



ES SERIES 50-60 HZ

5" STAINLESS STEEL CLOSE-COUPLED SUBMERSIBLE MULTISTAGE PUMPS



INDEX

5" Stainless steel close-coupled submersible multistage pumps	2
Family curves.....	3
Pump identification code.....	3

Tables of hydraulic performance	4
ES 3-5 at 50 Hz.....	4
ES 3-5 at 60 Hz.....	4

Spare parts and material table.....	5
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TECHNICAL DATA AND PERFORMANCE CURVES AT 50 HZ

ES 3	8
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ES 5	10
-------------------	-----------

TECHNICAL DATA AND PERFORMANCE CURVES AT 60 HZ

ES 3	14
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ES 5	16
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NOTE: Franklin Electric S.r.l. reserves the right to amend specification without prior notice

For the most up-to-date product information, visit franklinwater.eu.



5" STAINLESS STEEL CLOSE-COUPLED SUBMERSIBLE MULTISTAGE PUMPS

APPLICATION

- Water distribution / Pressure boosting
- Rainwater recovery
- Irrigation / Gardening / Sprinklers
- Dewatering
- Wash down unit
- Other various installations

FEATURES

- Easy installation: the single-phase version have internal capacitor and thermic motor-protection thus is not necessary to connect the pump to a control panel
- Compact close-coupled design, robust and corrosion resistant
- Double mechanical seal separated by an oil chamber* for maximum motor protection
 - *In compliance with FDA - Food, Drug Administration - and the annex to G.U. no. 104 of 20/04/73 for oils in contact with food stuffs
- Plug-in type power cable and level control (floater) for easy replacement
- Heavy duty over size motor shaft
- Stainless steel water proof capsule to protect the motor
- Motor cooling is guaranteed by the pumped liquid

PUMP SPECIFICATIONS

- Flow: up to 7.5 m³/h at 50 Hz
up to 9 m³/h at 60 Hz
- Head: up to 88 m at 50 Hz
up to 80.5 m at 60 Hz
- Discharge outlet: 1 1/4 Rp or NPT
- Maximum working pressure: 10 Bar
- Maximum immersion depth: 20 m
- Maximum allowable amount of sand: 50 gr/m³
- Maximum solids size: up to 2 mm
- Liquid temperature range: -5 °C to + 40 °C
- Continuous operation either in vertical or horizontal position
- 20 m of power cable type H07RN F is supplied with the standard version

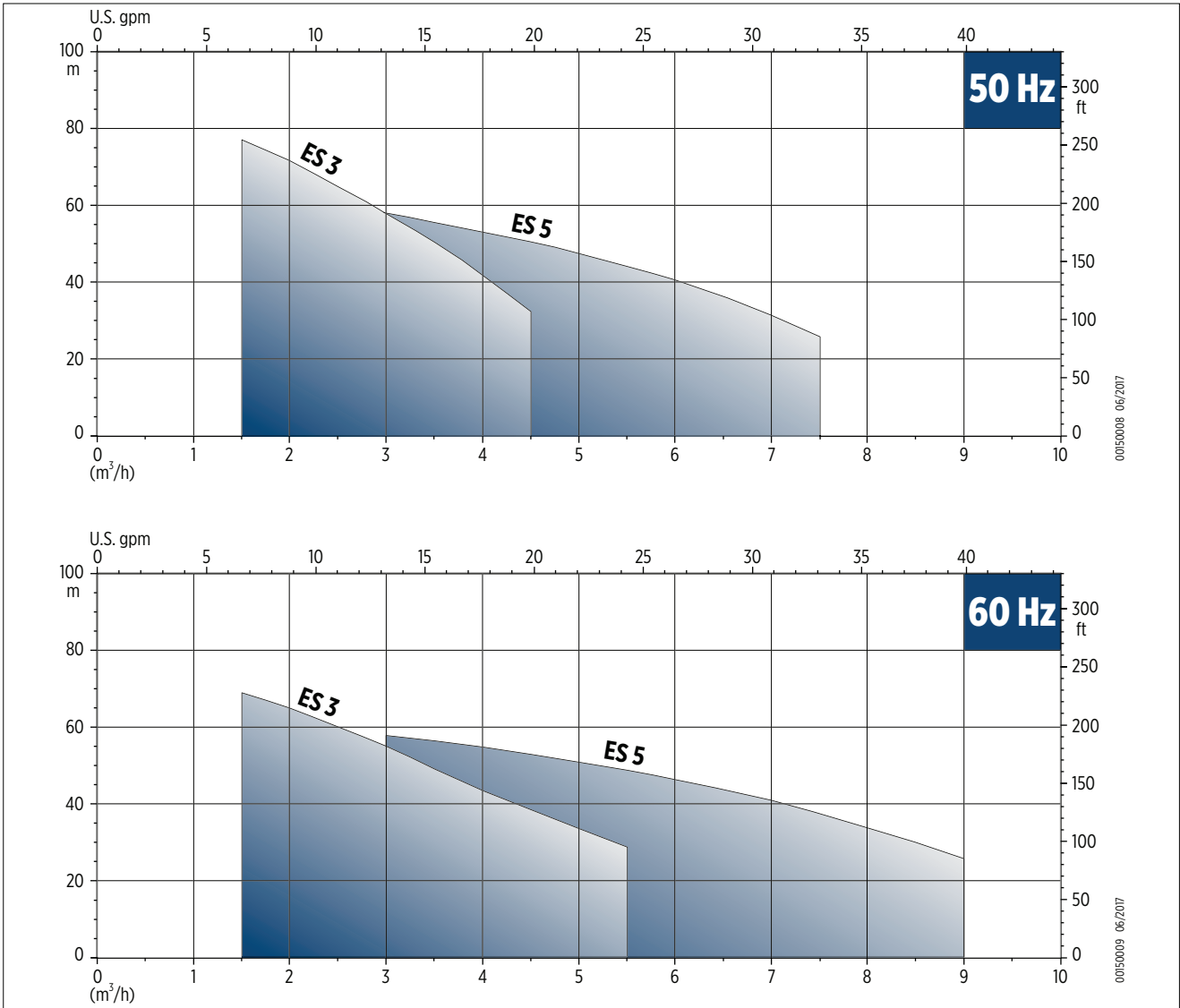
MOTOR SPECIFICATIONS

- Single-phase or three-phase motor
- Asynchronous, Class F insulation, IP 68 protection
- Standard voltage:
 - Single-phase: 50 Hz motors 220-240 V ± 5 % / 60 Hz motors 220-230V ± 5 % (thermal protection built into the motor up to 1,1 kW)
 - Three-phase: 50 Hz motors 220-240 V ± 5 % and 380-415 V ± 5 % / 60 Hz motors 220-230V ± 5 % or 380-400V ± 5% (thermal protection to be provided into the starter panel by the Installer)
- Max. 60 starts/hour (with min. 1 minute resting time)

AVAILABLE ON REQUEST

- 2" Adapter
- Different voltages and frequencies

FAMILY CURVES



PUMP IDENTIFICATION CODE

ES 3 / 7 T 6

- 6 (60 Hz); empty (50 Hz)
- T (Three-phase vers.); empty (single-phase vers.)
- Number of stages
- Nominal flow rate in m³/h
- Pump type

TABLES OF HYDRAULIC PERFORMANCE

ES 3-5 AT 50 HZ

Pump model	RATED POWER		Q = DELIVERY												
			l/min 0	25.0	33.3	42	50.0	58.3	67	75.0	83.3	92	100.0	116.7	125
			m ³ /h 0	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	7	7.5
	US GMP 0	6.6	8.8	11.0	13.2	15	17.6	19.8	22.0	24.2	26	30.8	33		
[kW]	[HP]	H = TOTAL HEAD METERS COLUMN OF WATER [m]													
ES 3/3	0.55	0.75	34	30.5	28.5	26.5	23.5	21	17.5	14					
ES 3/4	0.55	0.75	45	40	37.5	34.5	31	27	23	18					
ES 3/5	0.75	1	56	49	46	42	38	33	27.5	21.5					
ES 3/6	0.75	1	66.5	58	54	49.5	44.5	38.5	32	25					
ES 3/7	0.9	1.2	77.5	68	63.5	58	52	45	37.5	29.5					
ES 3/8	1.1	1.5	88	77	71.5	65	58	50.5	42	32.5					
ES 5/3	0.55	0.75	34.5			31	30	29	28	26.5	25	23.5	22	17.5	15
ES 5/4	0.75	1	45.5			40.5	39	38	36.5	35	33	30.5	28	22	19.5
ES 5/5	0.9	1.2	57			50.5	49	47.5	45.5	43.5	41	38	35	27.5	23
ES 5/6	1.1	1.5	68			59.5	58	55.5	53	50.5	47.5	44	40.5	31.5	26

ES 3-5 AT 60 HZ

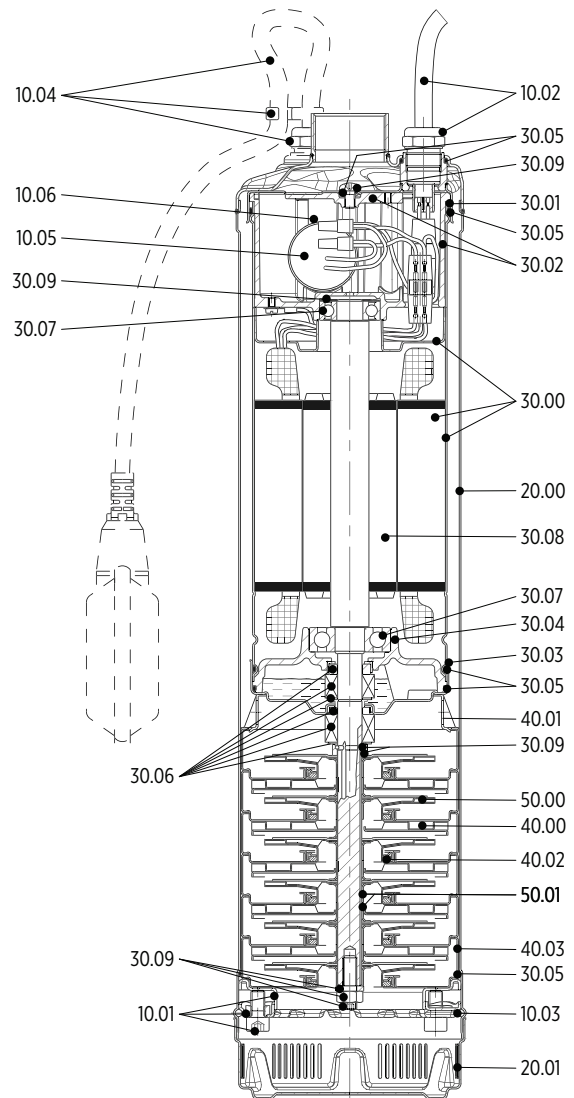
Pump model	RATED POWER		Q = DELIVERY												
			l/min 0	33.3	42	50.0	58.3	67	75.0	83.3	92	100.0	116.7	133.3	150
			m ³ /h 0	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8	9
	US GMP 0	8.8	11.0	13.2	15	17.6	19.8	22.0	24.2	26	30.8	35.2	39.6		
[kW]	[HP]	H = TOTAL HEAD METERS COLUMN OF WATER [m]													
ES 3/36	0.75	1	49	43	40.5	37.5	34.5	31	27.5	23	19				
ES 3/46	0.9	1.2	65	55.5	52.5	49	44.5	40	35	29.5	24				
ES 3/56	1.1	1.5	80.5	69	65	60	55	49	43	36.5	29				
ES 5/26	0.75	1	33.5			30	29.5	28.5	28	27	26	25	22	19	15
ES 5/36	0.9	1.2	50			44	43	42	40.5	39	37.5	36	31.5	27	21
ES 5/46	1.1	1.5	65.5			58	56.5	55	53	51	49	46.5	41	34	26



SPARE PARTS AND MATERIAL TABLE

Pos.	Part description	Material	Reference standard	
			ASME	DIN / EN
10.01 *	Screws and flanges for pre-loading	Stainless steel	-	UNI-EN 12165-98
10.02 *	Power cable assembly	Cable: H07RN-F		
		Cable gland: nickel plated brass / NBR		
10.03 *	Seeger-ring	Stainless steel	AISI 304	1.4301
10.04 *	Level control assembly	Cable: H07RN-F		
		Float switch: PP		
		Holding cable plate: PA66		
		Cable gland: nickel plated brass / NBR		
10.05	Capacitor with cables and connectors	-		
10.06	Clamp for capacitor	-		
20.00 *	Outer case with suction head	Stainless steel	AISI 304	1.4301
20.01 *	Suction strainer	Stainless steel	AISI 304	1.4301
30.00 *	Motor housing and stator	Stainless steel	AISI 304	1.4301
30.01 *	Upper motor cover	Stainless steel	AISI 304	1.4301
30.02	Upper bearing housing with cover	Aluminum		
30.03 *	Lower motor cover	Stainless steel	AISI 304	1.4301
30.04	Lower bearing cover	Aluminum		
30.05*	O-Ring	NBR		
30.06 *	Mechanical seals	Ceramic / Carbon / NBR		
30.07	Ball bearings	6202 2Z-C3 / 6303 2Z-C3		
30.08 *	Rotor and pump shaft	Stainless steel	AISI 304	1.4301
30.09 *	Screws, nut and washers	Stainless steel	AISI 304	1.4301
			AISI 316	1.4401
40.00 *	Stage housing and diffuser	Stainless steel	AISI 304	1.4301
40.01 *	Spacer	Stainless steel	AISI 304	1.4301
40.02 *	Floating neck ring assembly	PPS		
40.03 *	Initial stage housing	Stainless steel	AISI 304	1.4301
50.00 *	Impeller	Stainless steel	AISI 304	1.4301
50.01 *	Impeller spacers	Stainless steel	AISI 304	1.4301

* Materials in contact with liquid



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Technical data and Performance curves at 50 Hz

ES 3 - 50 HZ

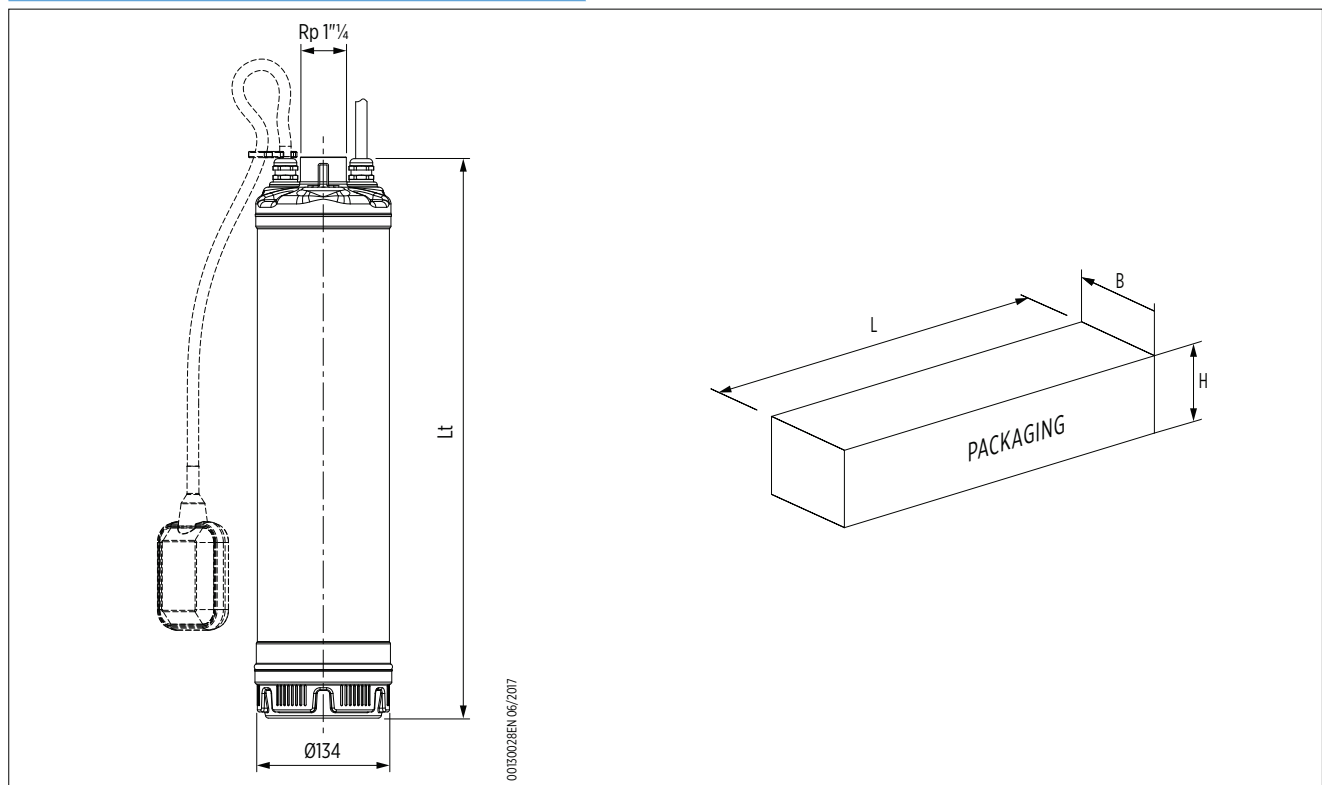
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER [kW]	Capacitor		RATED CURRENT		
Single-phase	Three-phase		[kW]	[HP]		μ F	V	Single-phase 220-240 V 50 Hz		
								Three-phase 50 Hz		220-240 V
ES 3/3	ES 3/3T	3	0.55	0.75	0.63	16	450	3.6	3.12	1.8
ES 3/4	ES 3/4T	4	0.55	0.75	0.81	16	450	4.0	3.5	2.0
ES 3/5	ES 3/5T	5	0.75	1	0.99	20	450	4.7	3.7	2.1
ES 3/6	ES 3/6T	6	0.75	1	1.15	20	450	5.2	4.0	2.3
ES 3/7	ES 3/7T	7	0.9	1.2	1.34	30	450	6.7	4.4	2.5
ES 3/8	ES 3/8T	8	1.1	1.5	1.50	30	450	7.2	4.7	2.7

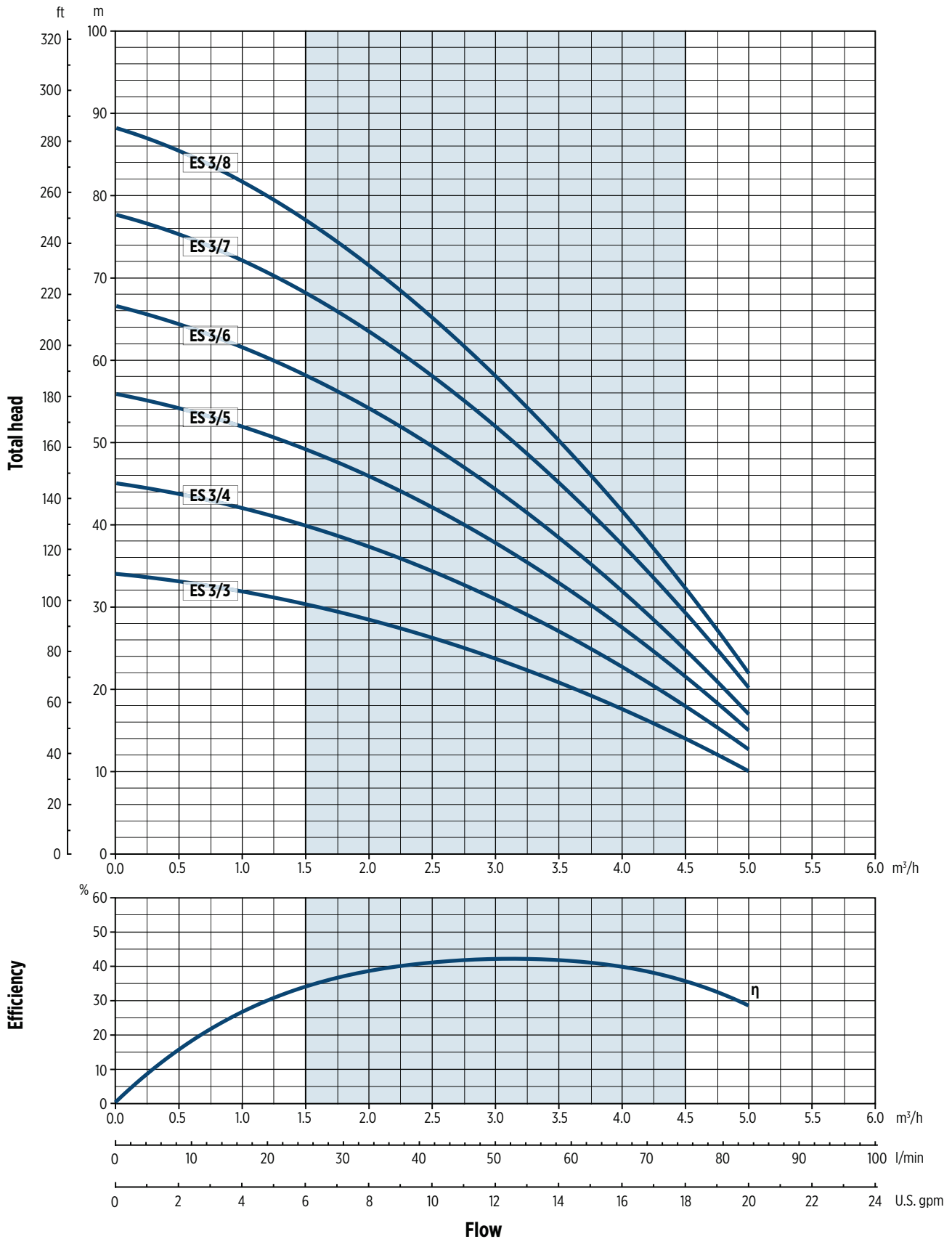
DIMENSIONS AND WEIGHTS

Pump			Packaging				
Single-phase	Three-phase	Lt [mm]	L [mm]	B [mm]	H [mm]	Weight [Kg]	
						Single-phase	Three-phase
ES 3/3	ES 3/3T	446	720	230	175	13.2	16.2
ES 3/4	ES 3/4T	470	720	230	175	13.8	16.2
ES 3/5	ES 3/5T	544	720	230	175	15.6	16.8
ES 3/6	ES 3/6T	568	720	230	175	16.2	17.4
ES 3/7	ES 3/7T	592	720	230	175	18.8	18
ES 3/8	ES 3/8T	616	720	230	175	19.4	18.6

DIMENSIONAL DRAWINGS



ES 3 - PERFORMANCE CURVES AT 50 HZ



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ES 5 - 50 HZ

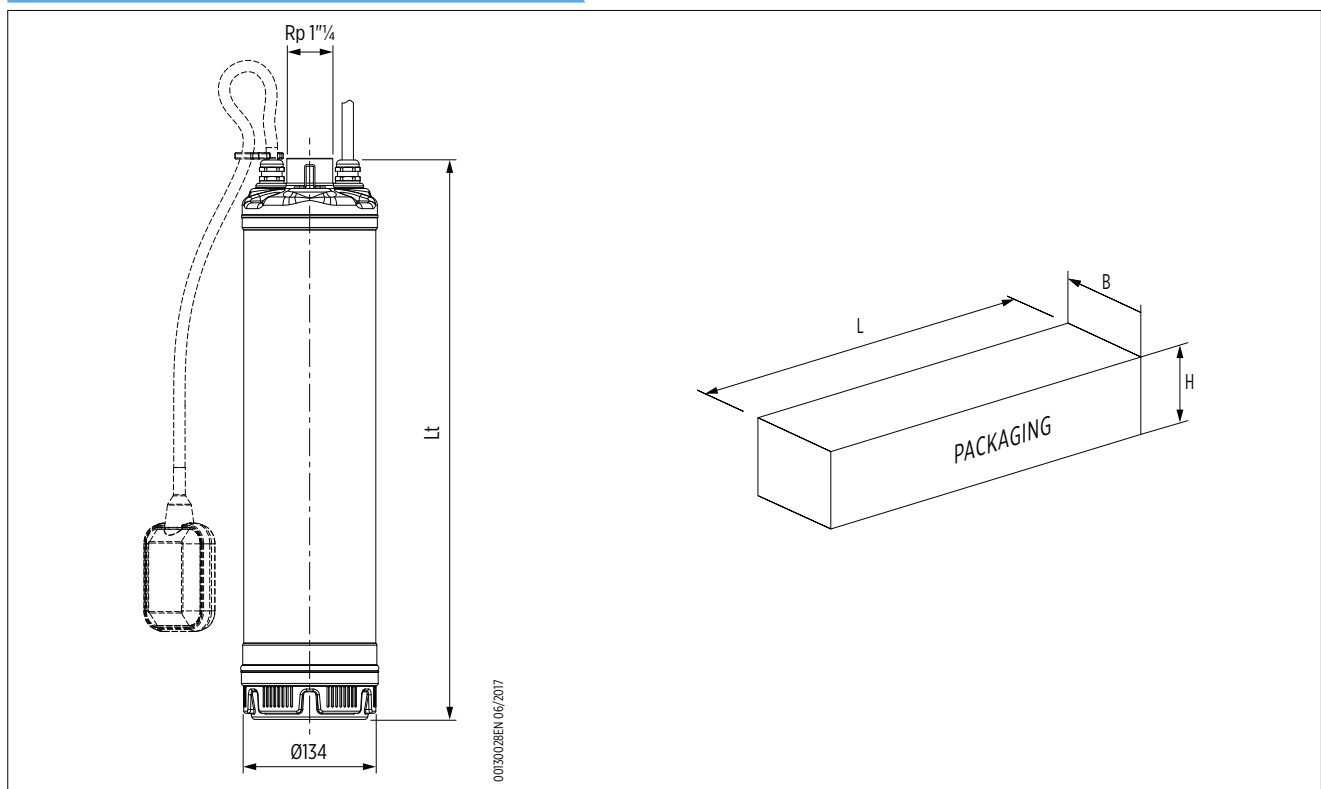
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER [kW]	Capacitor		RATED CURRENT		
Single-phase	Three-phase		[kW]	[HP]		μF	V	Single-phase 220-240 V 50 Hz	Three-phase 50 Hz	
										220-240 V
ES 5/3	ES 5/3T	3	0.55	0.75	0.84	16	450	4.1	3.5	2.0
ES 5/4	ES 5/4T	4	0.75	1	1.07	20	450	5.0	3.8	2.2
ES 5/5	ES 5/5T	5	0.9	1.2	1.34	30	450	6.6	4.4	2.5
ES 5/6	ES 5/6T	6	1.1	1.5	1.55	30	450	7.4	4.7	2.7

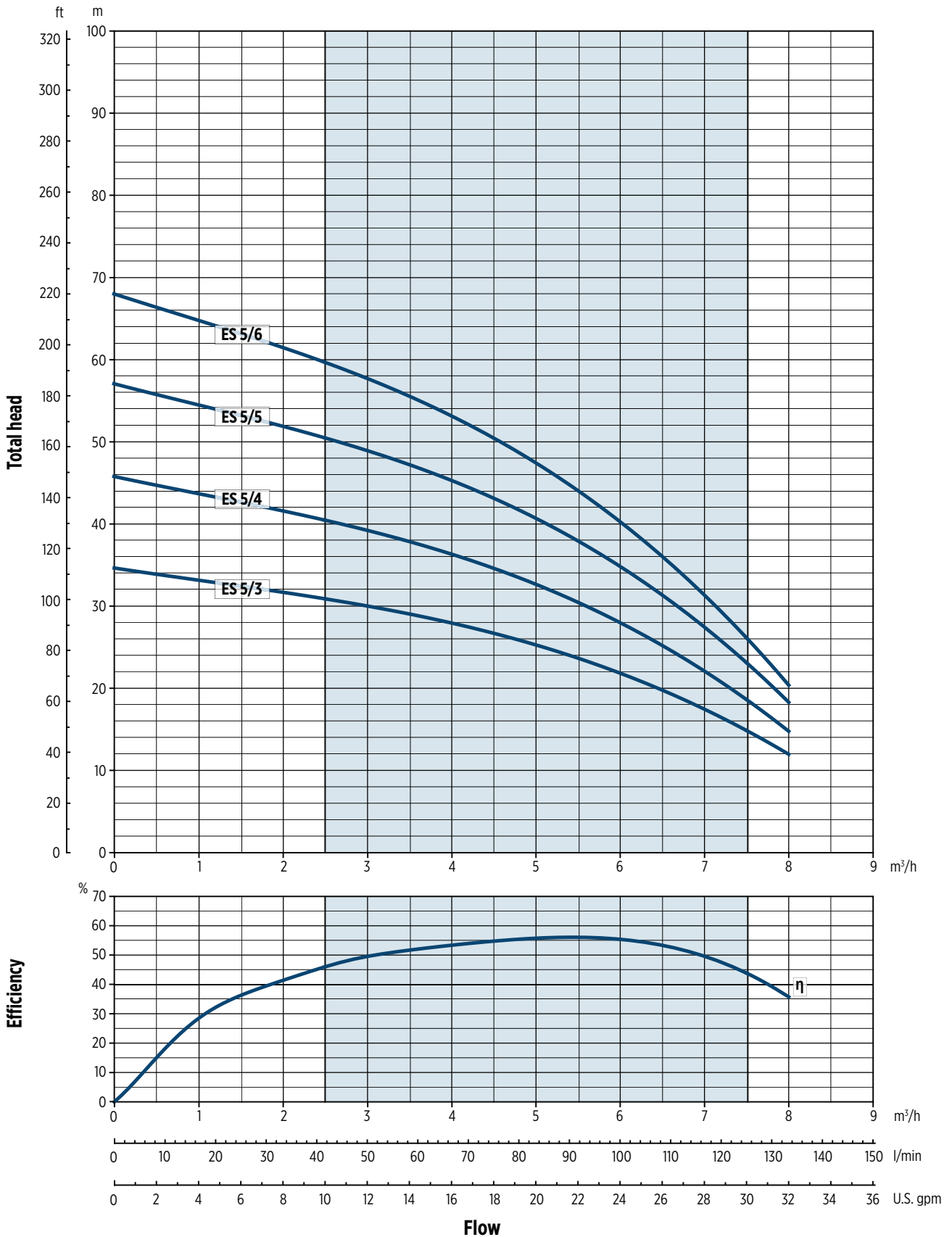
DIMENSIONS AND WEIGHTS

Pump			Packaging				
Single-phase	Three-phase	Lt [mm]	L [mm]	B [mm]	H [mm]	Weight [Kg]	
						Single-phase	Three-phase
ES 5/3	ES 5/3T	446	720	230	175	13.2	16.2
ES 5/4	ES 5/4T	470	720	230	175	14.8	16.2
ES 5/5	ES 5/5T	544	720	230	175	17.6	16.8
ES 5/6	ES 5/6T	568	720	230	175	18.2	17.4

DIMENSIONAL DRAWINGS



ES 5 - PERFORMANCE CURVES AT 50 HZ



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Technical data and Performance curves at 60 Hz

ES 3 - 60 HZ

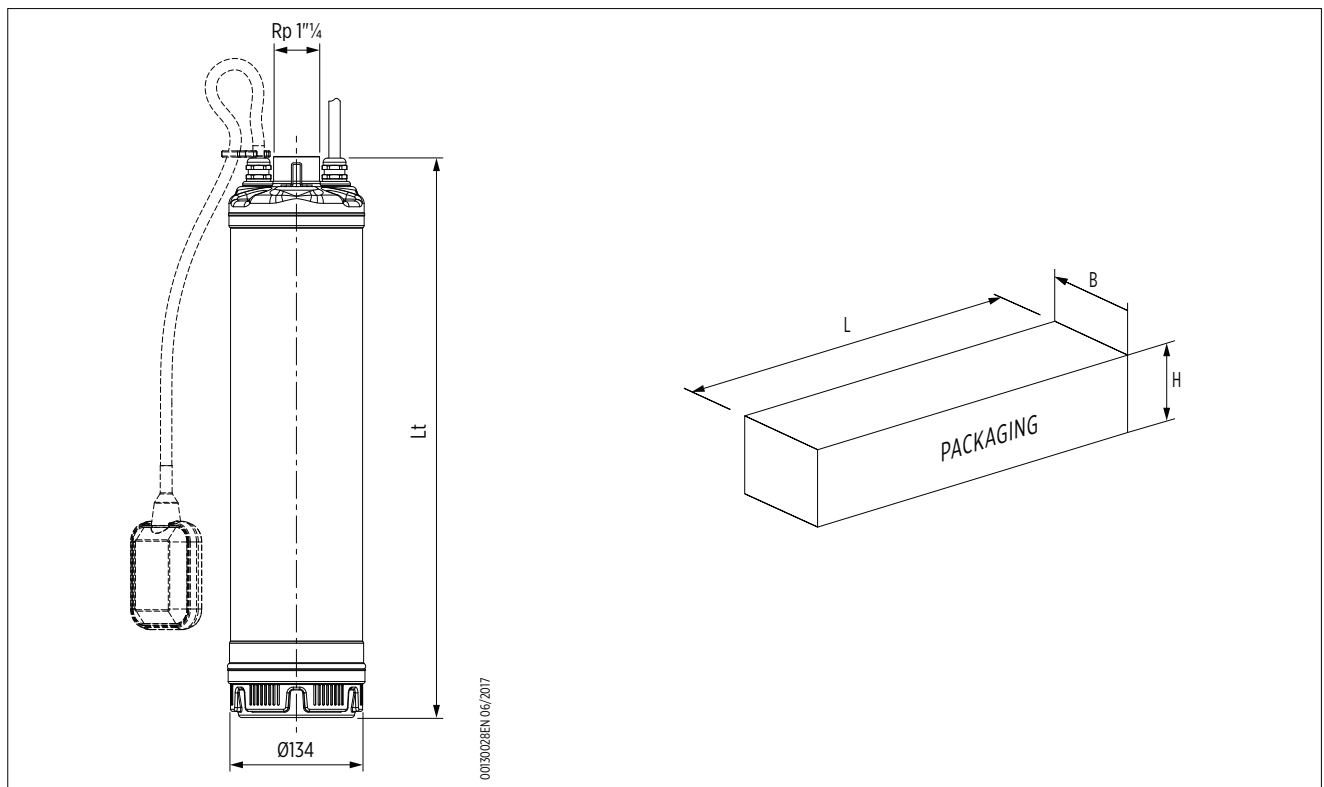
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER [kW]	Capacitor		RATED CURRENT		
Single-phase	Three-phase		[kW]	[HP]		μF	V	Three-phase 60 Hz		
					Single-phase 220-230 V 60 Hz			220-230 V	380-400 V	
ES 3/36	ES 3/3T6	3	0.75	1	1.05	20	450	5.2	4.2	2.4
ES 3/46	ES 3/4T6	4	0.9	1.2	1.30	20	450	6.2	4.5	2.6
ES 3/56	ES 3/5T6	5	1.1	1.5	1.61	25	450	8.0	5.2	3.0

DIMENSIONS AND WEIGHTS

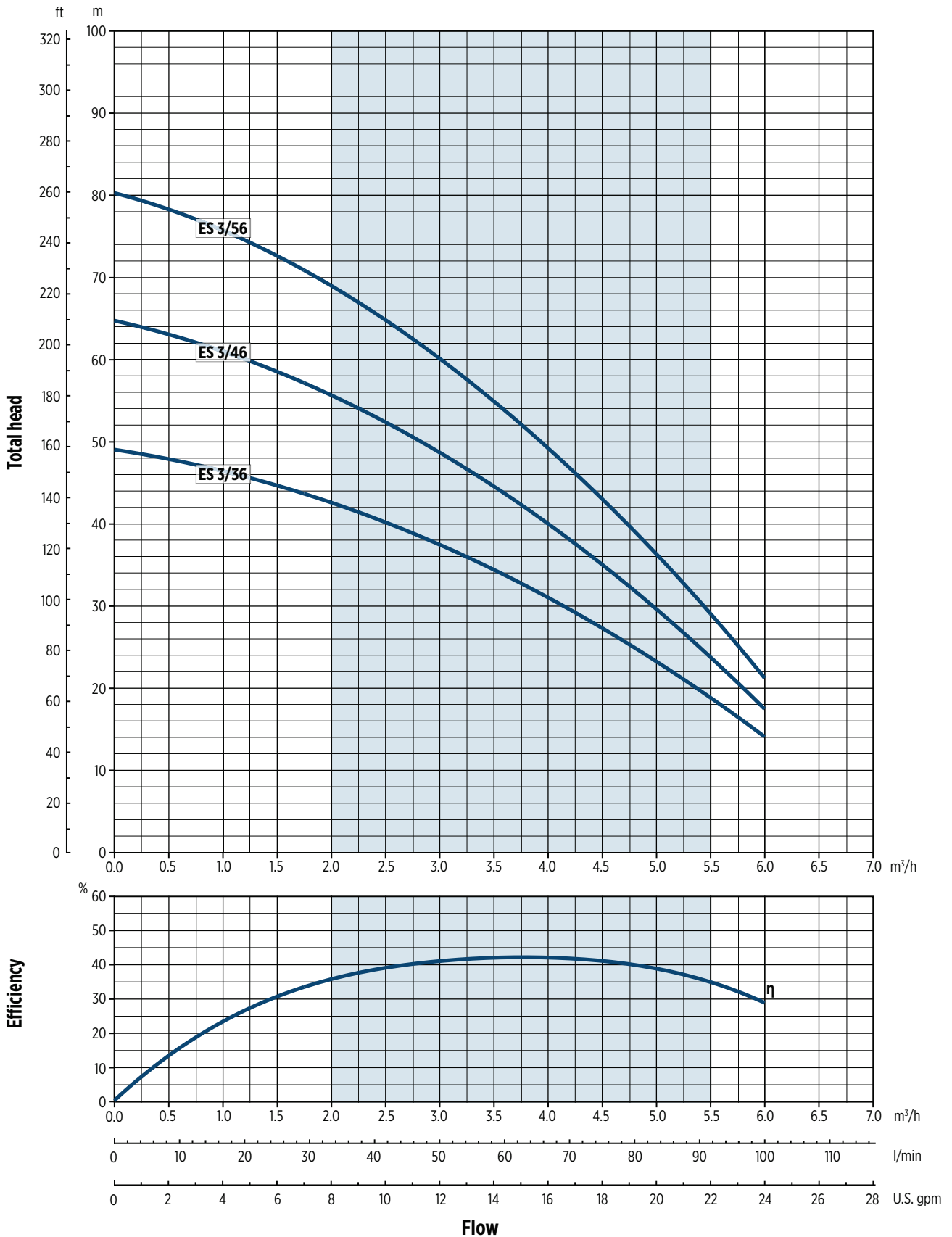
Pump			Packaging				
Single-phase	Three-phase	Lt [mm]	L [mm]	B [mm]	H [mm]	Weight [Kg]	
						Single-phase	Three-phase
ES 3/36	ES 3/3T6	496	720	230	175	15.8	15.6
ES 3/46	ES 3/4T6	520	720	230	175	16.4	16.2
ES 3/56	ES 3/5T6	544	720	230	175	17.6	16.8

DIMENSIONAL DRAWINGS



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ES 3 - PERFORMANCE CURVES AT 60 HZ



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ES 5 - 60 HZ

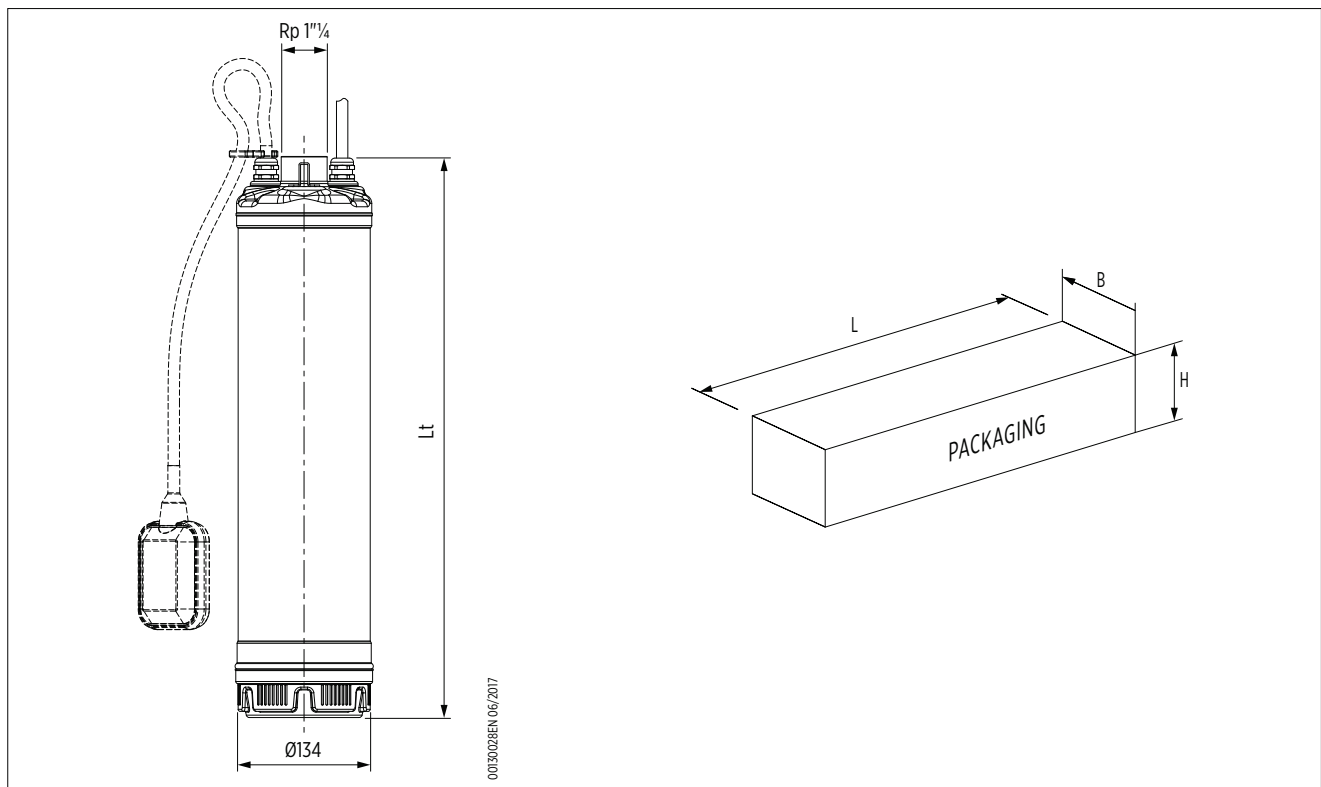
TECHNICAL DATA

Pump model		Number of stages	MOTOR POWER		INPUT POWER [kW]	Capacitor		RATED CURRENT		
Single-phase	Three-phase		[kW]	[HP]		μF	V	Single-phase 220-230 V 60 Hz		Three-phase 60 Hz
					220-230 V			380-400 V		
ES 5/26	ES 5/2T6	2	0.75	1	1	20	450	5.0	4.0	2.3
ES 5/36	ES 5/3T6	3	0.9	1.2	1.35	20	450	6.4	4.7	2.7
ES 5/46	ES 5/4T6	4	1.1	1.5	1.78	25	450	8.6	5.5	3.2

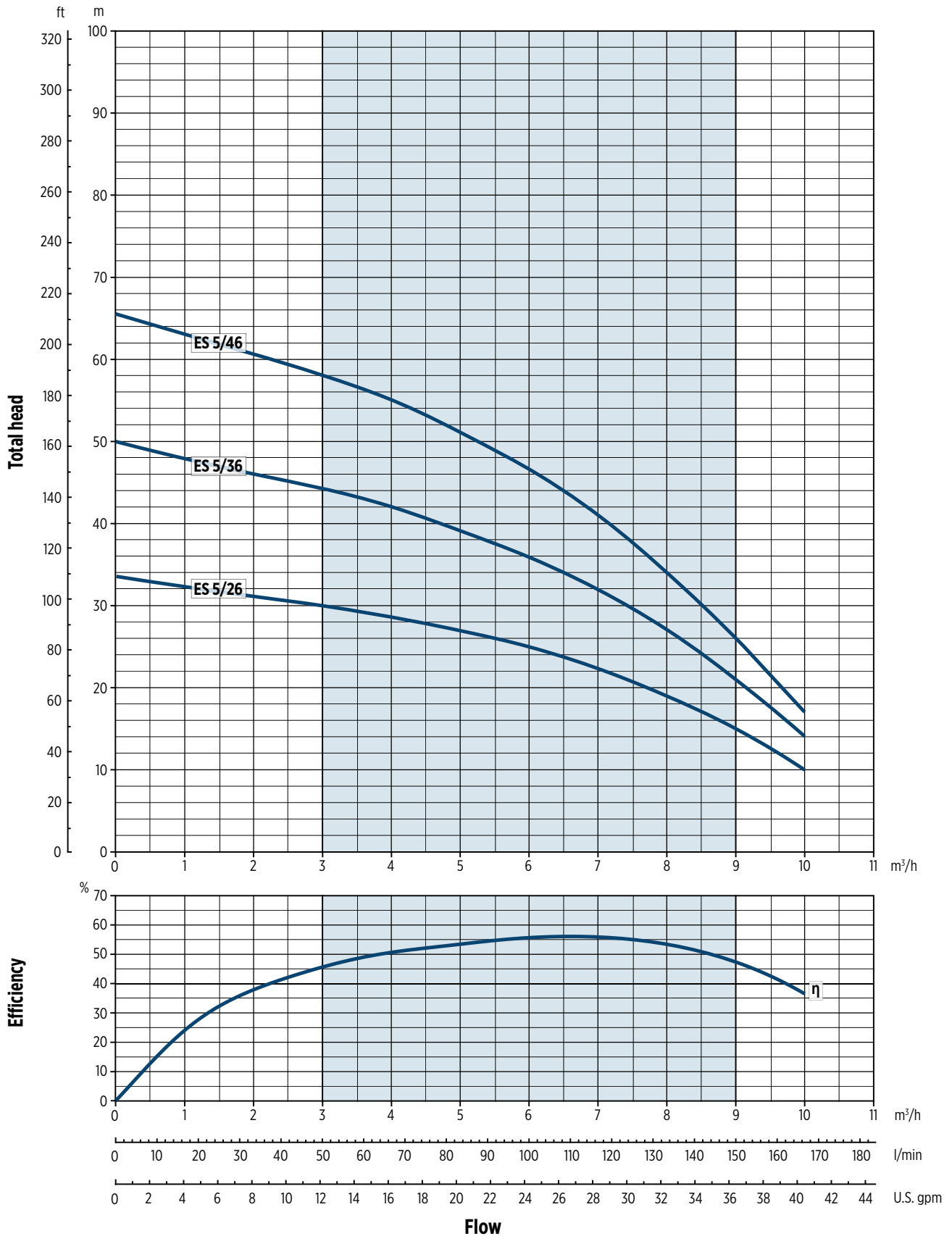
DIMENSIONS AND WEIGHTS

Pump			Packaging				
Single-phase	Three-phase	Lt [mm]	L [mm]	B [mm]	H [mm]	Weight [Kg]	
						Single-phase	Three-phase
ES 5/26	ES 5/2T6	470	720	230	175	14.5	14.5
ES 5/36	ES 5/3T6	494	720	230	175	15	15
ES 5/46	ES 5/4T6	518	720	230	175	17	16

DIMENSIONAL DRAWINGS



ES 5 - PERFORMANCE CURVES AT 60 HZ



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CATALOG REVISION CHANGE NOTICE

Rev. No.	Changes	Page
02	Modification of the description of pump	2, 3
	Modification and updating of section "Materials/Fluids compatibility"	4
	Updating of "Technical and Dimensional data"	6, 8, 12, 14
03	Updating of "Available on request" section	3
	Adding of new section "Spare parts and Materials table"	5
	Adding of Three-phase 220-240 V values in "Technical data" of ES 3-5 at 50 Hz	8-9
	Modification of performance curves of "ES 3 - 50 Hz"	9
04	Uptading of "Spare parts and material table"	5



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