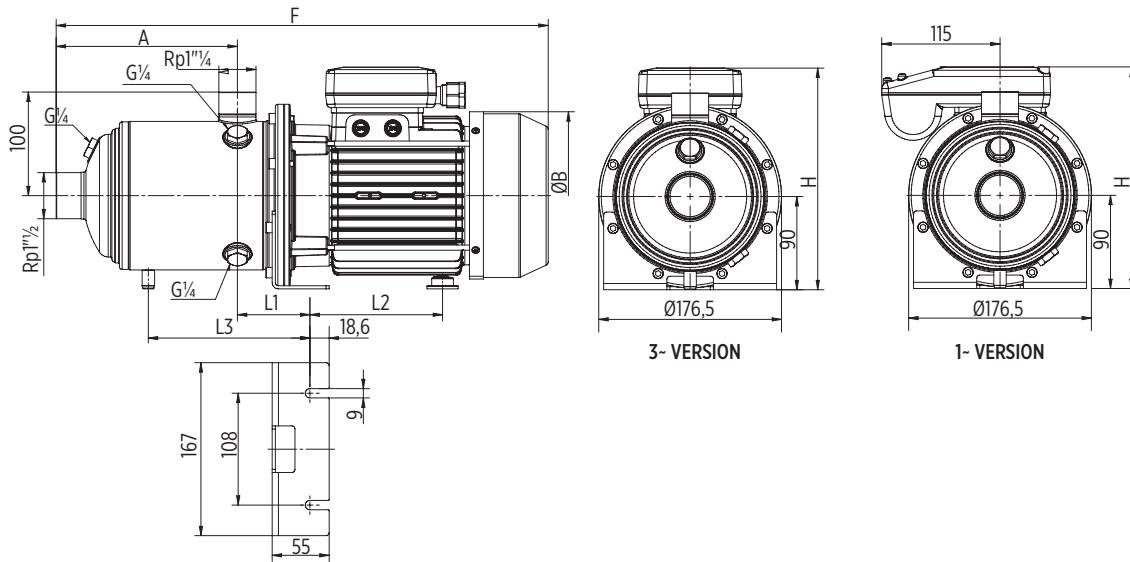
## 1 ~ ELECTRIC PUMP TECHNICAL DATA

Pump model	Motor size	Motor nominal power		Input power [kW]	Capacitor 450 V [µf]	Input current [A] 220-240 V	Dimensions [mm]						Weight [kg]	
		[kW]	[HP]				A	F	ØB	H	L1	L2		L3
EH 9/2	71	0.75	1	0.97	20	4.6	118	380	144	207	74	101	-	11.6
EH 9/3	80	1.1	1.5	1.38	25	6.3	118	419	162	214	74	128	-	14.6
EH 9/4	80	1.5	2	1.85	30	8.4	148	452	162	214	74	128	-	17

## 3 ~ ELECTRIC PUMP TECHNICAL DATA

Pump model	Motor size	Motor nominal power		Input power [kW]	Input current [A]		Dimensions [mm]						Weight [kg]	
		[kW]	[HP]		220-240 V	380-415 V	A	F	ØB	H	L1	L2		L3
EH 9/2T	71	0.75	1	0.87	2.7	1.6	118	382	144	207	74	101	-	11.2
EH 9/3T	71	1.1	1.5	1.24	3.8	2.2	118	382	144	207	74	101	-	12
EH 9/4T	80	1.5	2	1.70	5.5	3.2	148	449	162	214	74	128	-	15.8
EH 9/5T	90	2.2	3	2.20	7.1	4.1	178	526	179	221	74	172	-	21.8
EH 9/6T	90	2.2	3	2.61	8.2	4.7	208	556	179	221	74	172	192	22.4
EH 9/7T	90	3	4	3.08	9.5	5.5	238	621	179	221	74	172	222	26
EH 9/8T	90	3	4	3.49	10.4	6.0	268	651	179	221	74	172	252	26.6

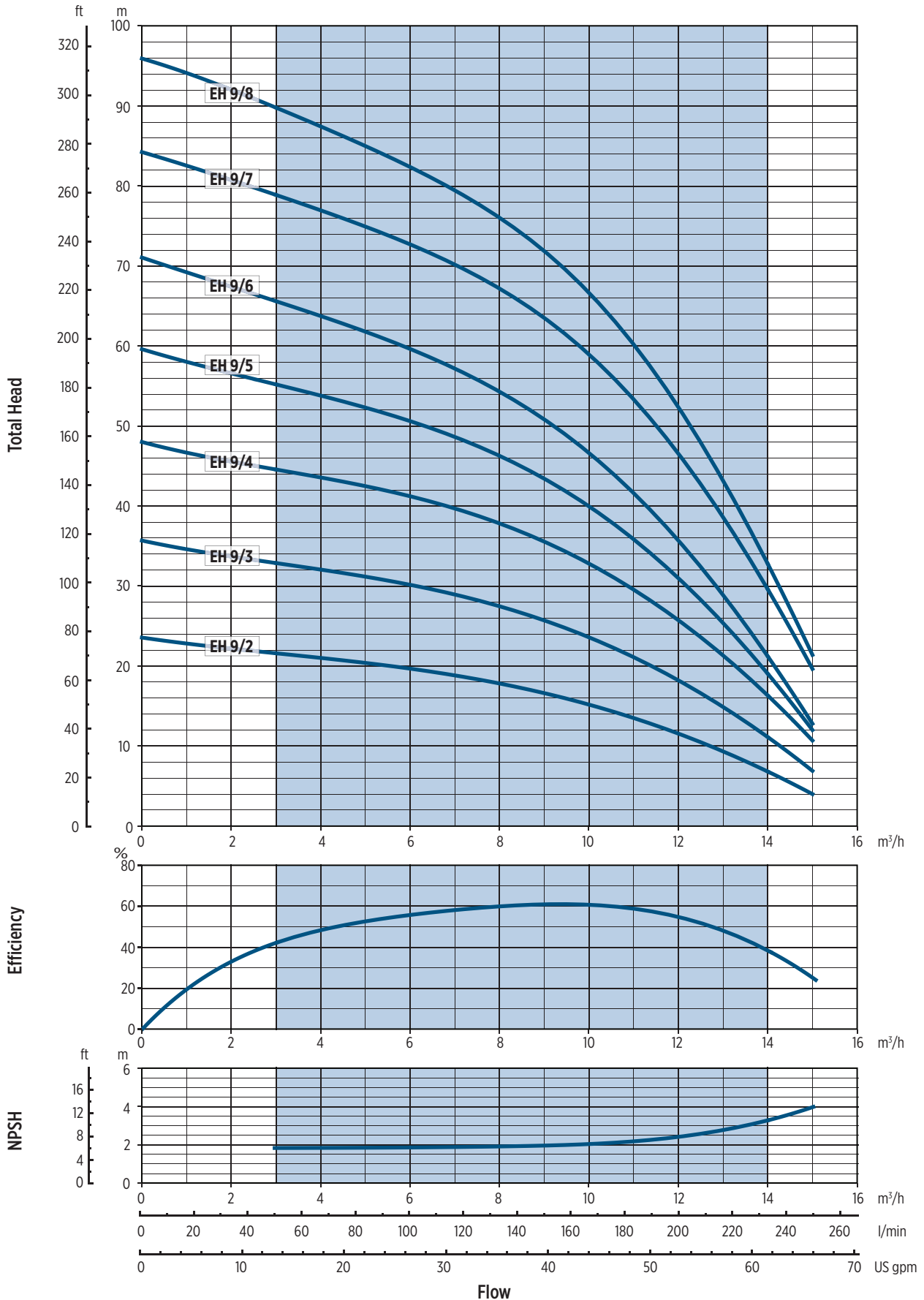
## DIMENSIONAL DRAWINGS



00130004IT\_05/2014



# EH 9 - PERFORMANCE CURVES AT 50 Hz



00120007 05/2017

# EH 15 - TECHNICAL DATA

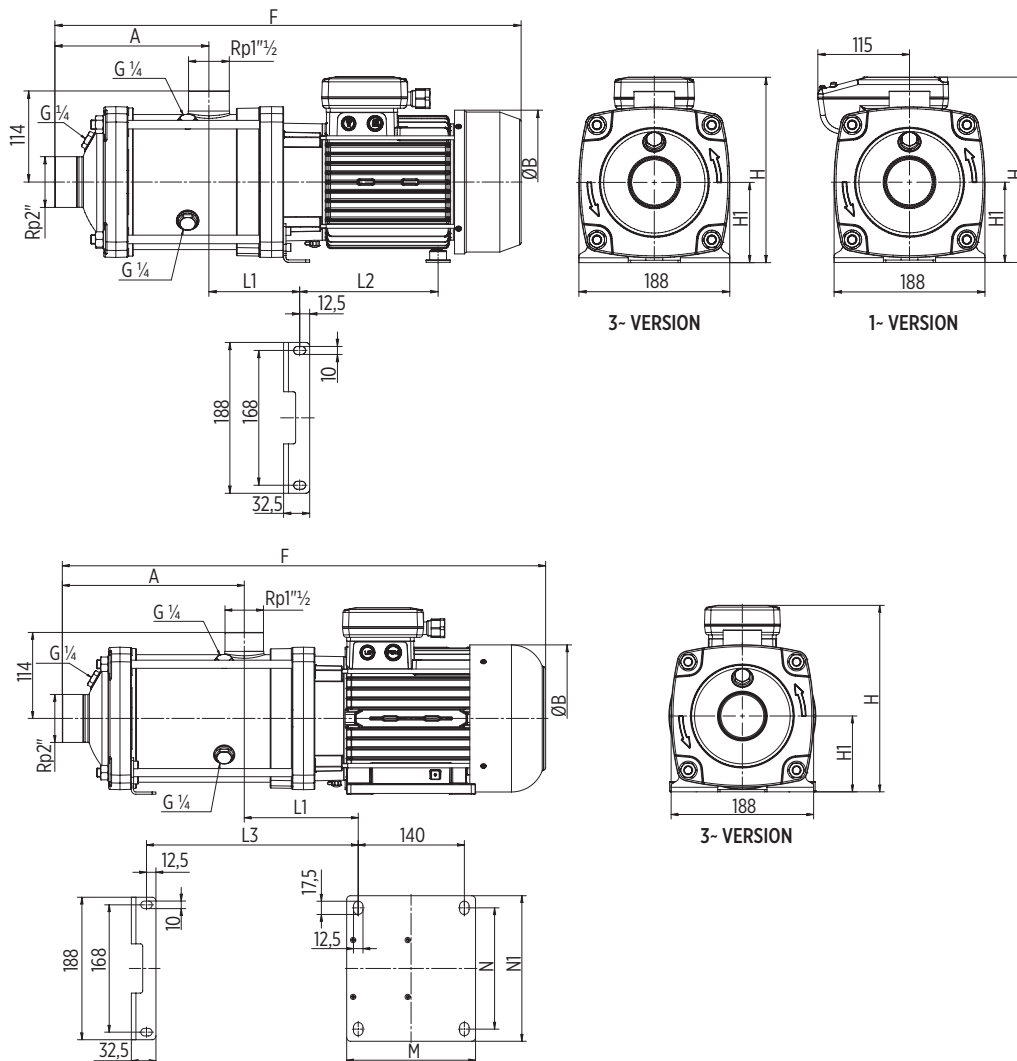
## 1 ~ ELECTRIC PUMP TECHNICAL DATA

Pump model	Motor size	Motor nominal power		Input power [kW]	Capacitor 450 V [µf]	Input current [A] 220-240 V	Dimensions [mm]									Weight [kg]		
		[kW]	[HP]				A	F	ØB	H	H1	L1	L2	L3	M		N	N1
EH 15/2	80	1.5	2	1.85	30	8.4	144	488	162	224	100	113	129	-	-	-	-	20.2

## 3 ~ ELECTRIC PUMP TECHNICAL DATA

Pump model	Motor size	Motor nominal power		Input power [kW]	Input current [A]			Dimensions [mm]									Weight [kg]		
		[kW]	[HP]		220-240 V	380-415 V	660-690 V	A	F	ØB	H	H1	L1	L2	L3	M		N	N1
EH 15/2T	80	1.5	2	1.60	5.3	3.0	-	144	485	162	224	100	113	129	-	-	-	18.8	
EH 15/3T	90	2.2	3	2.45	7.8	4.5	-	144	532	179	231	100	113	173	-	-	-	24.4	
EH 15/4T	90	3	4	3.28	9.9	5.7	-	192	615	179	231	100	113	173	-	-	-	28.6	
EH 15/5T	100	4	5.5	4.09	-	7.0	4.1	240	670	194	246	100	150	-	279	170	160	192	37
EH 15/6T	112	5.5	7.5	4.95	-	9.3	5.4	288	732	218	263	112	152	-	329	180	190	220	46.2
EH 15/7T	112	5.5	7.5	5.71	-	10.3	6.0	336	780	218	263	112	152	-	377	180	190	220	47.6

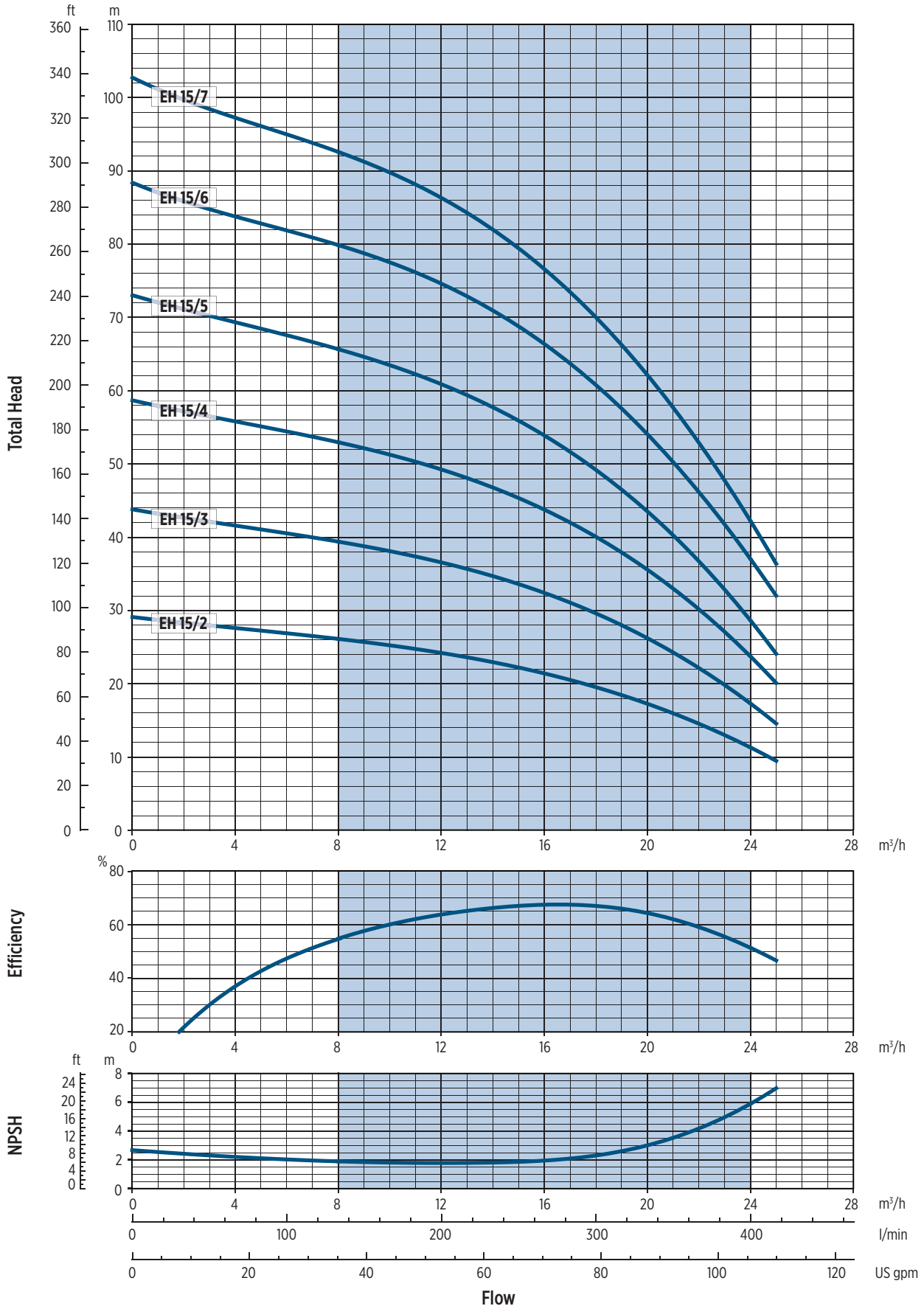
## DIMENSIONAL DRAWINGS



0013000511A 05/2017

0013000611A 05/2017

# EH 15 - PERFORMANCE CURVES AT 50 Hz



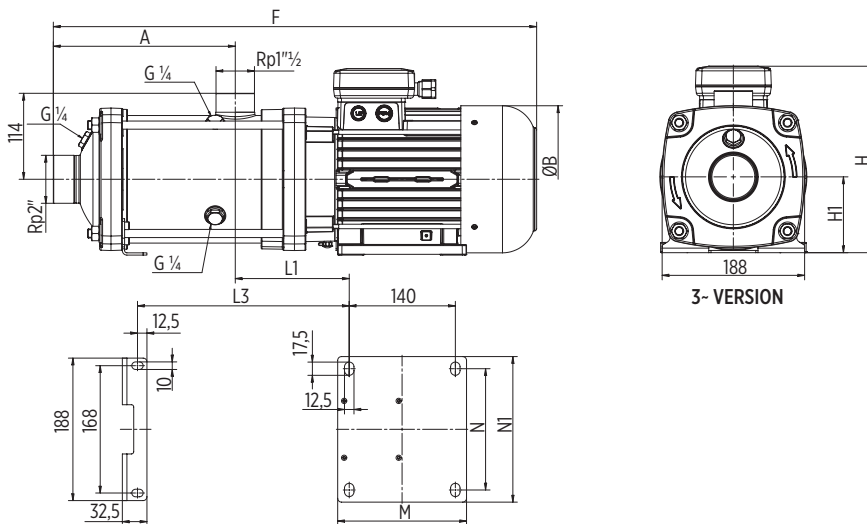
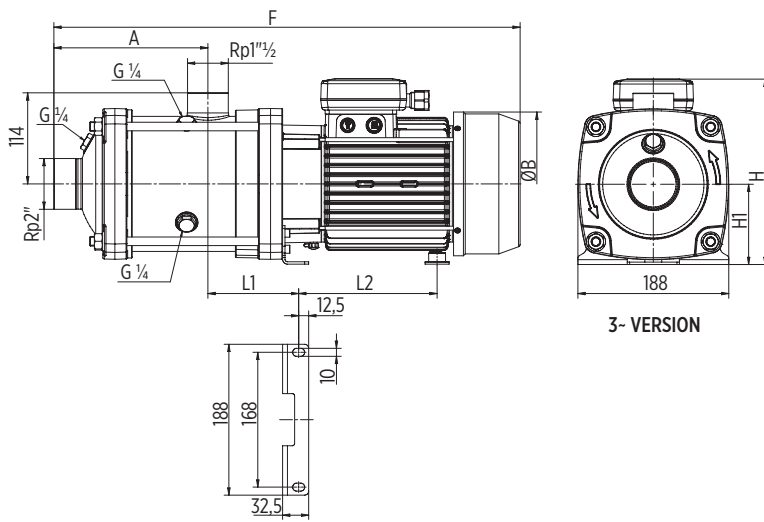
00120008 05/2017

# EH 20 - TECHNICAL DATA

## 3 ~ ELECTRIC PUMP TECHNICAL DATA

Pump model	Motor size	Motor nominal power		Input power [kW]	Input current [A]			Dimensions [mm]										Weight [kg]	
		[kW]	[HP]		220-240 V	380-415 V	660-690 V	A	F	ØB	H	H1	L1	L2	L3	M	N		N1
EH 20/2T	90	2.2	3	2.29	7.4	4.3	-	144	532	179	231	100	113	173	-	-	-	-	24.2
EH 20/3T	90	3	4	3.43	10.3	5.9	-	144	567	179	231	100	113	173	-	-	-	-	27.2
EH 20/4T	100	4	5.5	4.53	-	7.7	4.4	192	622	194	246	100	150	-	231	170	160	192	35.8
EH 20/5T	112	5.5	7.5	5.69	-	10.3	6.0	240	684	218	263	112	152	-	281	180	190	220	45

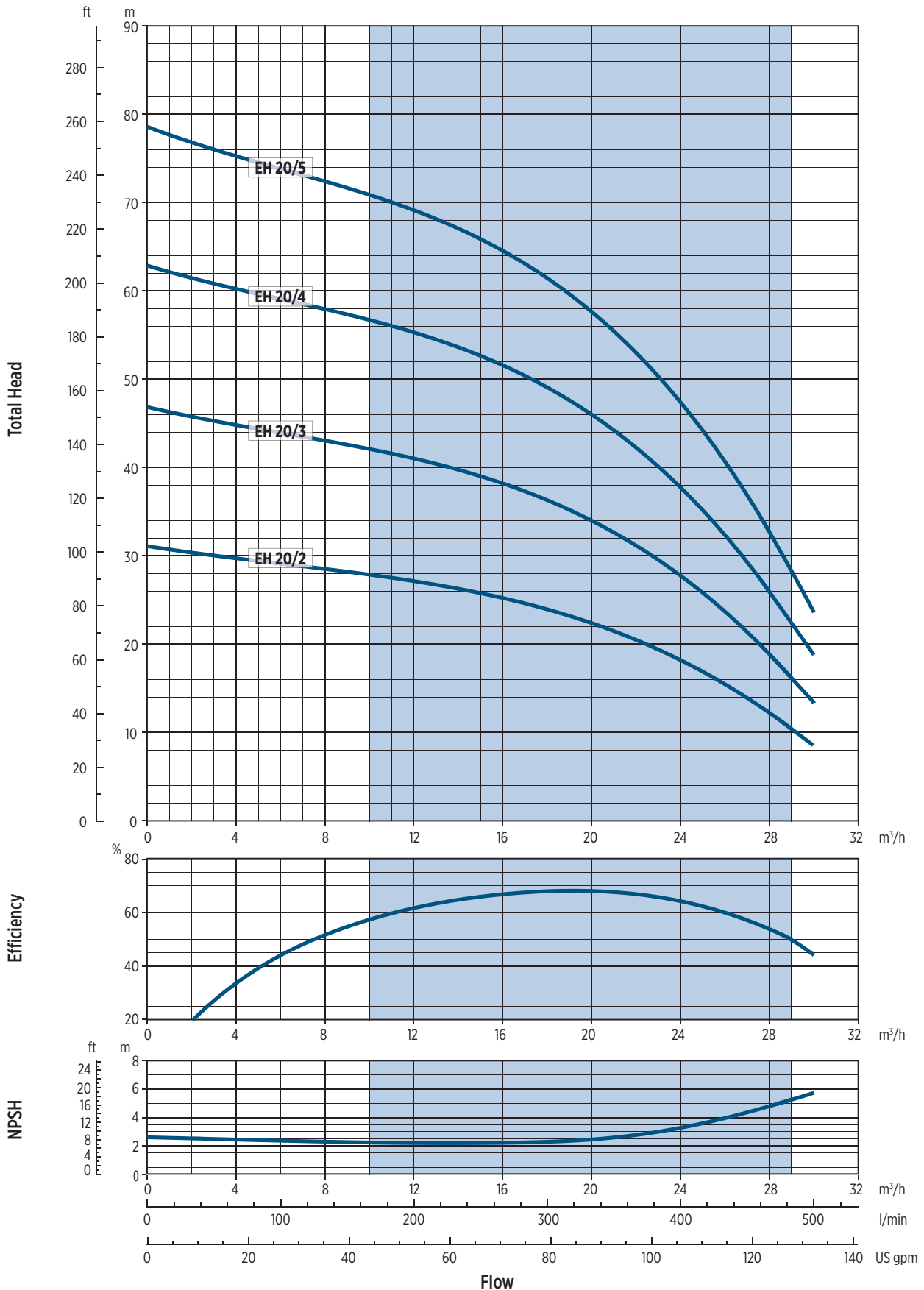
## DIMENSIONAL DRAWINGS



001300051TA 09/2023

001300061TA 05/2017

# EH 20 - PERFORMANCE CURVES AT 50 Hz



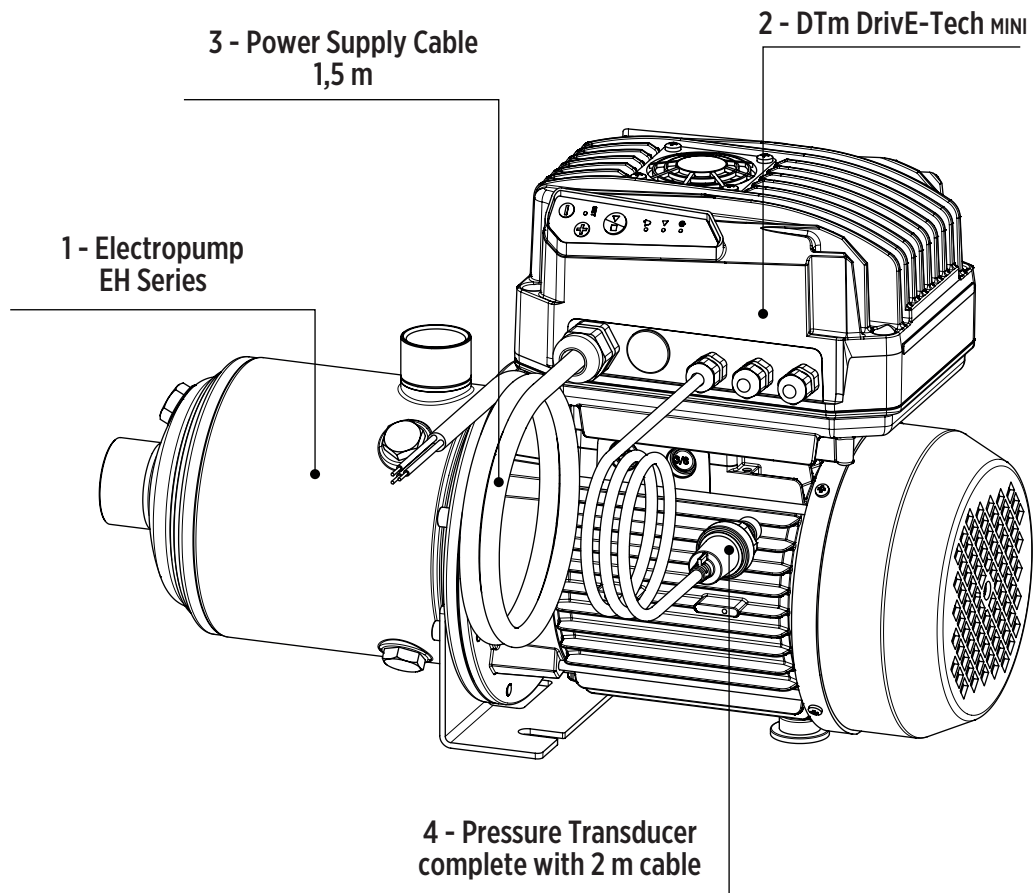




**EH DTm Series**  
**Horizontal Multistage Pumps Drive-Tech<sup>MINI</sup>**  
**3-5-9**  
**50-60 Hz**



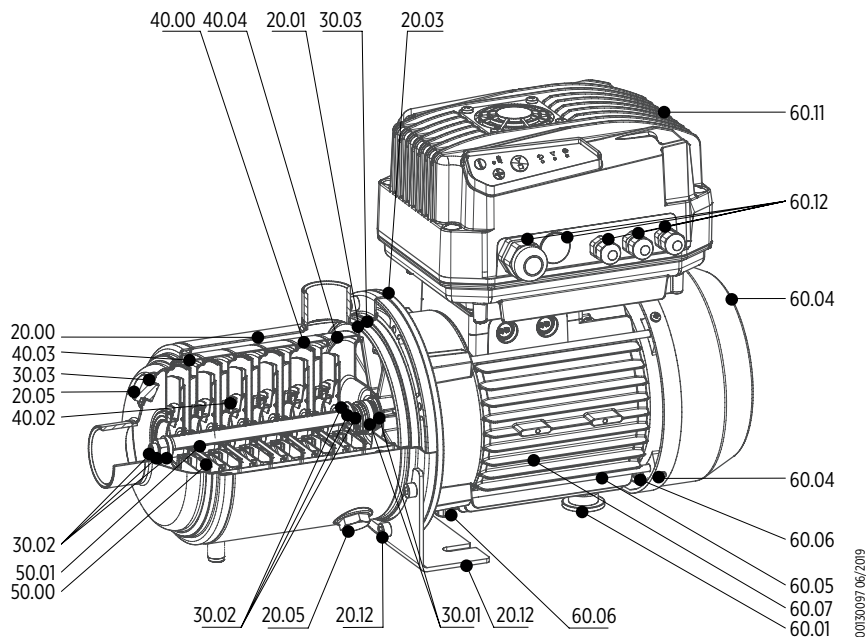
# EH DTm - PACKAGE SYSTEM AND MAIN COMPONENTS INCLUDED



00130087/07/2021

# SPARE PARTS AND MATERIALS

EH DTm 3-5-9



## PARTS IN CONTACT WITH LIQUID

Ref. No.	Parts description	Material	Standard	
			ASTM/AISI	DIN/EN
20.00	Outer case	Stainless steel	AISI 304	14.301
20.01	Mechanical seal housing	Stainless steel	AISI 304	14.301
20.05	Filling plug	Stainless steel	AISI 304	14.301
30.00	Pump shaft	Stainless steel	AISI 304	14.301
30.01	Kit mechanical seal	Ceramic alumina / Carbon graphite / EPDM		
30.02	Mechanical seal fastening kit	Stainless steel	AISI 304	14.301
30.03	Kit O-rings	EPDM		
40.00	Stage housing and diffuser	Stainless steel	AISI 304	14.301
40.02	Floating neck ring	Stainless steel / PPS	AISI 304	14.301
40.03	Initial stage housing	Stainless steel	AISI 304	14.301
40.04	Last Stage with diffuser	Stainless steel	AISI 304	14.301
50.00	Impeller	Stainless steel	AISI 304	14.301
50.01	Impeller spacer	Stainless steel	AISI 304	14.301

## SPARE PARTS LIST

Ref. No.	Parts description
20.00	Outer case
20.01	Mechanical seal housing
20.03	Motor bracket
20.05	Filling plug
20.06	Kit bearings
20.12	Support foot and screws
30.00	Pump shaft
30.01	Kit mechanical seal

Ref. No.	Parts description
30.02	Mechanical seal fastening kit
30.03	Kit O-rings
40.00	Stage housing and diffuser
40.02	Floating neck ring
40.03	Initial stage housing
40.04	Last Stage with diffuser
50.00	Impeller
50.01	Impeller spacer

# DRIVE-TECH MINI INVERTER FOR EH DTm PUMPS

## APPLICATIONS

- Booster sets
- HVAC systems with electric circulation pumps
- Control of electric pumps (when installed on the wall)

## FEATURES

- Energy saving thanks to variable speed control
- Smooth start-up and stop
- Longer system life and greater system reliability
- Simplified installation on the motor or on the wall
- Quick commissioning through guided initial configuration
- Installation possible in damp and dusty environments due to IP55 degree protection
- High thermal and mechanical performance due to all-aluminium casing and independent ventilation



## SPECIFICATIONS

- **Advanced user experience due to:**
  - Programming and monitoring via smartphone and FE Connect, available for Android, iOS devices
  - Remote control using a smartphone placed nearby as a modem
  - Copy/pasting pre-imposed programmes between different devices
  - Ability to send reports via email
  - Multilingual support
- **Multiple control methods:**
  - Constant pressure control
  - Constant or proportional differential pressure control
  - Constant temperature control
  - Constant differential temperature control
  - Constant flow control
  - Control with external frequency signal or pre-set at 1 or 2 values
- **Integrated protections against:**
  - Overvoltage and undervoltage
  - Overcurrent and no load
  - Dry running
  - Overheating
  - EMC compatibility for home environment:
  - Integrated PFC (P.F. 1) to comply with EN61000-3-2
  - Integrated filter for Category C1 (EN61800-3), Class B (EN55011)
- **Group operation (COMBO):**
  - Up to 8 connected units
  - Alternating operation to equalise electric pump wear
  - Master or slave switching in case of failure of one unit, to guarantee the continued operation of the set
- **Advanced motor controls:**
  - Control of new generation asynchronous motors
  - Sensorless control of synchronous permanent magnet motors
- **Inputs and outputs:**
  - 2 programmable digital inputs for motor start and stop
  - Modbus RTU serial port
  - 2 relay outputs for alarm and motor status signalling
  - 2 4-20 mA analogue inputs
  - 2 0-10 V analogue inputs

# DRIVE-TECH MINI INVERTER FOR EH DTm PUMPS

## SYSTEM PERFORMANCE

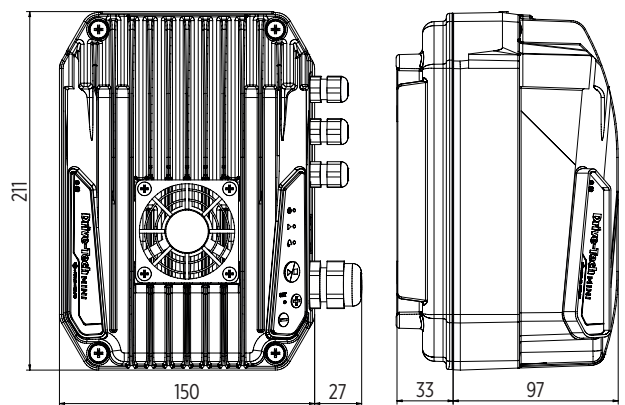
- Line-side power factor: 1
- Mains supply frequency: 50-60 Hz ( $\pm 2\%$ )
- Storage temperature: from  $-30\text{ }^{\circ}\text{C}$  to  $+70\text{ }^{\circ}\text{C}$
- Minimum ambient working temperature at nominal load:  $-10\text{ }^{\circ}\text{C}$
- Maximum working temperature at nominal load:  $+40\text{ }^{\circ}\text{C}$
- Maximum altitude at nominal load: 1000 metres above sea level
- Relative humidity: max 95% (without condensation)
- Degree of protection: IP55 (NEMA 4) or degree of motor protection if mounted on the motor (protect the device from direct exposure to sunlight and atmospheric influences)
- Connectivity: RS 485 serial port for COMBO operation (up to 8 units) + SMART Bluetooth communication + RS485 serial port for MODBUS RTU communication

## TRANSDUCER SPECIFICATIONS

- Nominal output signal (protected against short circuits):  $4 \div 20\text{ mA}$
- Power supply voltage [UB], antipolarity protection:  $9 \div 28\text{ V}$
- Sensor temperature range:  $0\text{ }^{\circ}\text{C} \div +80\text{ }^{\circ}\text{C}$
- Ambient temperature range (depending on electrical connection):  $-20\text{ }^{\circ}\text{C} \div +80\text{ }^{\circ}\text{C}$
- Shielded cable: 2 m
- Degree of protection achieved by coupling with the connector: IP67

## DIMENSIONAL DATA

Model	Vin [Vac] $\pm 15\%$	Max Vout [VAC]	Max I input [A]	Max I out [A]	Typical motor power P <sub>2</sub> [kW]
DTm 2.005 M/T 3 A	1 x 230	3 x 230	4.5	3	0.55
DTm 2.011 M/T 5 A	1 x 230	3 x 230	7.5	5	1.1
DTm 2.015 M/T 7,5 A	1 x 230	3 x 230	11	7.5	1.5
DTm 4.011 T/T 4 A *	3 x 400	3 x 400	3.7	4	1.1
DTm 4.022 T/T 6 A *	3 x 400	3 x 400	5.4	6	2.2

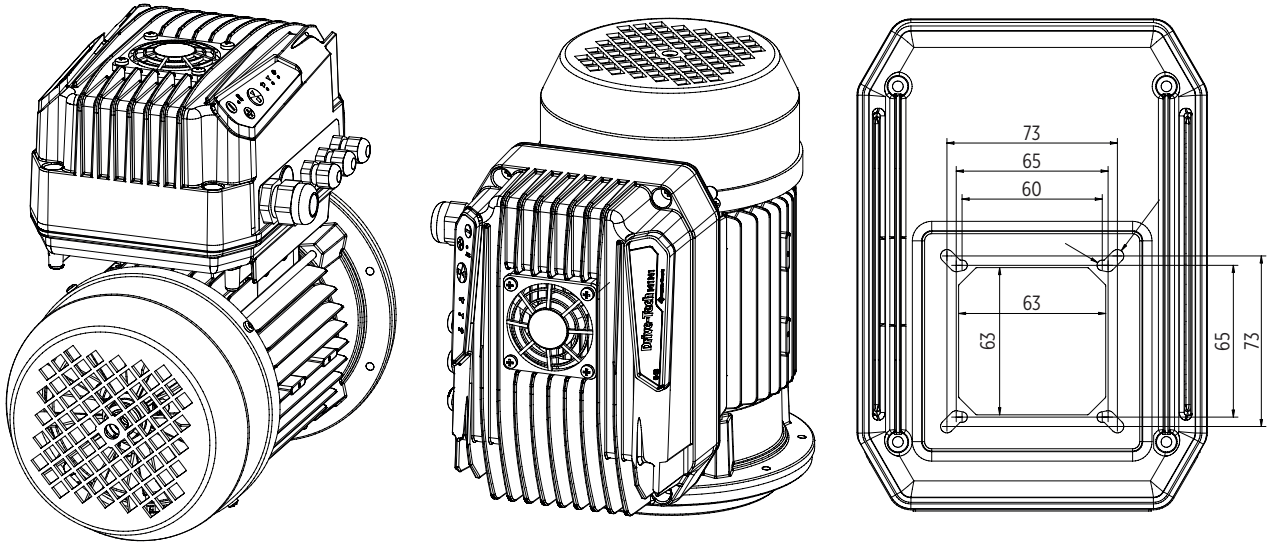


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\* T/T versions with DTm type 4.0 available on request

# DRIVE-TECH MINI INVERTER FOR EH DTm PUMPS

## INSTALLATION DRAWING



0013C0086 11/2017

Can be installed directly on board the motor instead of the electric pump terminal box cover with horizontal or vertical axis.



# TECHNICAL DATA AND PERFORMANCE CURVES (MOTOR FREQUENCY 60 Hz)

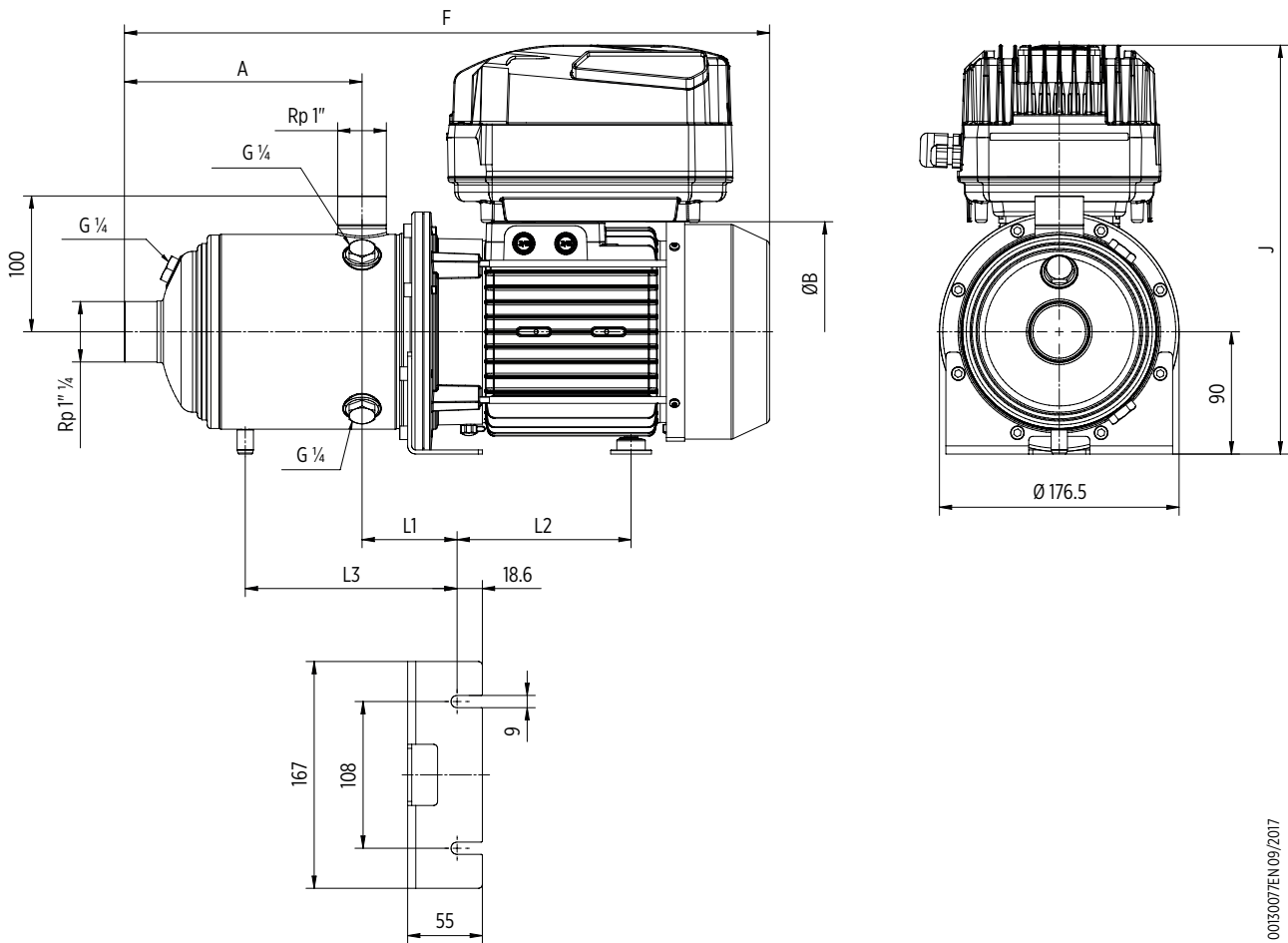
## HYDRAULIC PERFORMANCE

Pump model	Q = DELIVERY																			
	l/min 0	25.0	33.0	42.0	50.0	58.0	67.0	75.0	83.0	92.0	100.0	116.7	117.0	141.7	167.0	200.0	233.3	267.0	283.3	300.0
	m <sup>3</sup> /h 0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	7.0	7.0	8.5	10.0	12.0	14.0	16.0	17.0	18.0
	US gpm 0	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0	24.2	26.4	30.8	30.8	37.5	44.0	52.8	61.6	70.4	74.8	79.3
H = TOTAL METERS HEAD OF WATER COLUMN [m]																				
EH DTm 3/3T6	47.5		40.8	38.3	35.5	32.6	29.4	26	22.4	18.3	13.7									
EH DTm 3/4T6	63.6		54.8	51.5	47.8	43.9	39.7	35.1	30.3	24.9	18.7									
EH DTm 3/5T6	80.5		70.2	66.2	61.7	56.8	51.6	45.9	39.8	33.1	25.4									
EH DTm 3/7T6	112.9		98.9	93.3	87	80.2	72.9	64.9	56.4	47.1	36.2									
EH DTm 5/3T6	50.4			46	44.9	43.8	42.6	41.3	39.8	38.2	36.3	32.1	26.7	23.6						
EH DTm 5/4T6	67.8			62.4	60.9	59.5	58	56.3	54.5	52.4	50	44.4	37.3	33.2						
EH DTm 5/5T6	85.2			78.7	76.9	75.3	73.5	71.4	69.1	66.6	63.6	56.7	47.9	42.7						
EH DTm 9/3T6	52.4										46.3	45.1	44	43.3	41.1	36.9	30.5	22.4	17.5	

## EH DTm 3 - TECHNICAL DATA

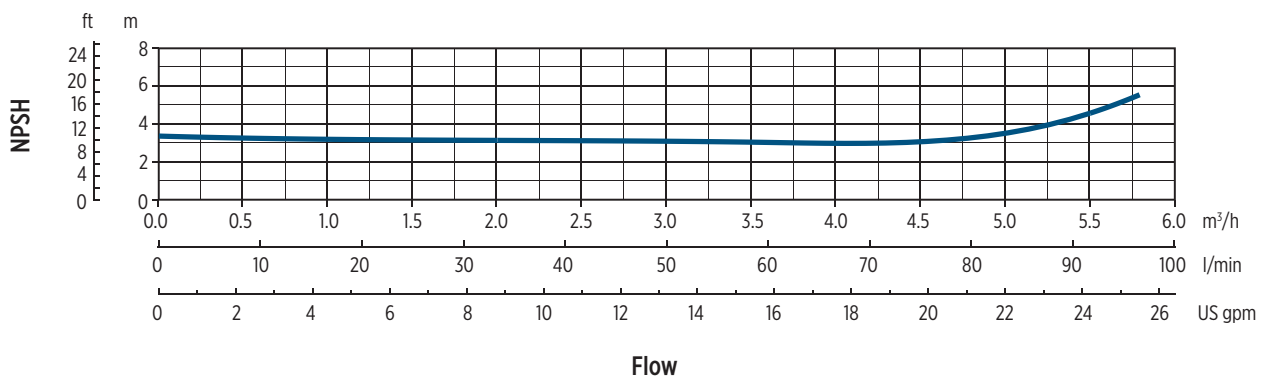
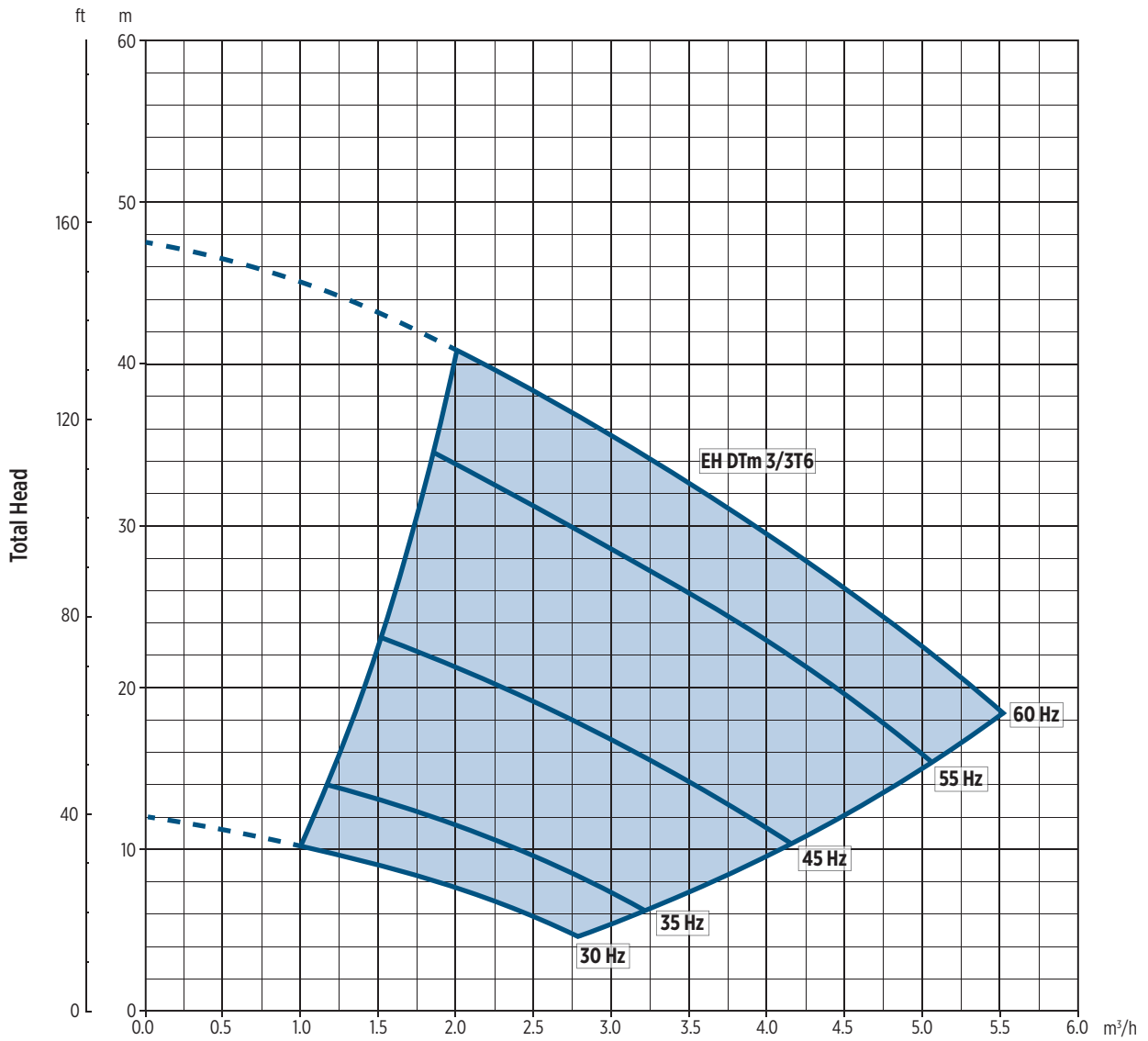
Pump model	Motor size	Motor nominal power		Input power [kW]	Input current [A]	Dimensions [mm]						Weight [kg]	
		[kW]	[HP]			220-230 V	A	F	ØB	J	L1		L2
EH DTm 3/3T6	71	0.75	1	1.05	4.5	103	363	144	294	70	101	-	13.4
EH DTm 3/4T6	71	1.1	1.5	1.39	7.5	127	387	144	294	70	101	-	14.6
EH DTm 3/5T6	80	1.5	2	1.78	7.5	151	448	162	301	70	128	-	18.4
EH DTm 3/7T6	90	2.2	2.7	2.47	11.0	199	543	179	308	70	172	180	24.8

### DIMENSIONAL DRAWINGS



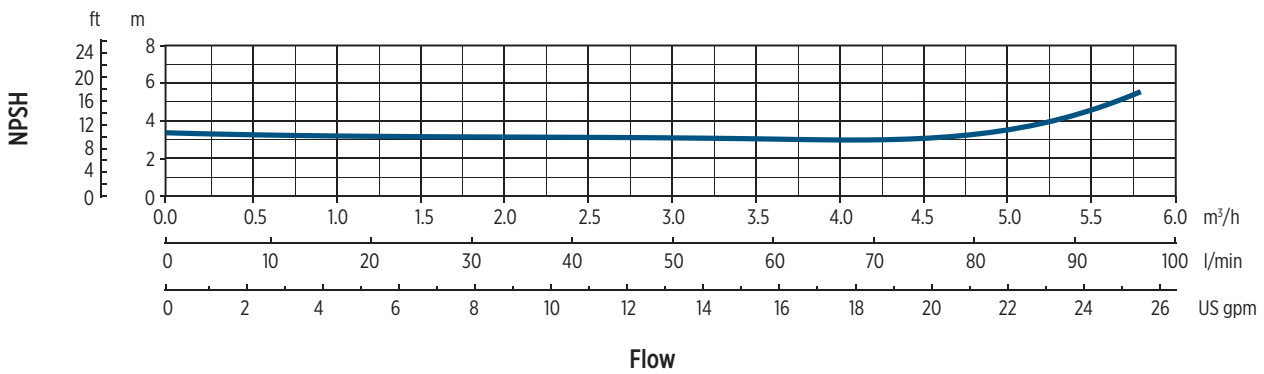
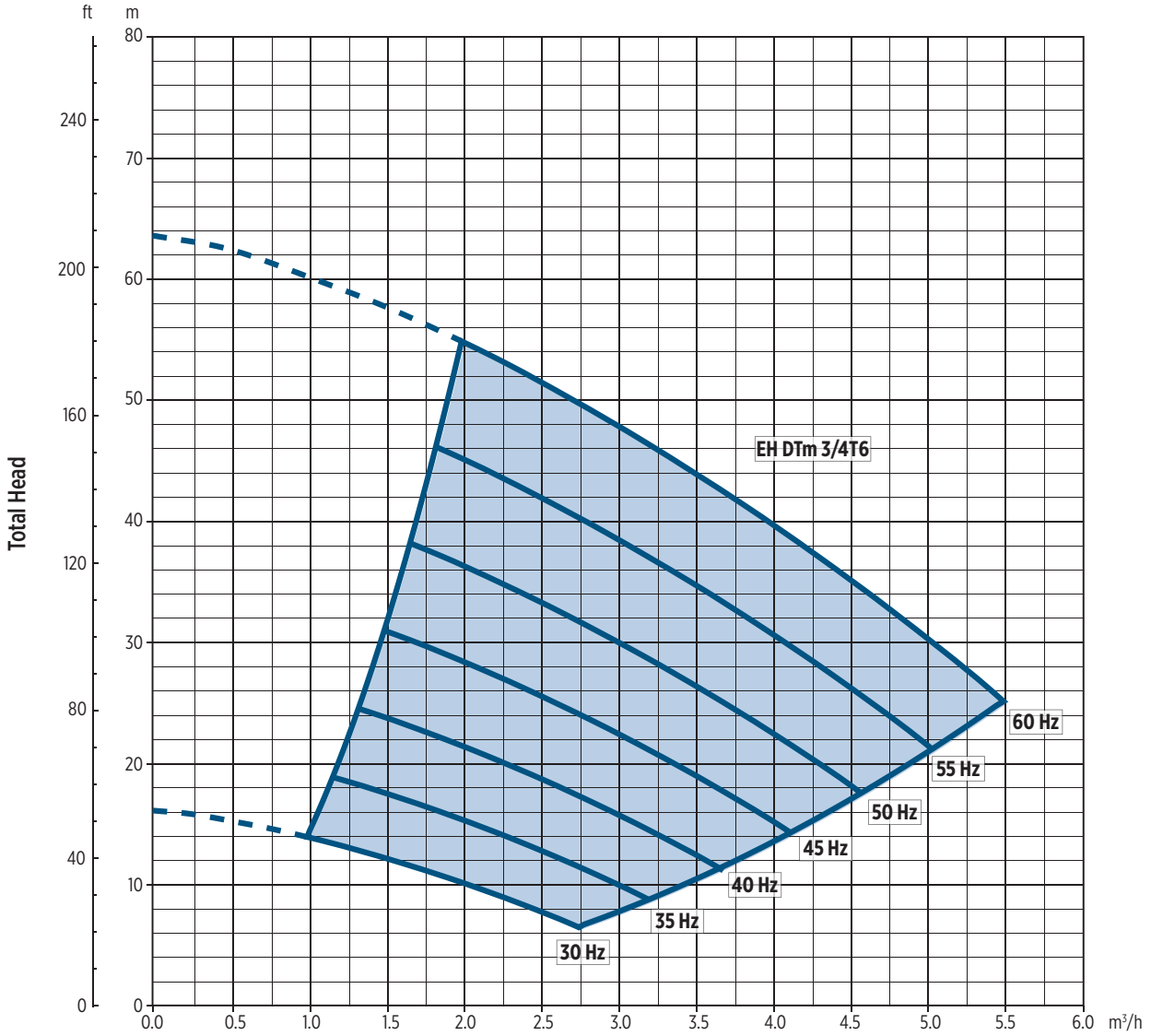
0013007EN/09/2017

# EH DTm 3/3T6 - PERFORMANCE CURVES



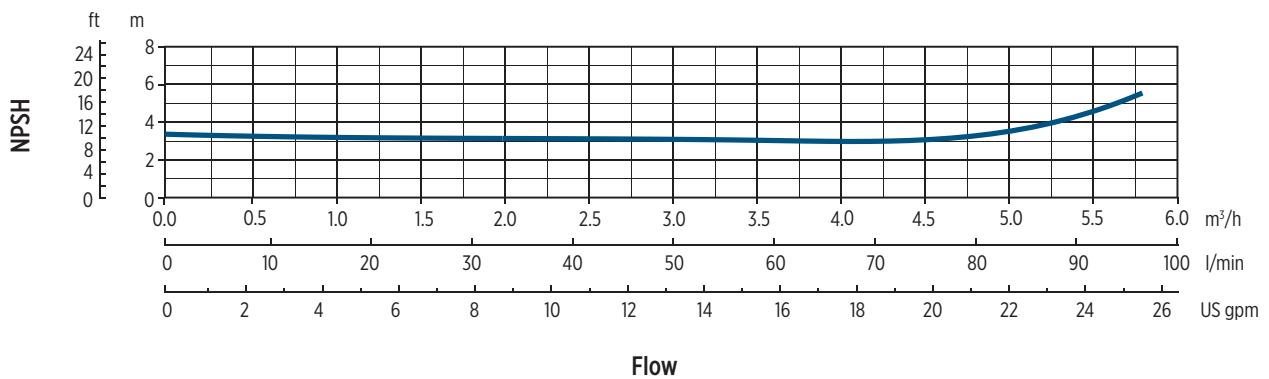
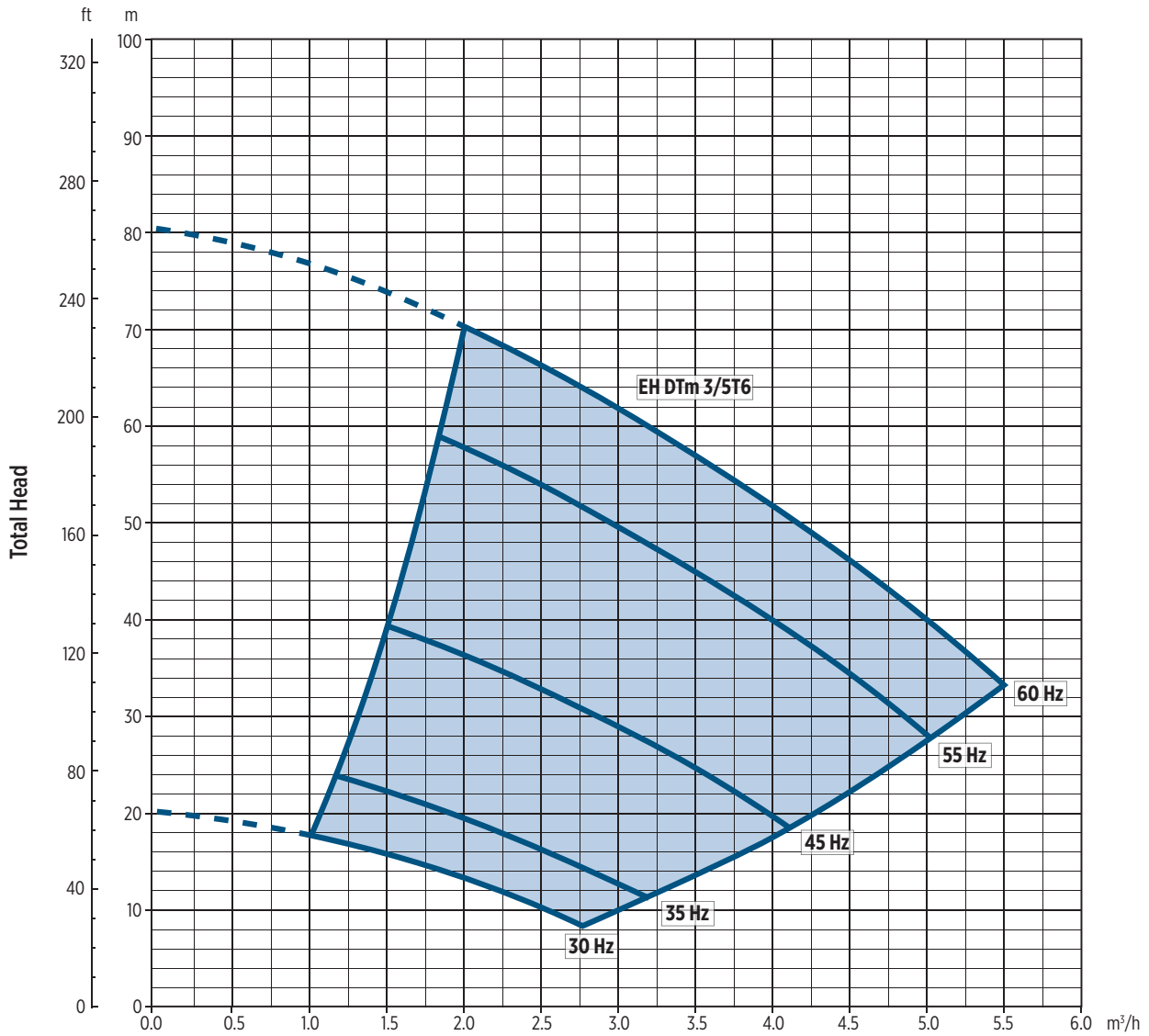
00120095EN 09/2017

# EH DTm 3/4T6 - PERFORMANCE CURVES



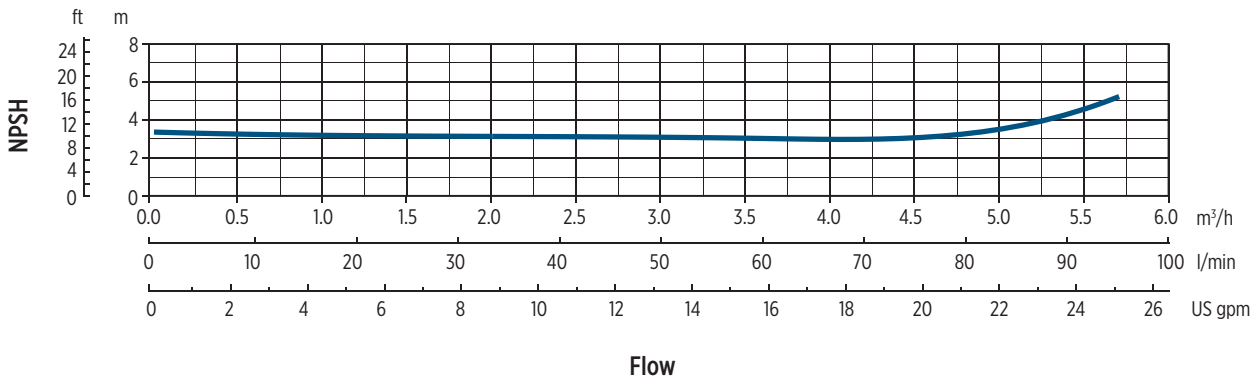
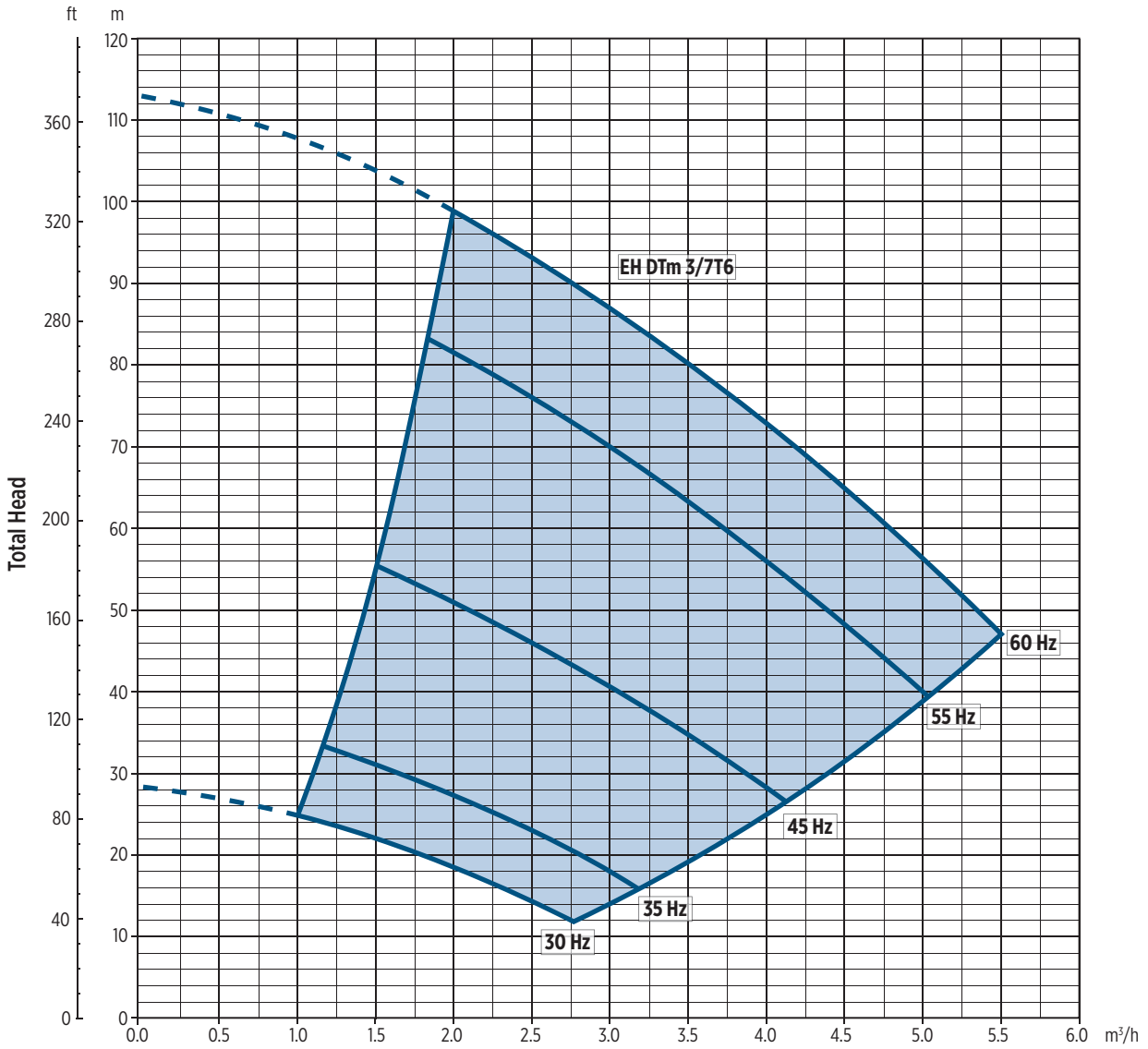
0072035.06/201

# EH DTm 3/5T6 - PERFORMANCE CURVES



00120096EN 09/2017

# EH DTm 3/7T6 - PERFORMANCE CURVES



002007EN 09/2017

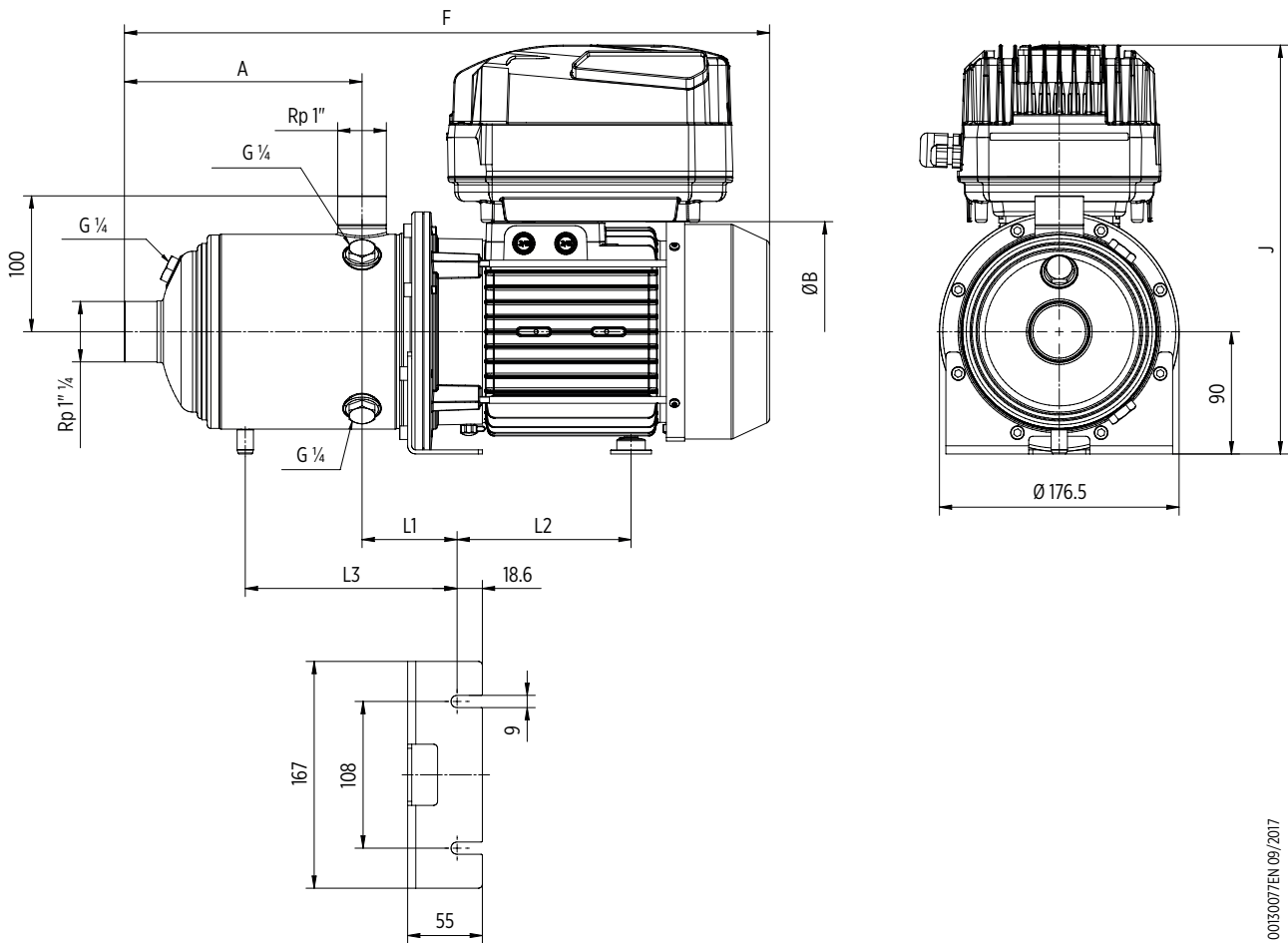




## EH DTm 5 - TECHNICAL DATA

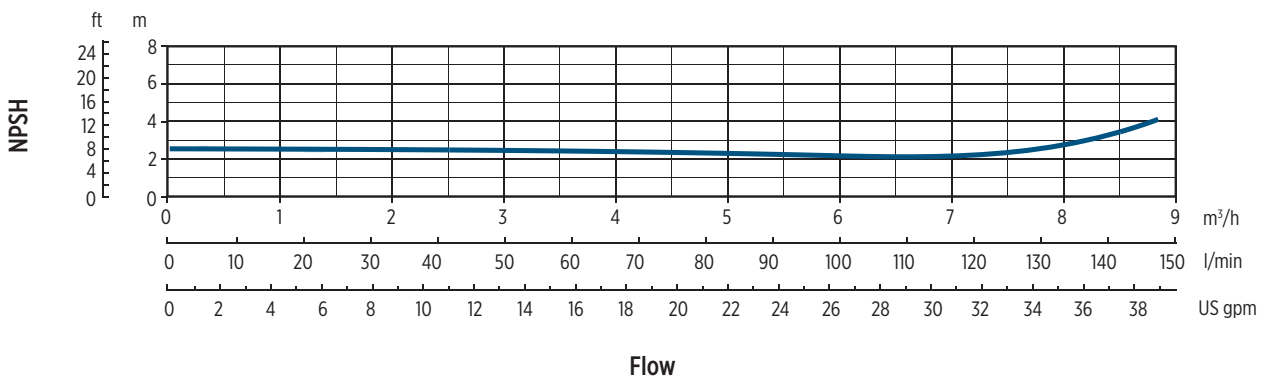
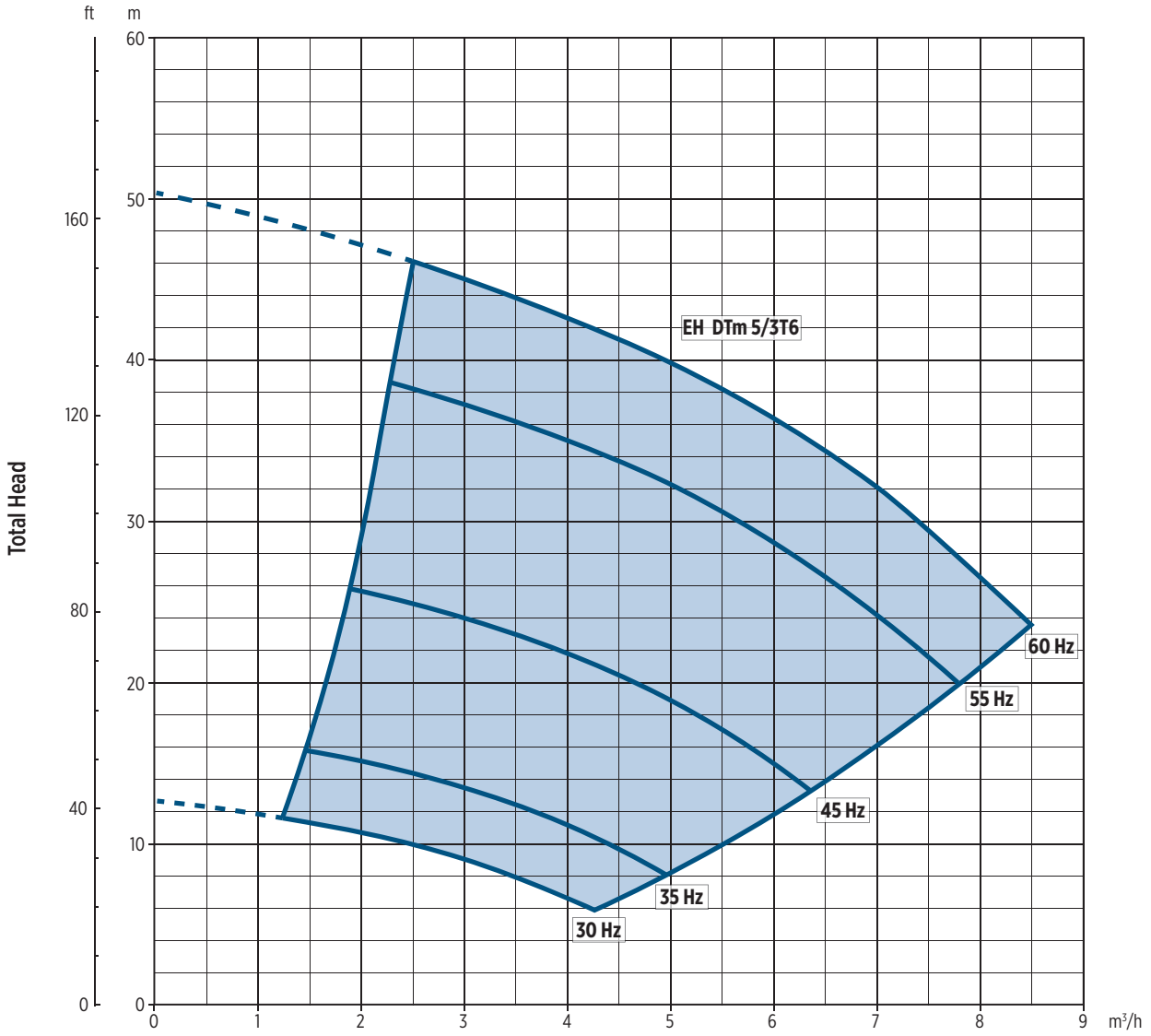
Pump model	Motor size	Motor nominal power		Input power [kW]	Input current [A]	Dimensions [mm]							Weight [kg]
		[kW]	[HP]			A	F	ØB	J	L1	L2	L3	
EH DTm 5/3T6	71	1.1	1.5	1.45	7.5	103	363	144	294	70	101	-	14
EH DTm 5/4T6	80	1.5	2	1.97	11	127	424	162	301	70	128	-	17.8
EH DTm 5/5T6	90	2.2	2.7	2.46	11	151	495	179	308	70	172	-	23.6

### DIMENSIONAL DRAWINGS



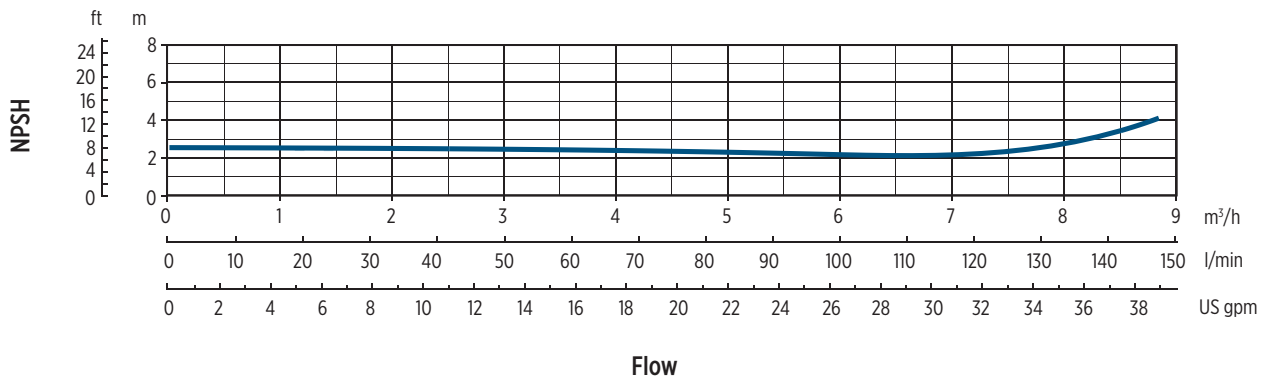
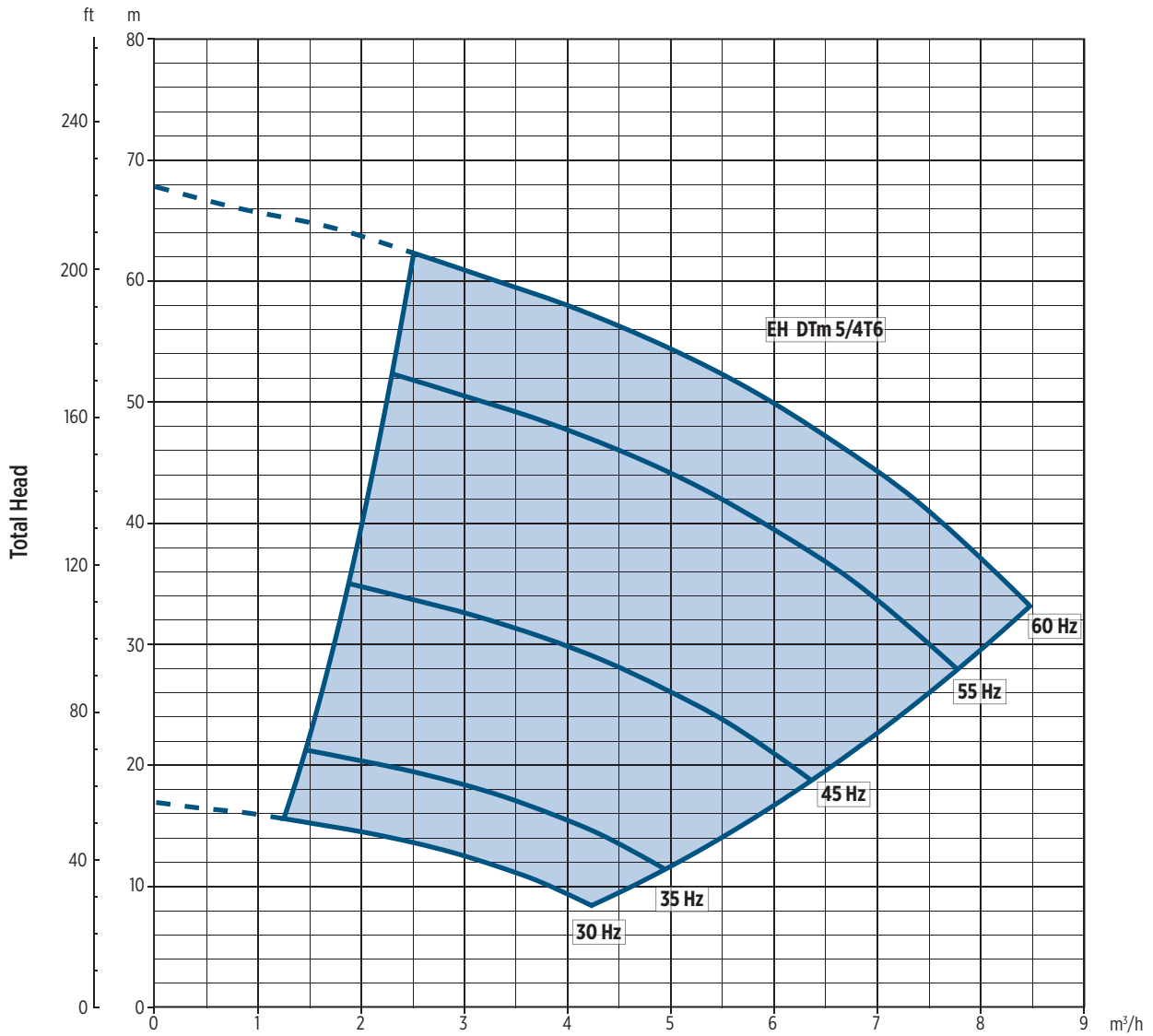
003007EN 09/2017

# EH DTm 5/3T6 - PERFORMANCE CURVES



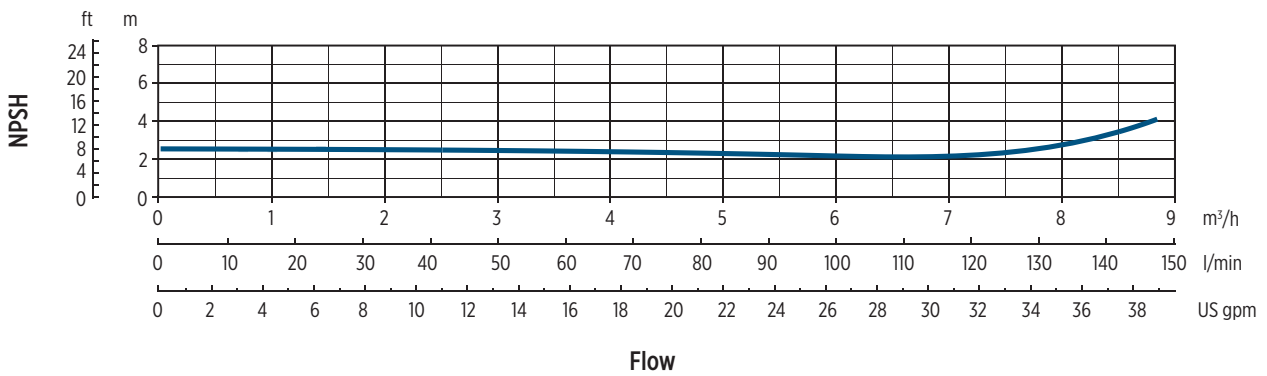
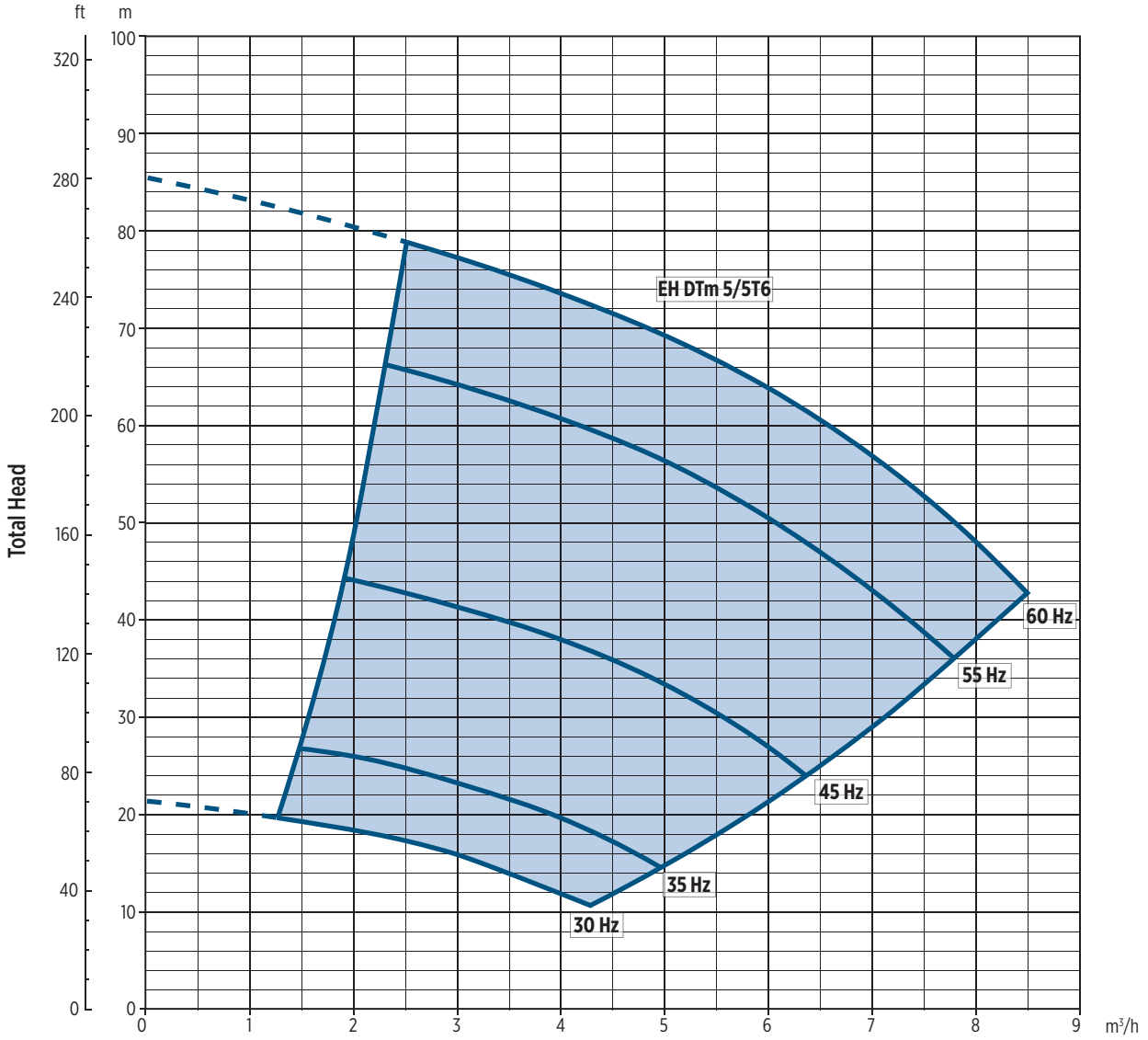
002096EN 09/2017

# EH DTm 5/4T6 - PERFORMANCE CURVES



0020254-04/2020

# EH DTm 5/5T6 - PERFORMANCE CURVES

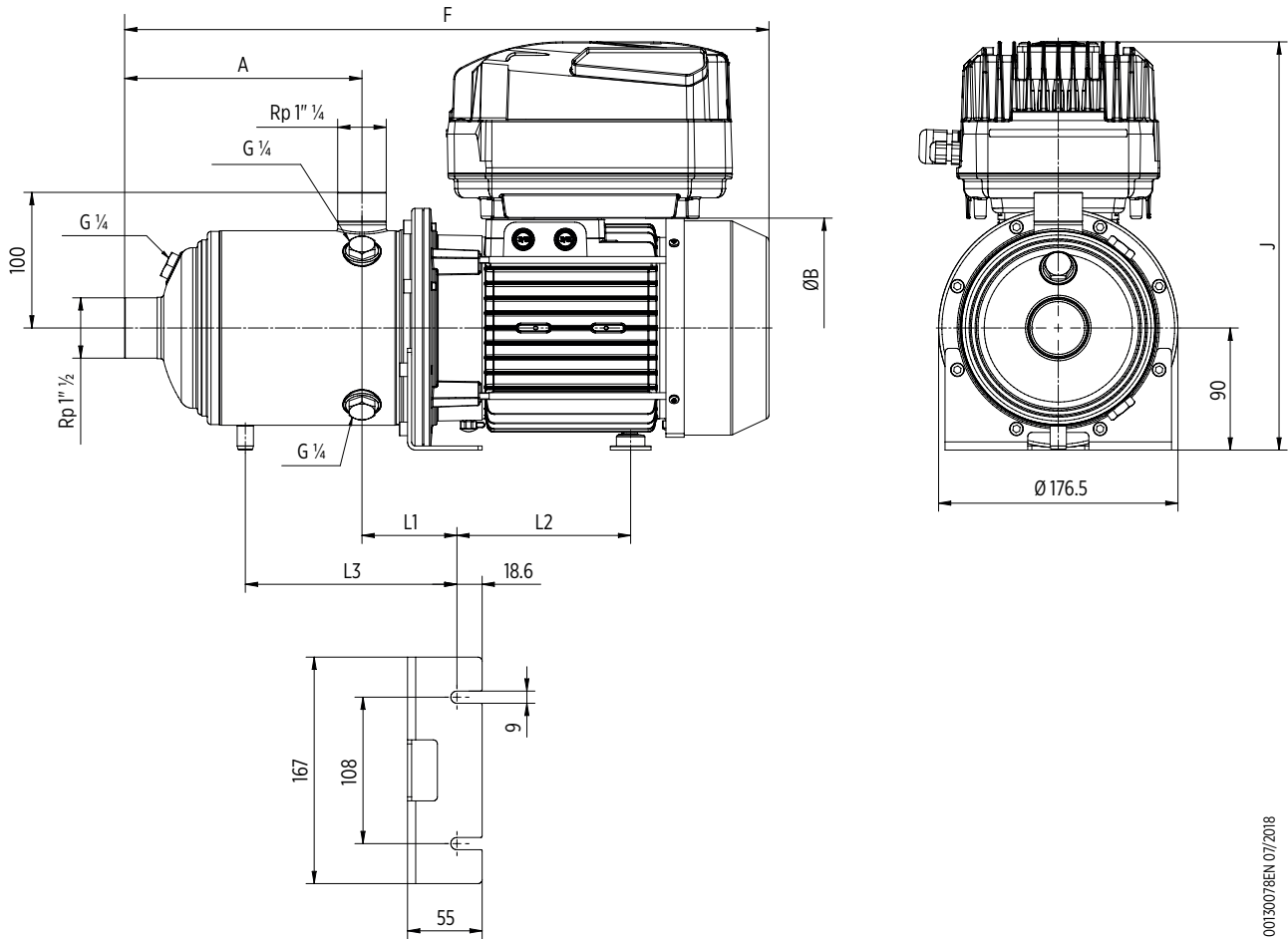


0022099EN 09/2017

## EH DTm 9 - TECHNICAL DATA

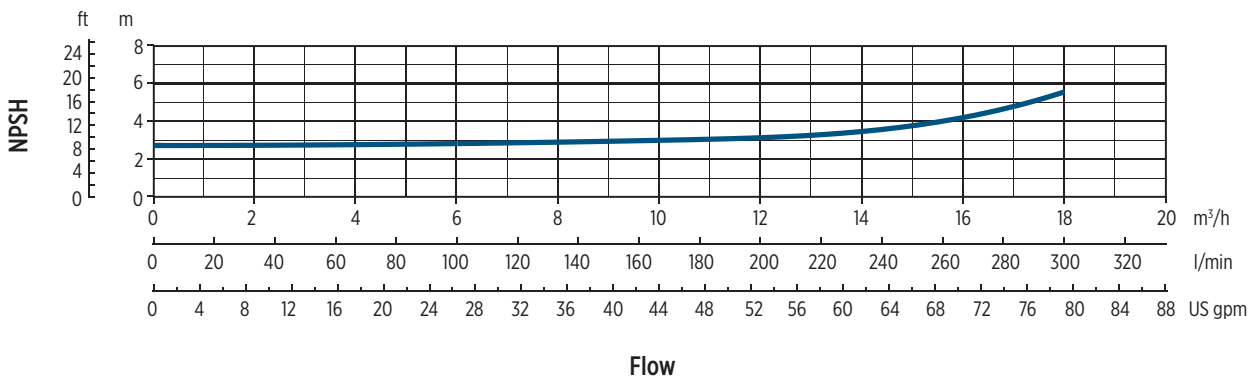
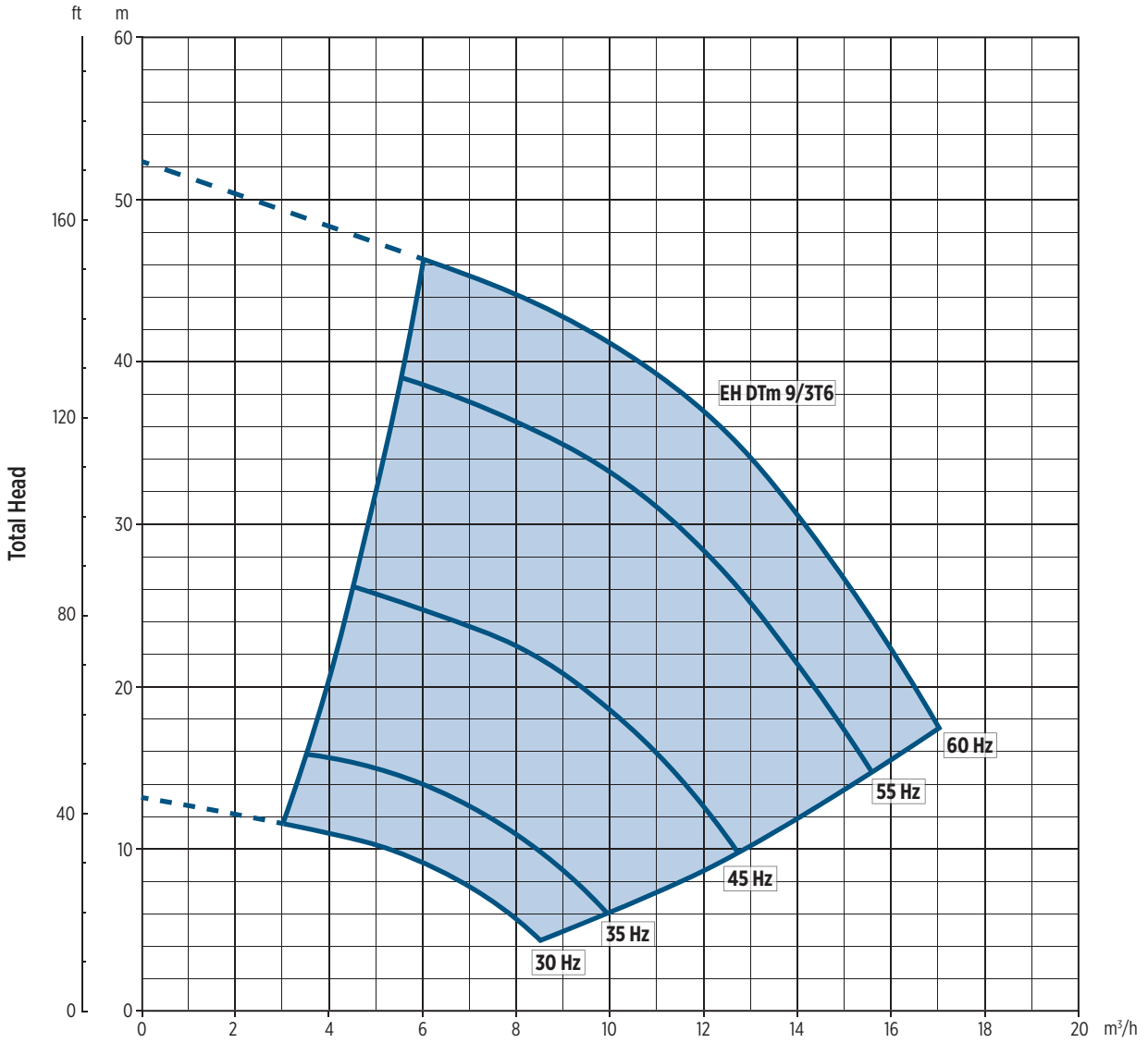
Pump model	Motor size	Motor nominal power		Input power [kW]	Input current [A]	Dimensions [mm]							Weight [kg]
		[kW]	[HP]			A	F	ØB	J	L1	L2	L3	
EH DTm 9/3T6	90	2.2	2.7	2.54	11.0	118	466	179	308	74	172	-	22.8

### DIMENSIONAL DRAWINGS



00130078EN 07/2018

# EH DTm 9/3T6 - PERFORMANCE CURVES



00120101EN/09/2017



## CATALOG REVISION CHANGE NOTICE

Rev. No.	Changes	Page
01	EHsp removed from "Compact Close-Coupled Design".	2
	EHsp removed from "Family Curves".	3
	"Pump Identification Code" updated.	4
	"General Features" table modified.	4
	"Standard Version" table modified.	5
	"Single-phase version" table updated and "50 Hz - EH Motor Specifications" section modified.	6
	"Parts in contact with liquid" table updated.	15
	"Technical Data" tables updated.	18-26
	"Technical Data" drawings updated.	24, 26
"EHsp Series - 3-5 50 Hz Self-Priming Horizontal Pumps" section removed.	29-38	



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10000008724 EN REV.01\_09-2023



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