SL1, SLV pumps

Generation C
1.5 to 15 hp
60 Hz

be
think
innovate

GRUNDFOS

Table of contents

1. Introduction

Introduction

This data booklet deals with Grundfos submersible wastewater and sewage pumps, types SL1 and SLV.

Two types of pumps are available:

- SL1 pumps with S-**tube**® impeller
- SLV pumps with SuperVortex (free-flow) impeller.

TM04 3597 4708 - TM04 3598 4708

Fig. 1 SL1 (S-**tube**®) and SLV (SuperVortex) pumps

The S-**tube**® impeller is the only impeller available in the wastewater market that compromises neither efficiency nor free passage through the pump.

The pumps are SuperVortex or S-**tube**® impeller pumps specifically designed for pumping sewage and wastewater in a wide range of municipal, private and industrial applications.

The pumps are made of resistant materials, such as cast iron and stainless steel. These materials ensure long and reliable operation.

The pumps are fitted with motors from 1.5 hp up to and including 15 hp (1.1 to 11 kW). The motors are either 2- or 4-pole motors, depending on the motor size.

The free passage in the pumps is 2-4" (50-100 mm)

The pumps are available for:

- submerged installation on auto-coupling system
- submerged installation, free-standing.

Applications

Typical applications are transfer of liquids, such as:

- municipal wastewater
- wastewater with a high content of fibers (SuperVortex impeller)
- drainage and surface water
- domestic wastewater
- industrial wastewater
- process and cooling water.

The pumps are ideal for pumping the above liquids from for instance:

- municipal network pumping stations
- inlet pumping stations in wastewater treatment plants
- primary clarification in wastewater treatment plants
- secondary clarification in wastewater treatment plants
- stormwater pumping stations
- public buildings
- residential buildings
- factories/industry.

Grundfos blueflux®

Grundfos blueflux® guarantees the highest motor efficiency from Grundfos. Every aspect of the technology driving a Grundfos blueflux® motor has been developed to meet the actual needs of the application for which the pump system or solution is installed - and always with an emphasis on reliability and efficiency.

A pump system or solution with a Grundfos blueflux® motor has a considerably higher total efficiency than comparable solutions and reduces life cycle costs substantially. The combination of motor technology, advanced pump design and speed control ensures superior system control, reduced day-to-day service costs and lower environmental impact.

Grundfos blueflux® represents a range of skills and innovative processes that Grundfos brings to motor technology development. Grundfos was instrumental in the drafting and passing of the EuP Directive, setting the ecodesign requirements for electric motors in the European Union.

As a technological leader within high-efficiency motors, Grundfos was invited to help with the technical aspects of the legislation. Grundfos was able to create political awareness of the huge savings potential of variable speed motors and, at a later stage, influence the decision-makers to include variable-frequency drives in the new legislation. As a consequence, Europe's annual power consumption will be reduced by 5 % by 2020 - about ten times more than originally planned before Grundfos intervened.

The Grundfos blueflux® label guarantees that the motor technology used is ahead of current market standards and either meets or exceeds legislative requirements for motor efficiency, where these apply.

smartdesign

smartdesign describes the functional design of our products that combines elegant appearance with smart features, created with customer needs in mind. smartdesign does not only look good; the design also makes installation, operation and maintenance of the product easier and more user-friendly.

The smartdesign features of our SL1 and SLV pumps include:

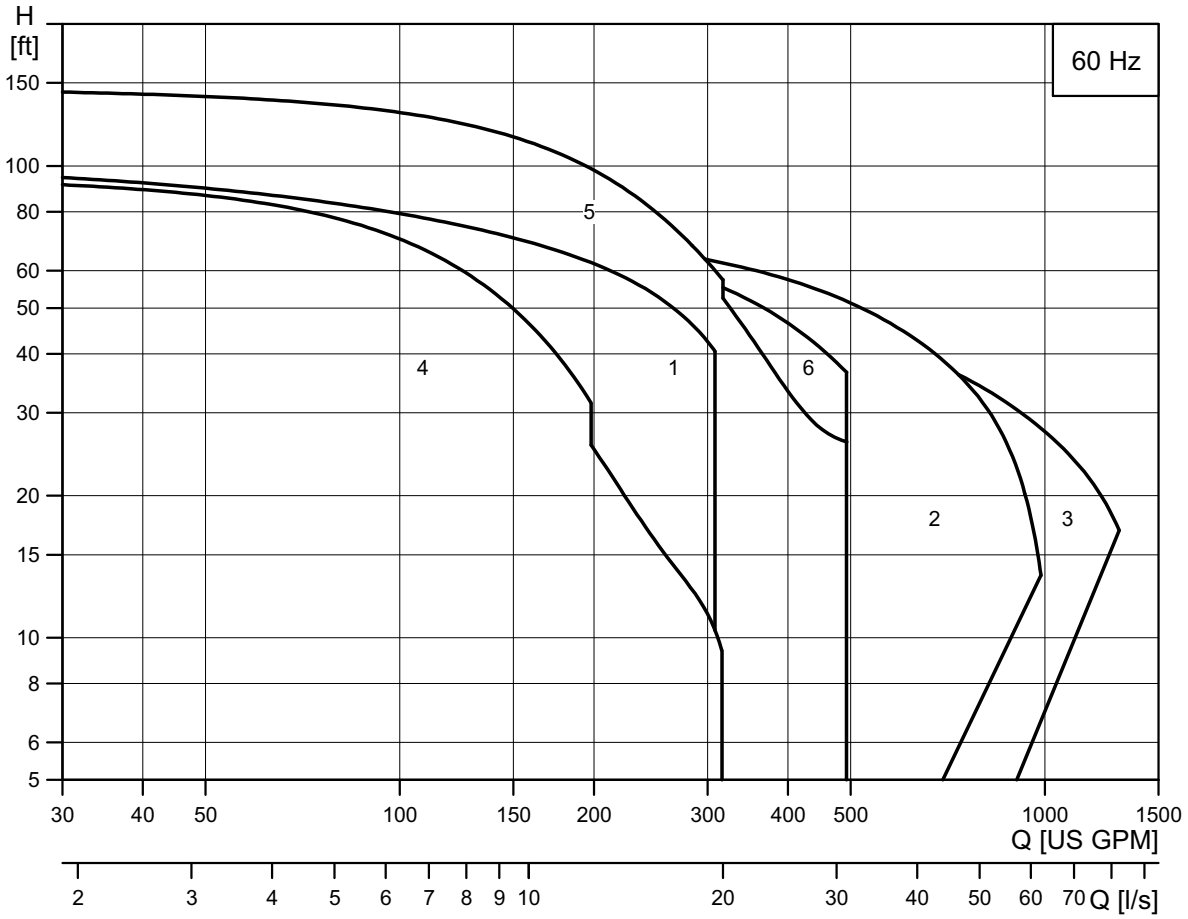
- moisture-proof cable plug connection made of corrosion-resistant stainless steel with conductors embedded in polyurethane sealant
- stainless steel clamp connection between motor housing and pump housing for easy service.
- power cable incorporating wires for thermal sensors in the motor windings
- no extra cable required for sensors in pumps with sensors
- monitoring of operating conditions for pumps with sensors
- moisture detector for continuous monitoring of motor enclosure and automatic cut-out in case of leakage
- heavy-duty bearings greased for life
- built for variable-frequency operation
- smooth pump surface prevents dirt and impurities from sticking to the pump
- self-cleaning S-**tube**® impeller with a long vane reducing the risk of jamming or clogging, or Super-Vortex impeller with high pumping efficiency and less downtime
- explosion-proof motors for potentially explosive environments (FM-approved pumps)
- motor in insulation class H (356 °F (180 °C)), enclosure class IP68 with one thermal sensor in each phase
- temperature rise class A
- service-friendly design:
  - clamp connection between motor and pump housing
  - double mechanical cartridge shaft seal
  - cable connection to motor via plug.
- motor built of highly efficient components, offering lower motor temperature and longer life.

2. Performance range

Performance range for SL1, SLV pumps

The figure below shows the performance range of SL1 and SLV sewage and wastewater pumps. It gives an overview of the various sizes and impeller types.

Note: For information about the performance range of each individual pump, see pages 38 to 145.



Pump type	Curve no.
SL1.20.A25.30	1
SL1.20.A25.40	
SL1.20.A25.55	
SL1.20.A30.30	
SL1.20.A30.40	
SL1.20.A30.55	
SL1.30	2
SL1.40	3

Pump type	Curve no.
SLV.25.A25.30	4
SLV.25.A25.40	
SLV.25.A25.55	
SLV.25.A30.30	
SLV.25.A30.40	
SLV.25.A30.55	
SLV.30	5
SLV.40	6

If your required duty point exceeds the performance range above, please see the Grundfos SE, SL or S range data booklets available online via Grundfos Product Center.

3. Identification

The pump can be identified by means of the type designation. The type designation is stated on the nameplate on the pump. The example below shows the following:

- S-**tube**® pump with 3" free spherical passage and 3" ANSI outlet.
- motor with 5.5 shaft horsepower, sensor version, explosion-proof version, 4-pole, for 3 x 230 V Δ / 460 V Y dual voltage, direct-on-line starting.

Type key

SL1, SLV

Code	Example	SL	1	30.	A30.	55.	A.	Ex.	4.	6.	1R	C.	
	Pump type:												
SL	Grundfos wastewater pump												
	Impeller type:												
1	S-**tube**® impeller												
V	SuperVortex (free-flow) impeller												
	Free spherical passage: Code number from type key / 10 [in.]												
20	2" (50 mm)												
25	2.5" (65 mm)												
30	3" (80 mm)												
40	4" (100 mm)												
	Pump outlet (outlet port in inches):												
A25	ANSI 2.5" (DN 65)												
A30	ANSI 3" (DN 80)												
A40	ANSI 4" (DN 100)												
A60	ANSI 6" (DN 150)												
	Motor power, P2: Code number from type key / 10 [hp]												
55	5.5 hp = 4.0 kW												
	Sensor version:												
Blank	Standard												
A	Sensor version												
	Pump version:												
Blank	Non-explosion-proof pump (standard)												
Ex	Explosion-proof pump												
	Number of poles:												
2	2-pole												
4	4-pole												
	Frequency:												
6	60 Hz												
	Voltage and starting method:												
0J	3 x 208-230 V Δ direct-on-line starting												
1H	3 x 460 V Δ star-delta starting												
0L	3 x 575 V Δ direct-on-line starting												
1L	3 x 575 V Δ star-delta starting												
1R	3 x 230 V Δ / 460 V Y direct-on-line starting												
	Product generation:												
Blank	1st generation												
A	2nd generation												
B	3rd generation												
C	4th generation												
	Pump materials:												
Blank	Cast iron impeller, pump housing and motor housing												
Q	Stainless steel impeller (according to 316/351 CF8m), cast iron pump housing and motor housing												
	Customization:												
Blank	Standard range pump												
Z	Custom-built pump												

Note: The pump types are not available in all variants.

Nameplate

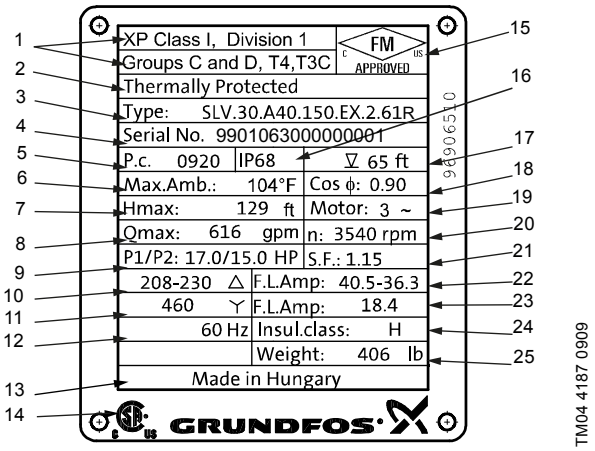


Fig. 2 Nameplate

Pos.	Description
1	Explosion protection classification
2	Thermally protected
3	Type designation
4	Serial number
5	Production code (year/week)
6	Maximum ambient temperature
7	Maximum head
8	Maximum flow rate
9	Rated input/output power
10	Rated voltage, D
11	Rated voltage, Y
12	Frequency
13	Country of production
14	CSA mark
15	FM mark
16	Enclosure class to IEC
17	Maximum installation depth
18	Power factor
19	Number of phases
20	Rated speed
21	Service factor
22	Full load current, D
23	Full load current, Y
24	Insulation class
25	Weight without cable

4. Selection of product

Ordering a pump

When ordering a pump, you need to take the following five aspects into consideration:

1. pump type
2. custom-built variation (option)
3. explosion-proof version
4. accessories
5. pump controller.

Pump type

Use the following table to identify the type of pump that best meets your needs. The table is for guidance only.

Description	SL1	SLV
Liquid and operation characteristics		
Dry solids content up to 3 %	X	X
Dry solids content up to 5 %		X
Relatively low content of fibres and solids	X	X
Relatively high content of fibres and solids		X
Relatively low number of operating hours	X	X
Relatively high number of operating hours	X	
Applications		
Stormwater	X	X
Groundwater	X	X
Drainage and surface water	X	X
Drainage and surface water with small impurities	X	X
Abrasive surface water	X	X
Wastewater with long fibres, e.g. from laundries	X	X
Domestic wastewater with discharge from toilets	X	X
Municipal sewage	X	X
Sewage from commercial buildings	X	X
Industrial process water with fibres/solids		X
Industrial process water with solids	X	X
Industrial process water without solids and fibres	X	

When you have selected the pump type, you can identify the specific pump that best meets your needs in *Product range* on page 30 and *Type key* on page 6. The list below is a detailed description of the product you get if you order the following pump:

Pump	Product no
SLV.25.A25.30.2.61H.C	98634243

- pump as specified in the type key
- 49 ft (15 m) cable
- paint: NCS 9000N black (RAL 9005), gloss code 30, thickness 100 µm
- thermal switch in stator windings
- tested according to Hydraulic Institute Centrifugal pump test ANSI/HI 11.6:2012 Grade 3B.

See *Performance curves and technical data* for selection of a standard pump.

Note: Product-specific data for the pump can also be found in online via Grundfos Product Center using the product number 98634243.

Custom-built variants

The pumps can be customized to meet individual requirements. Many pump features and options are available for customization, such as explosion-proof versions, various cable lengths or special materials.

Variants can be seen in the table in on page 9. For requirements or designs outside not included in this table, please contact Grundfos.

Explosion-proof version

The entire range is available in explosion-proof versions.

The SL1 and SLV pumps have the following explosion protection classification: Class I, Division 1, Groups C and D, T4, T3, IP68.

Accessories

Depending on the installation type, accessories may be required. See *Installation systems* on page 146 for selection of the correct accessories.

Note: Ordered accessories are not fitted from factory, but need to be fitted on site.

Pump controller

TM06 0918 1214

Fig. 3 Grundfos Dedicated Controls

Grundfos Dedicated Controls is a control system designed for installation in either commercial buildings or network pumping stations with one to six pumps. As standard, the system comes with application-optimized software and can be configured to meet your specific pumping needs.

For further information about Grundfos Dedicated Controls, see page 23.

5. Variants

List of variants

Motor		
Various cable lengths	**Note:** When using a different cable length than the standard lengths (i.e. 33 ft and 49 ft), a new cable cross section must be calculated	33 ft (10 m) 65 ft (20 m) 80 ft (25 m) 100 ft (30 m) 130 ft (40 m)
EMC power cables	Screened power cables for variable-speed drives	33 ft (10 m) 50 ft (15 m) 65 ft (20 m) 80 ft (25 m) 100 ft (30 m) 130 ft (40 m)
Tests		
Test at specified duty on standard impeller curve		
Trimmed impeller for specified duty test*		
Additional test of entire QH curve (including report)	Duty points from pump performance curve	
Different test standard	Efficiency guaranteed by Grundfos	ANSI/HI 11.6:2012 grade 1B tolerance ANSI/HI 11.6:2012 grade 1U tolerance ANSI/HI 11.6:2012 grade 2B tolerance ANSI/HI 11.6:2012 grade 2U tolerance ANSI/HI 11.6:2012 grade 3B tolerance
Customer-specified duty point	Test according to customer-specified duty point on standard pump curve	Contact Grundfos
Vibration test (including report)	According to Grundfos factory quality standard	
String test	Contact Grundfos	
Witness test	Contact Grundfos	
Certificates		
FM-approved pump report	Special Grundfos report. Contact Grundfos	
Certificate of compliance with order	According to EN10204 2.1	According to ANSI/HI 11.6:2012 grade 3B and 2 and 1
Pump certificate	According to EN10204 2.2	
Inspection certificate	According to EN10204 3.1	
Material specification report	According to EN10204 3.1B	
Material report with certificate	According to EN10204 3.2	Material supplier information
Inspection certificate, Lloyd's Register	According to EN10204 3.2	
Inspection certificate, DNV (Det Norske Veritas)	According to EN10204 3.2	
Inspection certificate, Germanisher Lloyd	According to EN10204 3.2	
Inspection certificate, American Bureau of Shipping	According to EN10204 3.2	
Inspection certificate, Bureau Veritas	According to EN10204 3.2	
Registro Italiano Navale Argenture	According to EN10204 3.2	
Other third-party test certificates	Contact Grundfos	
Miscellaneous		
Solution	Customer benefits	
FKM sealing (optional)	• Resistant to acids • Resistant to mineral oils and vegetable oils • Resistant to most solvents (toluene, petrol, trichloroethylene etc.)	Contact Grundfos
Cable protection hose	• Resistant to acids • Resistant to most oils • Resistant to most solvents etc.	Contact Grundfos
Stainless steel SuperVortex impeller according to EN AISI 316	Increased wear resistance	Contact Grundfos
Ceramic coating of impeller and pump housing	• Reduced wear rate of cast iron parts • Increased corrosion resistance • Beneficial in case of low number of operating hours	Contact Grundfos
Extra epoxy coating 300 µm		Contact Grundfos
Top coating (black RAL9005, red RAL 3000 and other colors)		Contact Grundfos
Special packaging		Contact Grundfos
Special nameplate		Contact Grundfos
Other variants		Contact Grundfos

* SLV impellers can be trimmed on request.

6. Construction

SL1

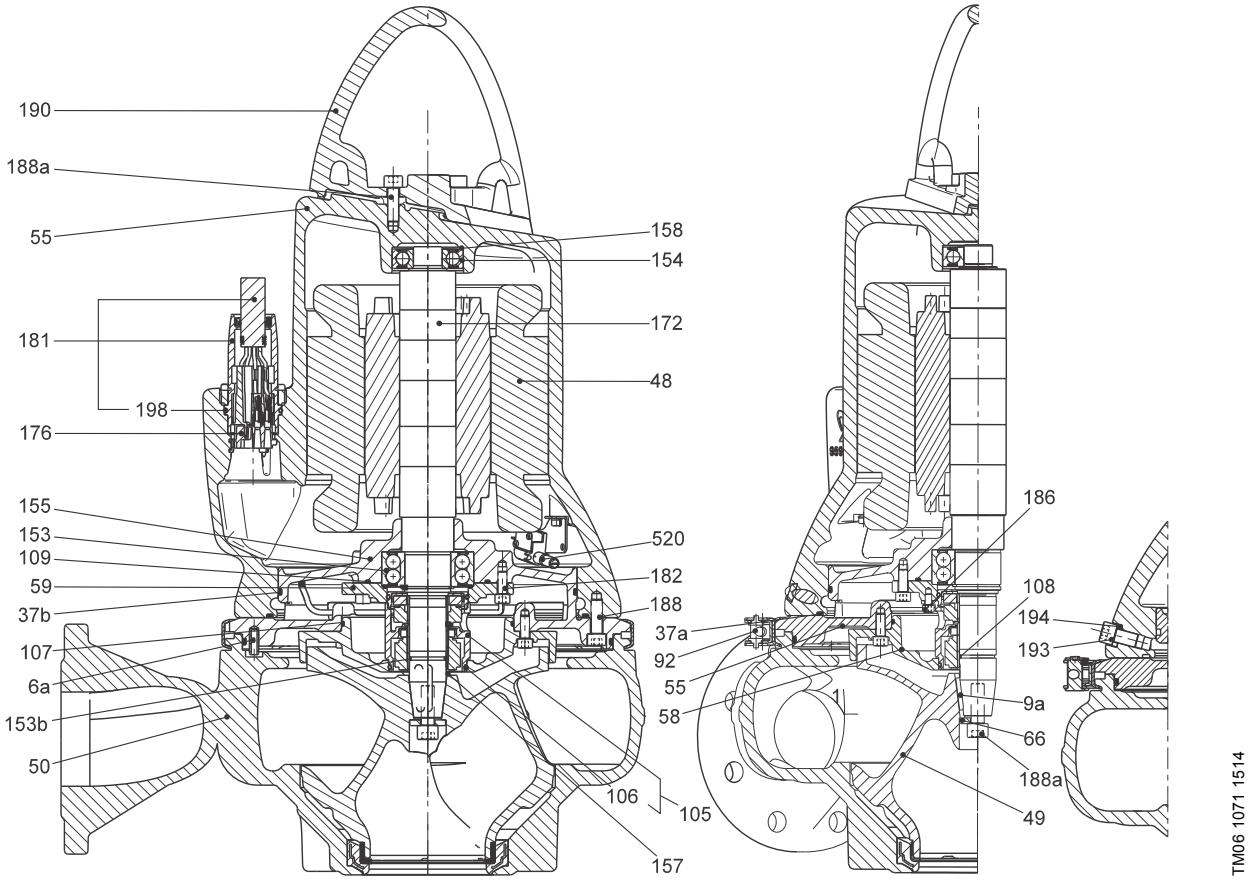


Fig. 4 Sectional drawing, SL1 pump, standard version

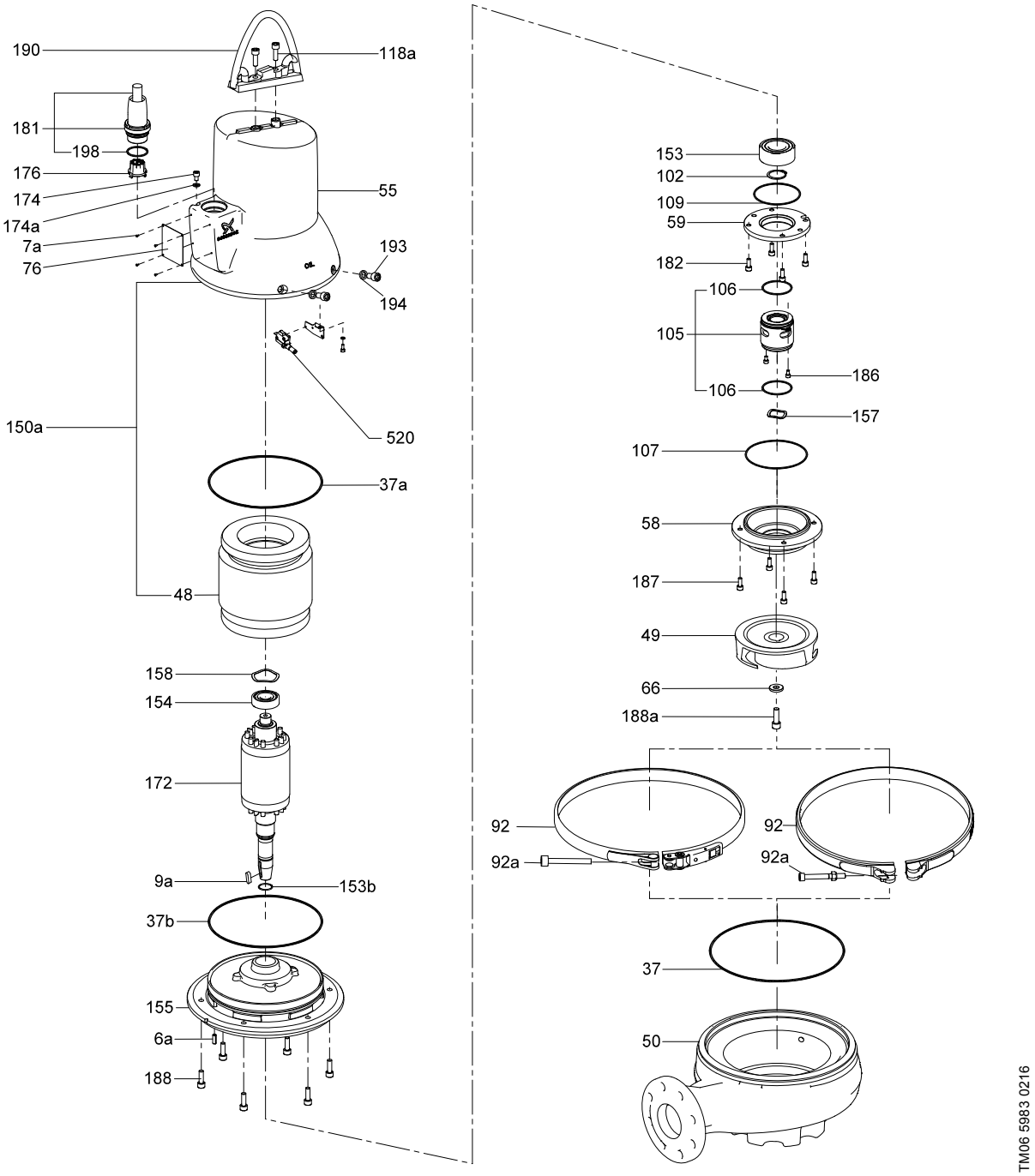


Fig. 5 Exploded view, SL1 pump, standard version

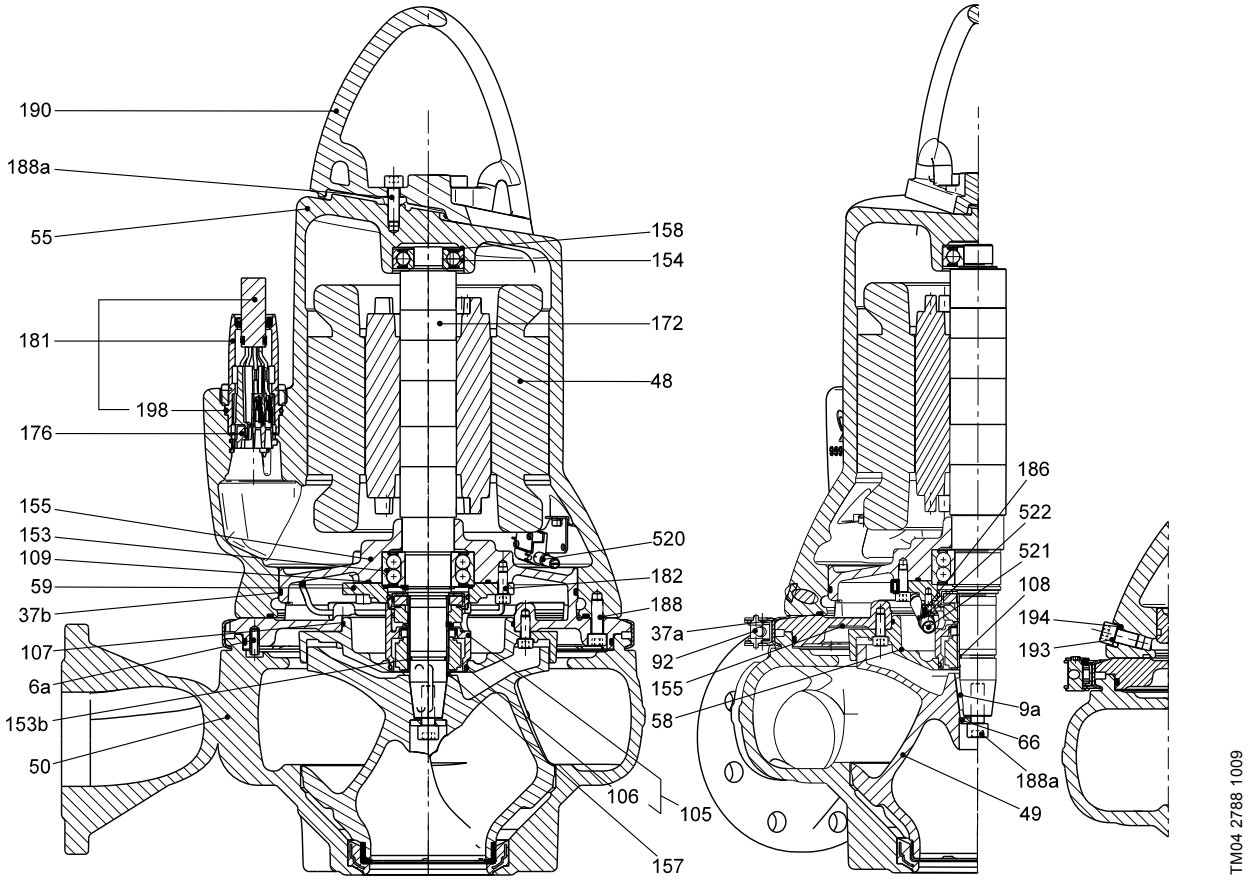


Fig. 6 Sectional drawing, SL1 pump, sensor version

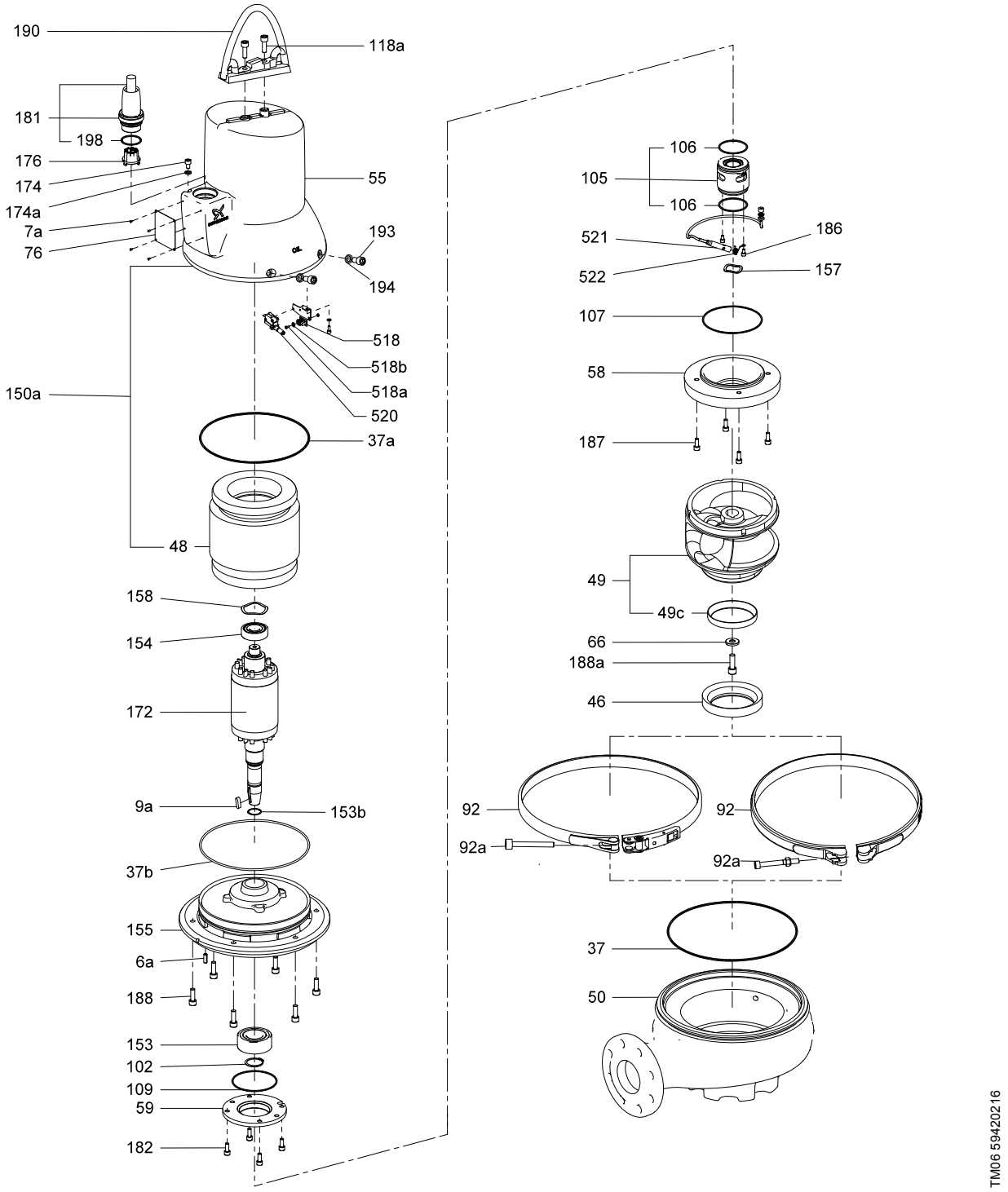


Fig. 7 Exploded view, SL1 pump, sensor version

SLV

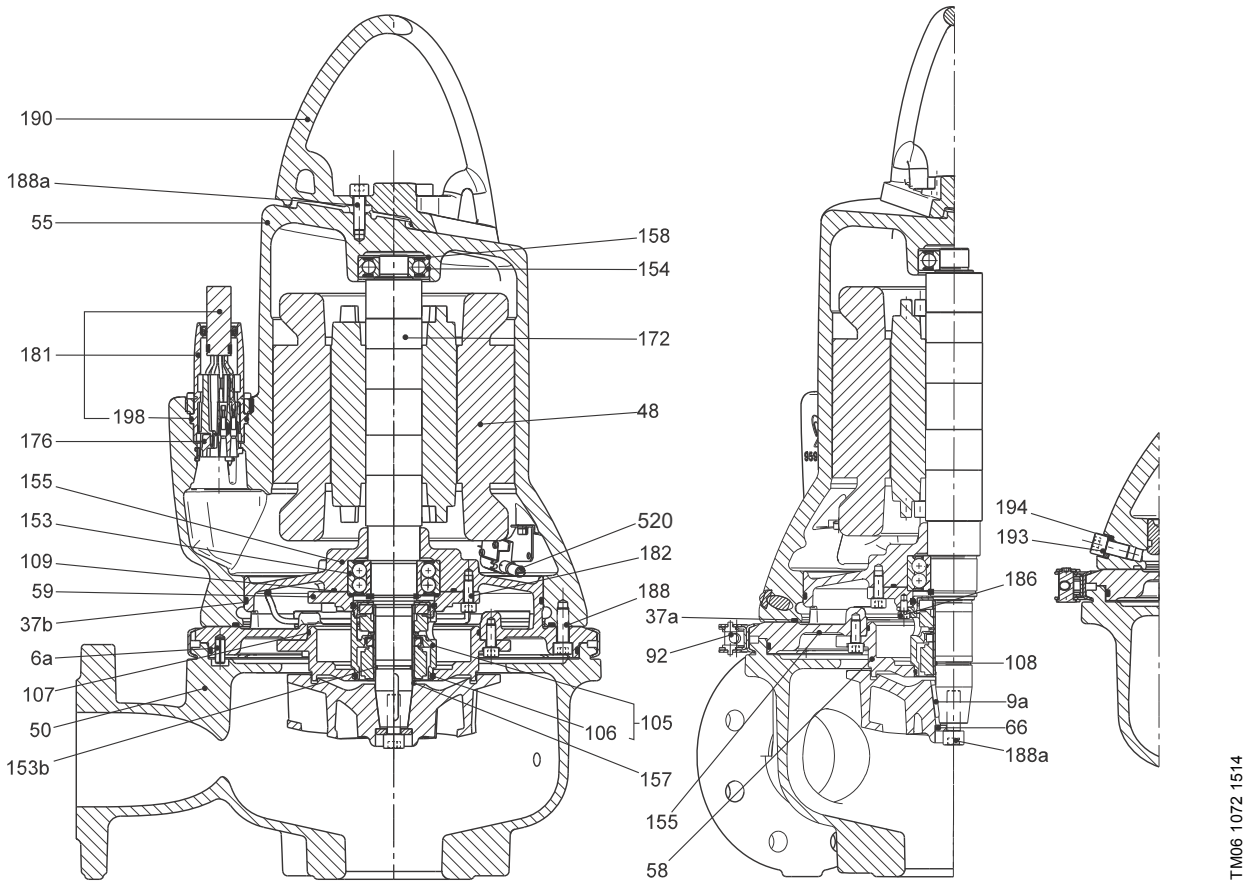


Fig. 8 Sectional drawing, SLV pump, standard version

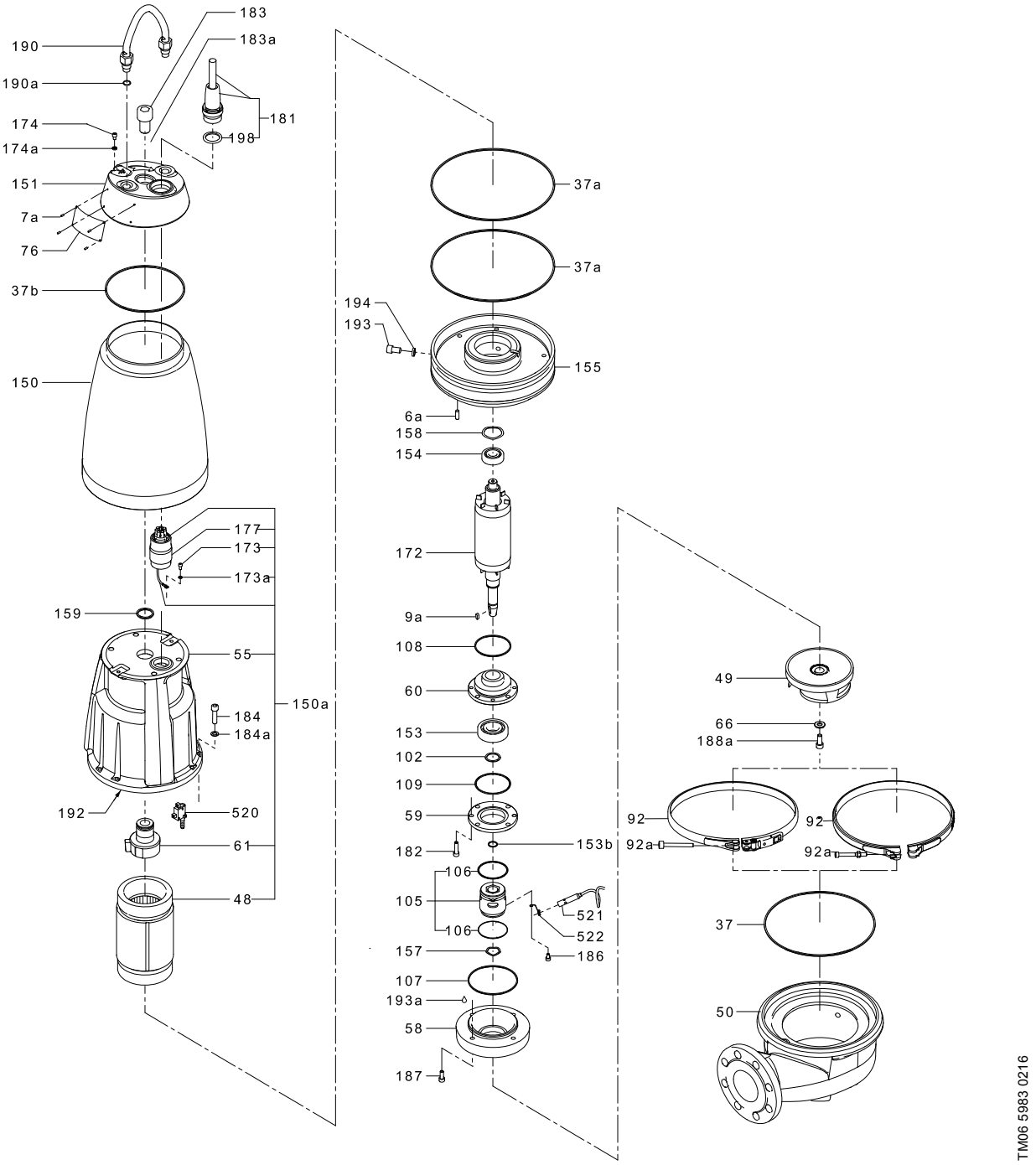


Fig. 9 Exploded view, SLV pump, standard version

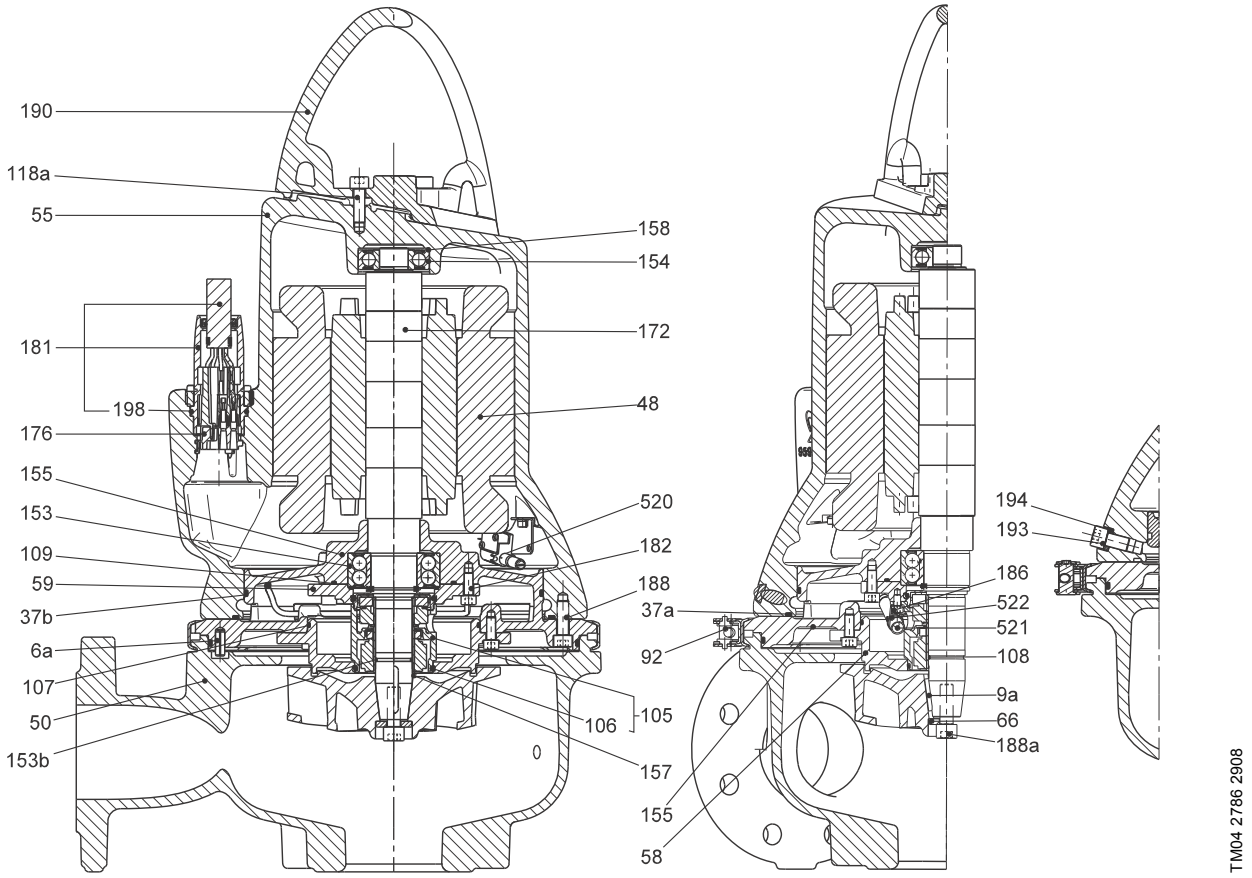


Fig. 10 Sectional drawing, SLV pump, sensor version

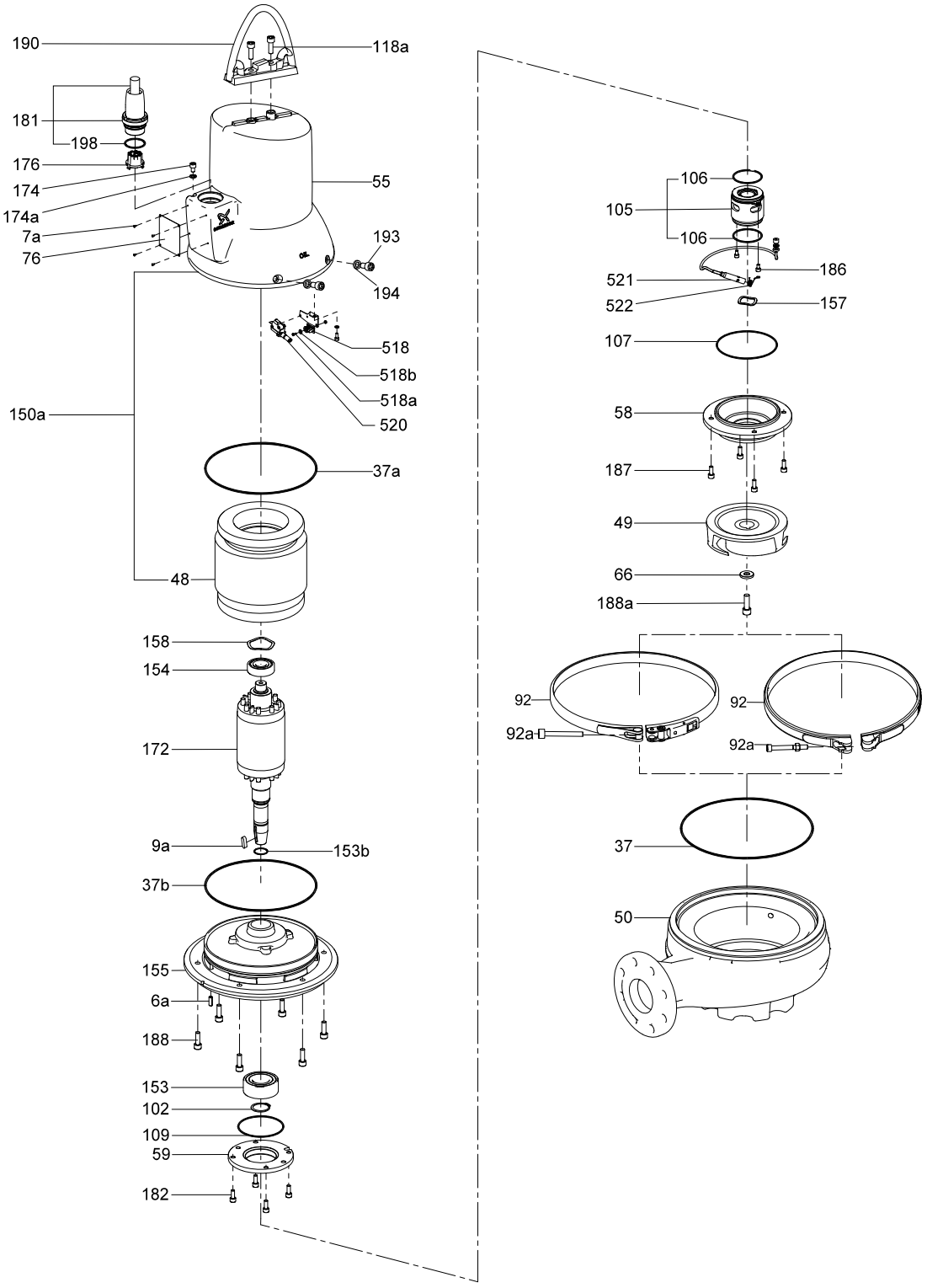


Fig. 11 Exploded view, SLV pump, sensor version

Material specification, SL1 and SLV standard

Pos.	Component	Material	DIN W.-Nr. / EN standard	AISI/ASTM
6a	Tubular pin, D8 x 22 A2	Stainless steel	1.4301	304
7a	Blank rivet, 2.4 x 6 A2	Stainless steel	1.4301	304
9a	Key	Stainless steel	1.4301	304
37	O-ring	NBR rubber		
37a	O-ring	NBR rubber		
37b	O-ring	NBR rubber		
46	Seal ring, inlet	NBR rubber/stainless steel	1.4301	304
48	Stator package			
49	SuperVortex impeller	Cast iron EN-GJL-250	5.1301	ASTM A48 Class 40B
	S-tube® impeller	Cast iron, EN-GJL-250	5.1301	ASTM A48 Class 40B
49c	Wear ring, impeller	Stainless steel	1.4301	304
50	Pump housing	Cast iron EN-GJL-250	5.1301	ASTM A48 Class 40B
55	Stator housing	Cast iron EN-GJL-250	5.1301	ASTM A48 Class 40B
58	Cover for oil chamber	Cast iron EN-GJL-250	5.1301	ASTM A48 Class 40B
59	Bearing cover	Cast iron EN-GJL-250	5.1301	ASTM A48 Class 40B
66	Washer	Stainless steel	1.4436	316
76	Nameplate	Stainless steel	1.4401	316
92	Clamp	Stainless steel	1.4401	316
92a	Screw	Stainless steel	1.4436	316
102	Circlip			
105	Shaft seal complete (rotating part of MG1/25-G60 Q1Q1PGG, stationary part of MG1/25-G60 Q1Q1PGG; rotating part of BT-AR/25 BXPFF, stationary part of BT-AR/25 BXPFF)	Stainless steel, SiC/SiC Carbon/ceramic		
106	O-ring for shaft seal	NBR rubber		
107	O-ring (cover for oil chamber)	NBR rubber		
108	O-ring for shaft seal	NBR rubber		
109	O-ring for bearing cover D-end	NBR rubber		
118a	Screw	Stainless steel	1.4436	316
150a	Stator housing complete with stator			
153	Bearing, D-end	Stainless steel		
153b	O-ring	NBR rubber		
154	Bearing, N-end	Stainless steel		
155	Oil chamber	Cast iron EN-GJL-250	5.1301	ASTM A48 Class 40B
157	Corrugated spring (bearing D-end)	Stainless steel		
158	Corrugated spring (bearing N-end)	Stainless steel		
172	Shaft with rotor	Regular iron/stainless steel	1.0570 1.4401	316
174	Earth screw, external	Stainless steel		
174a	Washer for external earth screw	Stainless steel		
176	Connector set (internal part)			
181	Cable with outer plug part	7G2.5 + 3 x 1		
182	Screw	Stainless steel	1.4436	316
186	Screw	Stainless steel	1.4436	316
187	Screw	Stainless steel	1.4436	316
188	Screw	Stainless steel	1.4436	316
188a	Screw	Stainless steel	1.4436	316
190	Lifting bracket	Stainless steel	1.4308	CF8
193	Plug	Stainless steel	1.4436	316
194	Gasket			
198	O-ring	NBR rubber		
518	Transient barrier (only sensor versions)			
520	Moisture switch			
521	WIO sensor (only sensor versions)			
522	Bracket for WIO sensor (only sensor versions)	Stainless steel	1.4310	301

Material declaration:
Grey cast iron is manufactured according to EN 1561:1997.
Cast stainless steel is manufactured according to EN 10283:2010.
Conversion to other standards such as AISI/ASTM is normative, and products are not manufactured according to these.

Material specification, SLV Q variants

Pos.	Component	Material	DIN W.-Nr. / EN standard	AISI/ASTM
6a	Tubular pin, D8 x 22 A2	Stainless steel	1.4301	304
7a	Blank rivet, 2.4 x 6 A2	Stainless steel	1.4301	304
9a	Key	Stainless steel	1.4301	304
37	O-ring	NBR rubber		
37a	O-ring	NBR rubber		
37b	O-ring	NBR rubber		
46	Seal ring, inlet	NBR rubber/stainless steel	1.4301	304
48	Stator package			
49	SuperVortex impeller	Stainless steel	1.4408	316/351 CF8M
49c	Wear ring, impeller	Stainless steel	1.4301	304
50	Pump housing	Cast iron EN-GJL-250	5.1301	
55	Stator housing	Cast iron EN-GJL-250	5.1301	
58	Cover for oil chamber	Cast iron EN-GJL-250	5.1301	
59	Bearing cover	Cast iron EN-GJL-250	5.1301	
66	Washer	Stainless steel	1.4436	316
76	Nameplate	Stainless steel	1.4401	316
92	Clamp	Stainless steel	1.4401	316
92a	Screw	Stainless steel	1.4436	316
102	Circlip			
105	Shaft seal complete (rotating part of MG1/25-G60 Q1Q1PGG, stationary part of MG1/25-G60 Q1Q1PGG; rotating part of BT-AR/25 BXPFF, stationary part of BT-AR/25 BXPFF)	Stainless steel, SiC/SiC Carbon/ceramic		
106	O-ring for shaft seal	NBR rubber		
107	O-ring (cover for oil chamber)	NBR rubber		
108	O-ring for shaft seal	NBR rubber		
109	O-ring for bearing cover D-end	NBR rubber		
118a	Screw	Stainless steel	1.4436	316
150a	Stator housing complete with stator			
153	Bearing, D-end	Stainless steel		
153b	O-ring	NBR rubber		
154	Bearing, N-end	Stainless steel		
155	Oil chamber	Cast iron EN-GJL-250	5.1301	
157	Corrugated spring (bearing D-end)	Stainless steel		
158	Corrugated spring (bearing N-end)	Stainless steel		
172	Shaft with rotor	Regular iron/stainless steel	1.0570 1.4401	316
174	Earth screw, external	Stainless steel		
174a	Washer for external earth screw	Stainless steel		
176	Connector set (internal part)			
181	Cable with outer plug part	7G2.5 + 3 x 1		
182	Screw	Stainless steel	1.4436	316
186	Screw	Stainless steel	1.4436	316
187	Screw	Stainless steel	1.4436	316
188	Screw	Stainless steel	1.4436	316
188a	Screw	Stainless steel	1.4436	316
190	Lifting bracket	Stainless steel	1.4308	CF8
193	Plug	Stainless steel	1.4436	316
194	Gasket			
198	O-ring	NBR rubber		
518	Transient barrier (only sensor versions)			
520	Moisture switch			
521	WIO sensor (only sensor versions)			
522	Bracket for WIO sensor (only sensor versions)	Stainless steel	1.4310	301

Material declaration:
Grey cast iron is manufactured according to EN 1561:1997.
Cast stainless steel is manufactured according to EN 10283:2010.
Conversion to other standards such as AISI/ASTM is normative, and products are not manufactured according to these.

7. Product description

Features

Ball bearings

The bearings are greased for life.

Main bearings:

10 hp (7.5 kW) 4-pole, 12 hp (9.2 kW) 2-pole, 15 hp (11 kW) 2-pole:	Angular contact bearing 3209B.2RS.C3.SYN.
4 hp (3 kW) 4-pole to 10 hp (7.5 kW) 2-pole:	Angular contact bearing 3208B.2RS.C3.SYN.

Support bearings: Single-row deep-groove ball bearing.

Shaft seal

TM05 0015 0511

Fig. 12 Double mechanical cartridge shaft seal

The shaft seal consists of two mechanical seals and separates the motor from the pumped liquid.

The shaft seal is a cartridge seal that enables easy service.

The combination of the primary and secondary seals in a cartridge results in a shorter assembly length compared to traditional shaft seals. Furthermore, this design minimizes the risk of incorrect fitting.

The primary seal is SiC/SiC and the secondary is carbon/ceramic.

Motor

The motor is a watertight, totally encapsulated motor.

- Insulation class: H (356 °F (180 °C)).
  Motor insulation fulfills NEMA MG1 part 31 as regards frequency converter duty.
- Temperature rise class: A.
- Enclosure class: IP68.

For motor protection and sensors, see *Sensors*, page 21.

Power cables

Standard cable

Cable type	Outer cable diameter [in. (mm)]	Bending radius	
		Fixed [in. (mm)]	Free [in. (mm)]
7 G AWG 16	0.523 (13.3)	1.25 (31.8)	1.875 (47.6)
4 G AWG 14 + 3 G 16 AWG	0.636 (16.2)	1.25 (31.8)	1.875 (47.6)
7 G AWG 14 + 3 G 16 AWG	0.811 (20.6)	1.5 (38.1)	2.25 (57.2)

EMC cable

Cable type [mm^2]	Outer cable diameter [in. (mm)]	Bending radius	
		Fixed	Free
4 G AWG 14 + 3 G 16 AWG screened cable	0.695 (17.7)	1.5 (38.1)	2.25 (57.2)

The standard cable length is 49 ft (15 m). Other cable lengths are available on request. See *Various cable lengths*, page 9.

The number and dimension of cables depend on the motor size.

Cable entry

TM05 0016 0511

Fig. 13 Moisture-proof cable plug

The stainless steel plug is fastened with a union nut. The nut and O-rings provide sealing against liquid penetration.

The plug is filled with a polyamide material that is cast into the plug around the conductors of the cable to prevent moisture from penetrating into the motor via the cable core.

Surface treatment

Grundfos SL1 and SLV pumps are given the following surface treatment:

Powder painting: NCS 9000N (RAL9005 Black) gloss code 30, thickness 100 µm.

Sensors

TM05 0017 0511

Fig. 14 Analog water-in-oil sensor

As standard, the pump is equipped with thermal switches in the stator windings.

Customized analog sensor options

1. PT1000 sensor in motor windings for stator temperature measurements.
2. WIO (water-in-oil) sensor. The WIO sensor fitted in the oil chamber of the pump monitors whether water enters the pump from the liquid side. The sensor measures the water content (0 to 20 %) in the oil and converts the value into an analog current signal which is sent to an IO 113 sensor module. It also sends a signal if the water content is outside the normal range (warning), or if there is air in the oil chamber (alarm). The sensor is fitted in a stainless steel tube for mechanical protection.
3. Moisture switch. The moisture switch fitted in the motor chamber monitors whether water enters the pump. If moisture is detected in the motor chamber, the moisture switch will trip out and send a warning to the IO 113 sensor module.

IO 113 sensor module

TM05 4166 2112

Fig. 15 Grundfos IO 113 sensor module

The IO 113 module is a protection module for Grundfos wastewater pumps. It has inputs for digital and analog pump sensors and can stop the pump if a sensor indicates a pump fault. IO 113 can be connected to the Dedicated Controls system offered by Grundfos and provides advanced monitoring functions:

- motor temperature
- moisture in motor
- water in oil
- insulation resistance.

Note: All pump versions with sensor need an IO113 sensor module to operate properly. Modules are sold separately and can be found in section *11. Accessories*.

Testing

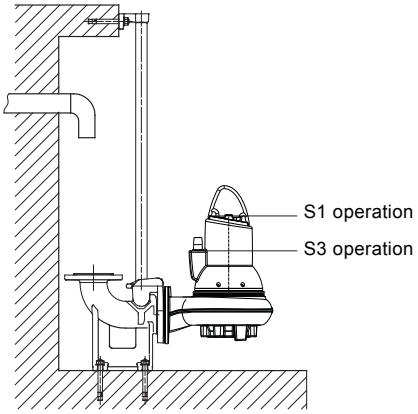
All pumps are tested before leaving the factory. The factory test report is based on HI 1.6 - 2000 acceptance level B. Test reports are delivered with the pump.

Test certificates can be ordered directly with the pump or separately based on the pump serial number.

Other tests or third-party inspection certificates are available on request. See *Variants*, page 9.

Operating conditions

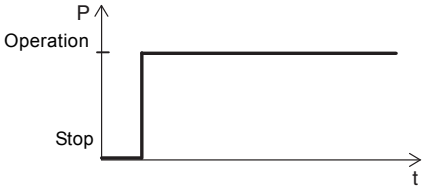
The SL1 and SLV pumps are **only** for submerged installation.



TM04 2649 2808

Fig. 16 Operation levels

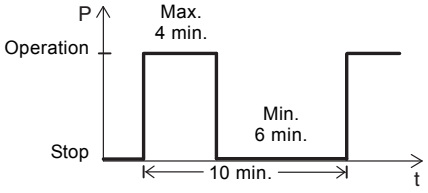
- Continuous operation S1 when the pump is fully submerged to the top of the motor.



TM02 7776 4003

Fig. 17 Continuous operation

- Intermittent operation S3 with maximum 20 starts per hour when the pump is submerged to the bottom of the cable plug. The pump must run for maximum 4 minutes and stop for min. 6 minutes. See fig. 18. **Note:** Explosion-proof pumps **must** always be fully submerged.



TM04 2656 2808

Fig. 18 Intermittent operation

Pumped liquids

Pump type	Material variant	Material	pH value
SL1/SLV	Standard	Cast iron impeller and pump housing	4-10
SLV	Q	Stainless steel impeller and cast iron pump housing	6-14[1)]

[1)] For fluctuating pH values the range is pH 4 to 14.

Liquid temperature: 32-104 °F
(0-40 °C)

When pumping liquids with a density and/or a kinematic viscosity higher than that of water, use motors with correspondingly higher outputs.

For short periods (maximum 3 minutes), temperatures up to 140 °F (60 °C) are permissible (non-Ex versions only).

Sound pressure

The sound pressure level of the pump is lower than the limiting values stated in the EC Council directive 2006/42/EC relating to machinery (the EC Machinery Directive).

Motor range

Shaft power [hp (kW)]	No of poles
1.5 (1.1)	4
1.8 (1.3)	4
2 (1.5)	4
3 (2.2)	2/4
4 (3)	2/4
5.5 (4)	2/4
7.5 (5.5)	4
8 (6)	2
10 (7.5)	2
12.5 (9.2)	2
15 (11)	2

Pump controllers

The pumps must be connected to a control box with a motor protection relay with IEC trip class 10 or 15.

Note: Pumps for hazardous locations must be connected to a control box with a motor protection relay with IEC trip class 10.

The pumps can be controlled by the following pump controllers:

- Grundfos Dedicated Controls
- SLC, Simplex Level Controller
- DLC, Duplex Level Controller

For further information about Dedicated Controls and SLC, DLC controllers, please see page 148.

Variable-speed operation

All SL1, SLV pump types are designed for speed-controlled operation to keep the energy consumption at a minimum.

To avoid the risk of sedimentation in the pipes, we recommend that you operate the speed-controlled pump within a speed range of 30 % to 100 % and at a flow rate above 3.3 ft/s (1 m/s).

We recommend that you use of EMC cables when using pumps with sensors because it helps prevent interference due to line noise.

For more information, please see the installation and operation instructions of SL1/SLV pumps *US-P/N* 97640137 at www.grundfos.com.

Approvals

The SL1 and SLV pumps have been approved by CSA and FM, and the explosion-proof versions hold an FM type examination certificate no. 3035318.

Approval standards

The pumps are approved by CSA and FM according to UL778, C22.2 no. 108 and FM 3600, FM3615 and FM3615.80.

Explanation of FM approval

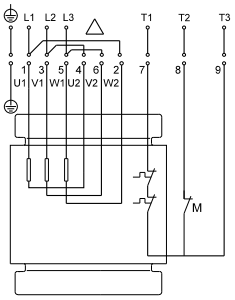
The SL1 and SLV pumps have the following explosion protection classification: Class I, Division 1, Groups C and D, T4, T3, IP68.

Standards	Code		Description
FM3600 FM3615 FM3615.80	Class I	=	Explosive atmosphere is caused by gas or vapors
	Division 1	=	Area classification
	Groups C and D	=	Classification of gases
	T4/T3	=	Maximum surface temperatures are 275 °F (135 °C) and 392 °F (200 °C), respectively
	IP68	=	Enclosure class according to IEC 60529

SL 61 R voltage variant

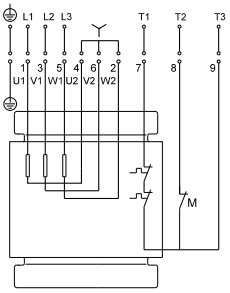
To standardize and help minimize part numbers and pump versions of the SL product portfolio, Grundfos created the 61 R voltage variant. 61 R is a dual-voltage (230 V / 460 V), three-phase, 60 Hz, direct-on-line (DOL) connected motor.

- Connect 230 V pumps using the low-voltage (delta) connection.
- Connect 460 V pumps using the high-voltage (star) connection.



TM05 7155 0613

Fig. 19 61 R, 230 V DOL wired in low-voltage (delta) connection



TM05 7156 0613

Fig. 20 61 R, 460 V DOL wired in high-voltage (star) connection

The 61 R voltage variant provides a large voltage range for supply power.

Stated voltage	Percentage variation	Voltage range
230 V	+/- 10 %	207-253 V
460 V	+/- 10 %	414-506 V

Wiring diagrams

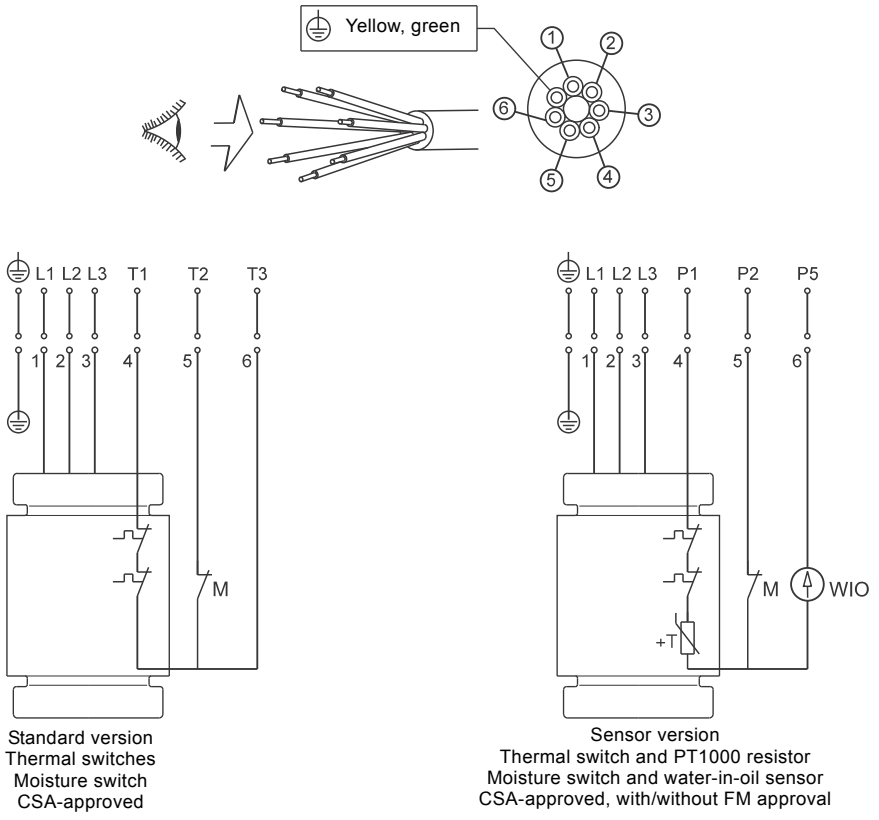


Fig. 21 Wiring diagram, 7-core cable, direct online

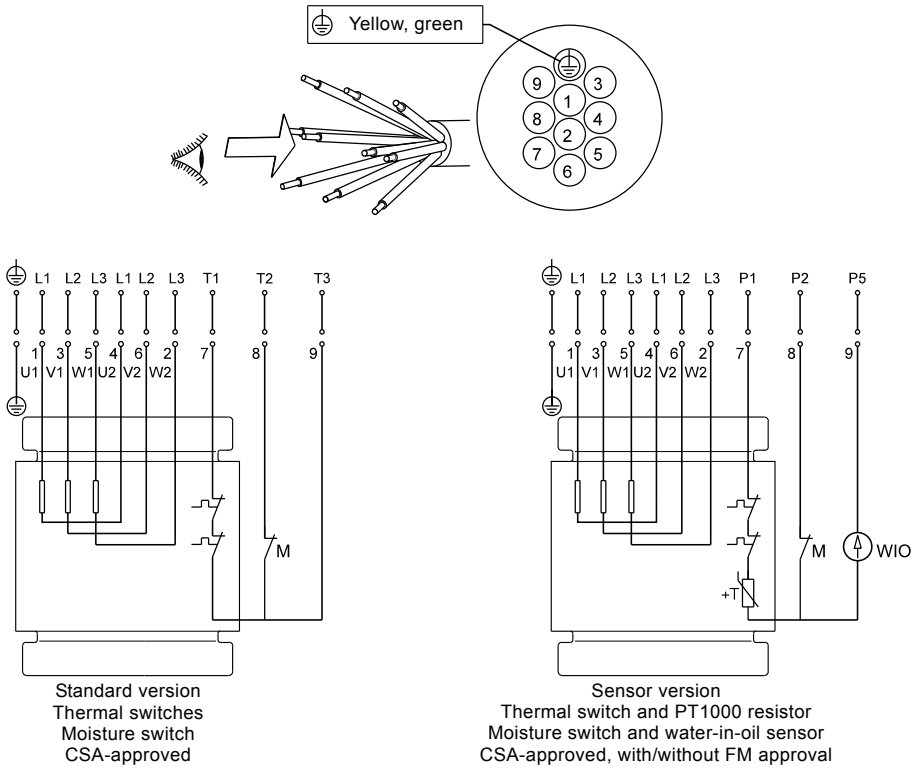
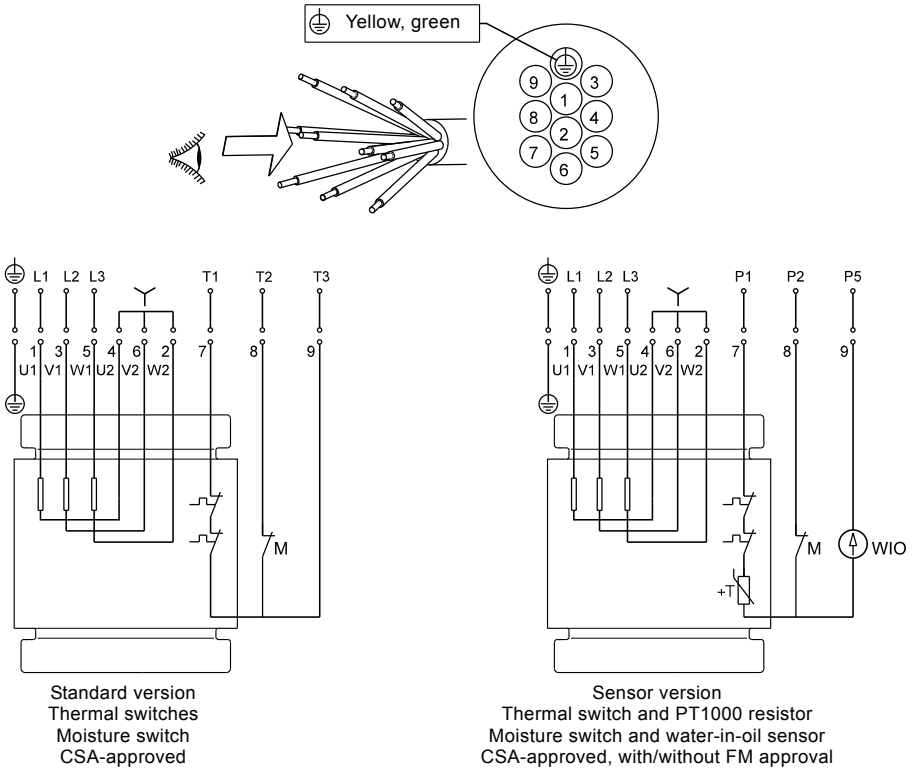


Fig. 22 Wiring diagram, 10-core cable, star/delta (Y/D)

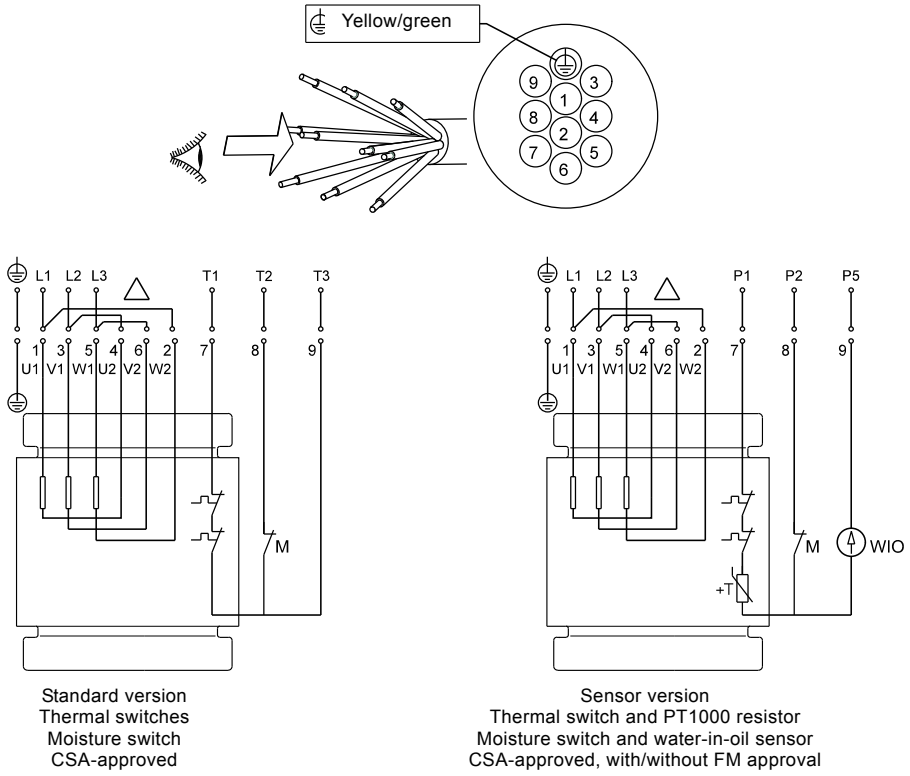


Standard version
Thermal switches
Moisture switch
CSA-approved

Sensor version
Thermal switch and PT1000 resistor
Moisture switch and water-in-oil sensor
CSA-approved, with/without FM approval

TM04 6691 0710

Fig. 23 Wiring diagram, 10-core cable, direct online, star-connected (Y)



Standard version
Thermal switches
Moisture switch
CSA-approved

Sensor version
Thermal switch and PT1000 resistor
Moisture switch and water-in-oil sensor
CSA-approved, with/without FM approval

TM04 6692 0710

Fig. 24 Wiring diagram, 10-core cable, direct online, delta-connected (D)

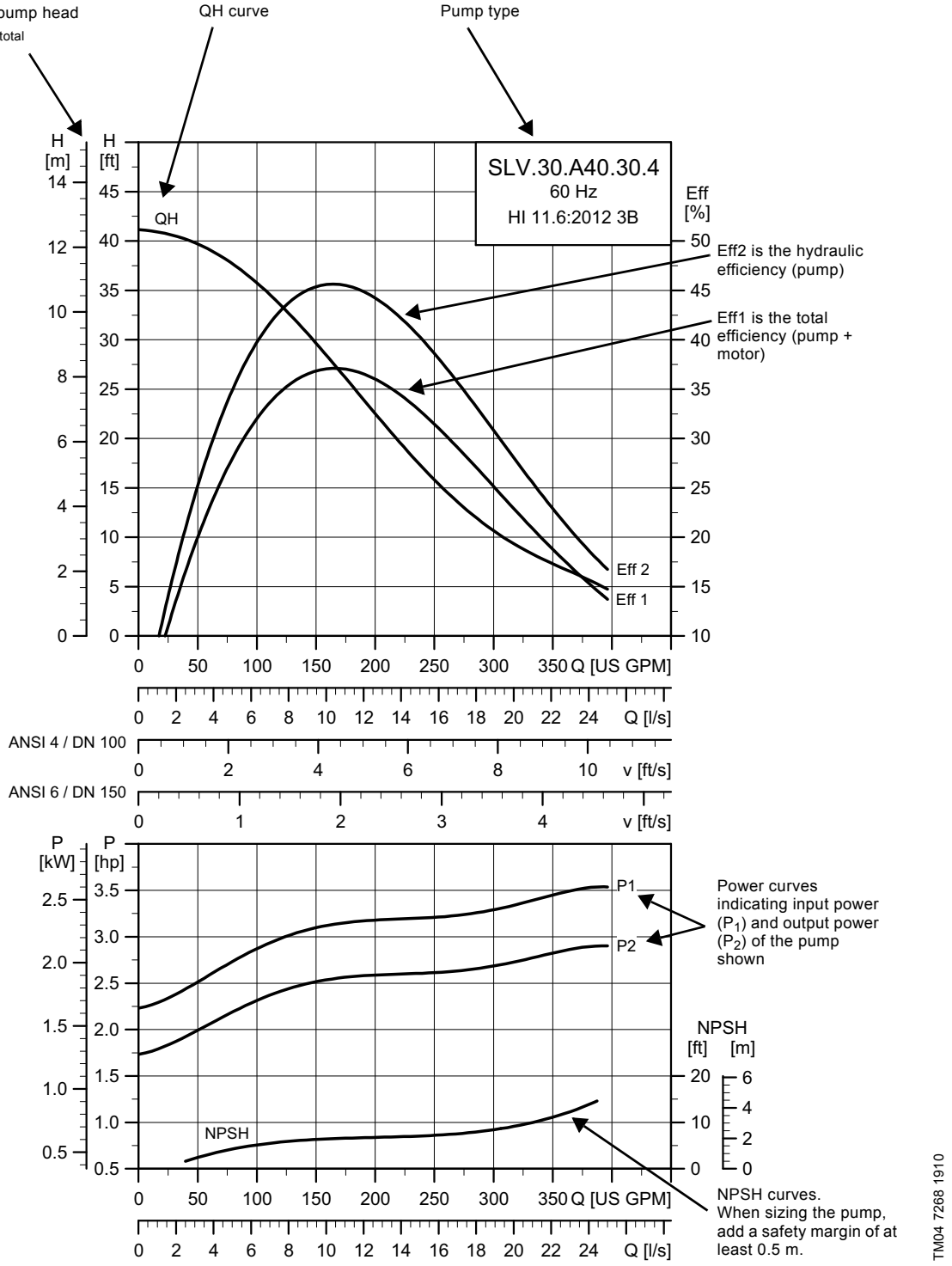
8. Curve charts and technical data

The following pages are divided into sections:

Pages 28 and 29 give a brief explanation of how to read the curve charts and the curve conditions etc.

Performance curves and technical data:

How to read the curve charts



Curve conditions

The guidelines below apply to the curves shown in the performance charts on pages 38 to 144.

- Tolerances according to HI 11.6 - 2012 acceptance level 3B.
- The curves show pump performance with different impeller diameters at the rated speed.
- The bold part of the curves show the recommended operating range.
- The curves apply to the pumping of airless water at a temperature of 68 °F (20 °C) and a kinematic viscosity of 1 cSt (1.076 (ft^2/s) x 10^{-5}).
- **Eff:** The lines show values of the hydraulic efficiency, i.e. Eff1 is the total efficiency (pump + motor) and Eff2 is the hydraulic efficiency (pump).
- **NPSH:** The curves show average values measured under the same conditions as the performance curves.
  When dimensioning the pump, add a safety margin of at least 1.6 ft (0.5 m).
- In case of densities other than 133.5 ounces/gallon (1000 kg/m^3), the outlet pressure is proportional to the density.
- When pumping liquids with a density higher than 133.5 ounces/gallon (1000 kg/m^3), motors with correspondingly higher outputs must be used.

Calculation of total head

The total pump head consists of the height difference between the measuring points + the differential head + the dynamic head.

$$H_{total} = H_{geo} + H_{stat} + H_{dyn}$$

H_{geo}: Height difference between measuring points.
H_{stat}: Differential head between the inlet and the outlet side of the pump.
H_{dyn}: Calculated values based on the velocity of the pumped liquid on the inlet and the outlet side of the pump.

Performance tests

All pumps are factory tested to a Grundfos testing standard that is similar to the hydraulic Institute 11.6:2012 grade 3B. These Grundfos standard curves are provided with each pump. For tests according to ANSI/HI 11.6:2012 grade 3B, see *Tests* on page 9.

The testing equipment and measuring instruments are designed and calibrated in accordance with the mentioned standards.

For customized duty point or other grades with 5 point test certificate, please contact Grundfos in order to agree on terms before ordering.

Certificates

Certificates have to be confirmed for every order and are available on request. See *Certificates* on page 9.

Witness test

It is possible for the customer to witness the testing procedure according to Hydraulic Institute 11.6 - 2012.

The witness test is not a certificate and will not result in a written statement from Grundfos. The witness test only guarantees that everything is carried out as prescribed in the testing procedure.

If the customer wants to witness the pump performance test, such request must be stated on the order.

9. Product range

SL1 pump range

With 49-ft cable

Pump type	Sensor*	Explosion-proof	Poles	Hz	Voltage					Stainless steel impeller
					3 x 208-230 V DOL	3 x 230 V D/ 460 V Y DOL	3 x 460 V Y/D	3 x 575 V DOL	3 x 575 V Y/D	
	[.A]	[.EX]	[.2]	[.6]	[0J]	[1R]	[1H]	[0L]	[1L]	[.Q]
SL1.20.A25.30	Yes	Yes	2	60	99034397	99030154			98634793	No
		No	2	60	99034395	99030093			98634635	No
	No	Yes	2	60	99034398	99030117			98634714	No
		No	2	60	99034394	99030073			98634556	No
SL1.20.A25.40	Yes	Yes	2	60	99034401	99030155			98634794	No
		No	2	60	99034400	99030094			98634636	No
	No	Yes	2	60	99034402	99030118			98634715	No
		No	2	60	99034399	99030074			98634557	No
SL1.20.A25.55	Yes	Yes	2	60	99034405	99030156			98634795	No
		No	2	60	99034404	99030095			98634637	No
	No	Yes	2	60	99034707	99030119			98634716	No
		No	2	60	99034403	99030075			98634558	No
SL1.20.A30.30	Yes	Yes	2	60	99034408	99030069			98634796	No
		No	2	60	99034407	99030068			98634638	No
	No	Yes	2	60	99034409	99030067			98634717	No
		No	2	60	99034406	99030066			98634559	No
SL1.20.A30.40	Yes	Yes	2	60	99034412	99030157			98634797	No
		No	2	60	99034411	99030096			98634639	No
	No	Yes	2	60	99034709	99030120			98634718	No
		No	2	60	99034410	99030076			98634560	No
SL1.20.A30.55	Yes	Yes	2	60	99034415	99030158			98634798	No
		No	2	60	99034414	99030097			98634640	No
	No	Yes	2	60	99034711	99030121			98634719	No
		No	2	60	99034413	99030077			98634561	No
SL1.30.A30.20	Yes	Yes	4	60	99034821	99030159			98634799	No
		No	4	60	99034801	99030098			98634641	No
	No	Yes	4	60	99034807	99030122			98634720	No
		No	4	60	99034779	99030078			98634562	No
SL1.30.A30.30	Yes	Yes	4	60	99034724	99030160			98634800	No
		No	4	60	99034419	99030099			98634642	No
	No	Yes	4	60	99034725	99030123			98634721	No
		No	4	60	99034418	99030079			98634563	No
SL1.30.A30.40	Yes	Yes	4	60	99034726	99030162			98634801	No
		No	4	60	99034421	99030100			98634643	No
	No	Yes	4	60	99034727	99030125			98634722	No
		No	4	60	99034420	99030080			98634564	No
SL1.30.A30.55	Yes	Yes	4	60	99034728	99030164			98634803	No
		No	4	60	99034423	99030102			98634645	No
	No	Yes	4	60	99034729	99030127			98634724	No
		No	4	60	99034422	99030082			98634566	No
SL1.30.A30.75	Yes	Yes	4	60	99034730	99030165			98634804	No
		No	4	60	99034425	99030103			98634646	No
	No	Yes	4	60	99034731	99030128			98634725	No
		No	4	60	99034424	99030083			98634567	No
SL1.30.A30.100	Yes	Yes	4	60	99034712	99030163			98634802	No
		No	4	60	99034417	99030101			98634644	No
	No	Yes	4	60	99034723	99030126			98634723	No
		No	4	60	99034416	99030081			98634565	No
SL1.30.A40.20	Yes	Yes	4	60	99034822	99030166			98634805	No
		No	4	60	99034802	99030104			98634647	No
	No	Yes	4	60	99034808	99030129			98634726	No
		No	4	60	99034780	99030084			98634568	No

* An IO113 module is required with the sensor model pump. IO modules are not included with the pumps and can be found in the section Accessories on page 146.

Pump type	Sensor*	Explosion-proof	Poles	Hz	Voltage					Stainless steel impeller
					3 x 208-230 V DOL	3 x 230 V D/ 460 V Y DOL	3 x 460 V Y/D	3 x 575 V DOL	3 x 575 V Y/D	
	[.A]	[.EX]	[.2]	[.6]	[0J]	[1R]	[1H]	[0L]	[1L]	[.Q]
SL1.30.A40.30	Yes	Yes	4	60	99034734	99030167			98634806	No
		No	4	60	99034429	99030106			98634648	No
	No	Yes	4	60	99034735	99030130			98634727	No
		No	4	60	99034428	99030071			98634569	No
SL1.30.A40.40	Yes	Yes	4	60	99034736	99030169			98634807	No
		No	4	60	99034431	99030107			98634649	No
	No	Yes	4	60	99034737	99030131			98634728	No
		No	4	60	99034430	99030085			98634570	No
SL1.30.A40.55	Yes	Yes	4	60	99034738	99030171			98634809	No
		No	4	60	99034433	99030109			98634651	No
	No	Yes	4	60	99034739	99030144			98634730	No
		No	4	60	99034432	99030072			98634572	No
SL1.30.A40.75	Yes	Yes	4	60	99034740	99030172			98634810	No
		No	4	60	99034435	99030110			98634652	No
	No	Yes	4	60	99034741	99030145			98634731	No
		No	4	60	99034434	99030086			98634573	No
SL1.30.A40.100	Yes	Yes	4	60	99034732	99030170			98634808	No
		No	4	60	99034427	99030108			98634650	No
	No	Yes	4	60	99034733	99030132			98634729	No
		No	4	60	99034426	99030070			98634571	No
SL1.40.A40.55	Yes	Yes	4	60	99034744	99030174			98634812	No
		No	4	60	99034439	99030112			98634654	No
	No	Yes	4	60	99034440	99030148			98634733	No
		No	4	60	99034438	99030088			98634575	No
SL1.40.A40.75	Yes	Yes	4	60	99034745	99030175			98634813	No
		No	4	60	99034442	99030113			98634655	No
	No	Yes	4	60	99034443	99030149			98634734	No
		No	4	60	99034441	99030089			98634576	No
SL1.40.A40.100	Yes	Yes	4	60	99034742	99030173			98634811	No
		No	4	60	99034437	99030111			98634653	No
	No	Yes	4	60	99034743	99030147			98634732	No
		No	4	60	99034436	99030087			98634574	No
SL1.40.A60.55	Yes	Yes	4	60	99034451	99030177			98634815	No
		No	4	60	99034450	99030115			98634657	No
	No	Yes	4	60	99034452	99030151			98634736	No
		No	4	60	99034449	99030091			98634578	No
SL1.40.A60.75	Yes	Yes	4	60	99034455	99030178			98634816	No
		No	4	60	99034454	99030116			98634658	No
	No	Yes	4	60	99034457	99030153			98634737	No
		No	4	60	99034453	99030092			98634579	No
SL1.40.A60.100	Yes	Yes	4	60	99034746	99030176			98634814	No
		No	4	60	99034446	99030114			98634656	No
	No	Yes	4	60	99034448	99030150			98634735	No
		No	4	60	99034445	99030090			98634577	No

* An IO113 module is required with the sensor model pump. IO modules are not included with the pumps and can be found in the section Accessories on page 146.

SLV pump range

With 49-ft cable

Pump type	Sensor*	Explosion -proof	Poles	Hz	Voltage					Stainless steel impeller
					3 x 208-230 V DOL	3 x 230 V D/ 460 V Y DOL	3 x 460 V Y/D	3 x 575 V DOL	3 x 575 V Y/D	
	[.A]	[.EX]	[.2]	[.6]	[0J]	[1R]	[1H]	[0L]	[1L]	[.Q]
SLV.25.A25.30	Yes	Yes	2	60	**	**			**	Yes
					99034460	99030285			98634817	No
		No	2	60	**	**			**	Yes
					99034459	99030215			98634659	No
	No	Yes	2	60	**	**			**	Yes
					99034461	99030254			98634738	No
		No	2	60	**	**			**	Yes
					99034748	99030181			98634580	No
SLV.25.A25.40	Yes	Yes	2	60	**	**			**	Yes
					99034463	99030286			98634818	No
		No	2	60	**	**			**	Yes
					99034462	99030216			98634660	No
	No	Yes	2	60	**	**			**	Yes
					99034464	99030255			98634739	No
		No	2	60	**	**			**	Yes
					99034749	99030182			98634581	No
SLV.25.A25.55	Yes	Yes	2	60	**	99030429			**	Yes
					99034466	99030287			98634819	No
		No	2	60	**	99030431			**	Yes
					99034465	99030217			98634661	No
	No	Yes	2	60	**	99030428			**	Yes
					99034467	99030256			98634740	No
		No	2	60	**	99030430			**	Yes
					99034750	99030183			98634582	No
SLV.25.A30.30	Yes	Yes	2	60	**	**			**	Yes
					99034469	99030288			98634820	No
		No	2	60	**	**			**	Yes
					99034468	99030218			98634662	No
	No	Yes	2	60	**	**			**	Yes
					99034470	99030257			98634741	No
		No	2	60	**	**			**	Yes
					99034751	99030184			98634583	No
SLV.25.A30.40	Yes	Yes	2	60	**	**			**	Yes
					99034473	99030290			98634821	No
		No	2	60	**	**			**	Yes
					99034472	99030219			98634663	No
	No	Yes	2	60	**	**			**	Yes
					99034474	99030258			98634742	No
		No	2	60	**	**			**	Yes
					99034471	99030186			98634584	No
SLV.25.A30.55	Yes	Yes	2	60	**	99030433			**	Yes
					99034477	99030291			98634822	No
		No	2	60	**	99030435			**	Yes
					99034476	99030220			98634664	No
	No	Yes	2	60	**	99030432			**	Yes
					99034478	99030259			98634743	No
		No	2	60	**	99030434			**	Yes
					99034475	99030187			98634585	No

* An IO113 module is required with the sensor model pump. IO modules are not included with the pumps and can be found in the section Accessories on page 146.
** Contact Grundfos.

Pump type	Sensor*	Explosion -proof	Poles	Hz	Voltage					Stainless steel impeller
					3 x 208-230 V DOL	3 x 230 V D/ 460 V Y DOL	3 x 460 V Y/D	3 x 575 V DOL	3 x 575 V Y/D	
	[.A]	[.EX]	[.2]	[.6]	[0J]	[1R]	[1H]	[0L]	[1L]	[.Q]
SLV.30.A30.15	Yes	Yes	4	60	**	99030409			98634834	Yes
					99034498	99030297			98634833	No
		No	4	60	**	99030360			98634677	Yes
					99034497	99030235			98634676	No
	No	Yes	4	60	**	99030384			98634755	Yes
					99034811	99030266			98634754	No
		No	4	60	**	99030335			98634598	Yes
					99034781	99030195			98634597	No
SLV.30.A30.18	Yes	Yes	4	60	**	99030410			98634836	Yes
					99034500	99030298			98634835	No
		No	4	60	**	99030361			98634679	Yes
					99034499	99030236			98634678	No
	No	Yes	4	60	**	99030385			98634757	Yes
					99034813	99030267			98634756	No
		No	4	60	**	99030336			98634600	Yes
					99034793	99030196			98634599	No
SLV.30.A30.20	Yes	Yes	4	60	**	99030404			98634824	Yes
					99034823	99030292			98634823	No
		No	4	60	**	99030355			98634666	Yes
					99034803	99030221			98634665	No
	No	Yes	4	60	**	99030379			98634745	Yes
					99034809	99030260			98634744	No
		No	4	60	**	99030320			98634587	Yes
					99034778	99030188			98634586	No
SLV.30.A30.30	Yes	Yes	4	60	**	99030405			98634826	Yes
					99034503	99030293			98634825	No
		No	4	60	**	99030356			98634668	Yes
					99034502	99030222			98634667	No
	No	Yes	4	60	**	99030380			98634747	Yes
					99034504	99030261			98634746	No
		No	4	60	**	99030321			98634589	Yes
					99034501	99030190			98634588	No
SLV.30.A30.55	Yes	Yes	2	60	**	99030412			98634840	Yes
					99034509	99030413			98634839	No
			4	60	**	99030300			98634842	Yes
					99034510	99030301			98634841	No
		No	2	60	**	99030363			98634683	Yes
					99034506	99030364			98634682	No
			4	60	**	99030238			98634685	Yes
					99034508	99030239			98634684	No
	No	Yes	2	60	**	99030387			98634761	Yes
					99034511	99030388			98634760	No
			4	60	**	99030269			98634763	Yes
					99034512	99030270			98634762	No
		No	2	60	**	99030338			98634604	Yes
					99034505	99030339			98634603	No
			4	60	**	99030198			98634606	Yes
					99034752	99030199			98634605	No
SLV.30.A30.80	Yes	Yes	2	60	**	99030406			98634828	Yes
					99034516	99030294			98634827	No
		No	2	60	**	99030357			98634670	Yes
					99034515	99030233			98634669	No
	No	Yes	2	60	**	99030381			98634749	Yes
					99034517	99030262			98634748	No
		No	2	60	**	99030322			98634591	Yes
					99034514	99030191			98634590	No

* An IO113 module is required with the sensor model pump. IO modules are not included with the pumps and can be found in the section Accessories on page 146.

** Contact Grundfos.

Pump type	Sensor*	Explosion -proof	Poles	Hz	Voltage					Stainless steel impeller
					3 x 208-230 V DOL	3 x 230 V D/ 460 V Y DOL	3 x 460 V Y/D	3 x 575 V DOL	3 x 575 V Y/D	
	[.A]	[.EX]	[.2]	[.6]	[0J]	[1R]	[1H]	[0L]	[1L]	[.Q]
SLV.30.A30.100	Yes	Yes	2	60	**	99030407			98634830	Yes
					99034481	99030295			98634829	No
		No	2	60	**	99030358			98634673	Yes
					99034480	99030234			98634672	No
	No	Yes	2	60	**	99030382			98634751	Yes
					99034482	99030263			98634750	No
		No	2	60	**	99030333			98634594	Yes
					99034479	99030193			98634592	No
SLV.30.A30.125	Yes	Yes	2	60	**	99030411			98634838	Yes
					99034495	99030299			98634837	No
		No	2	60	**	99030362			98634681	Yes
					99034494	99030237			98634680	No
	No	Yes	2	60	**	99030386			98634759	Yes
					99034496	99030268			98634758	No
		No	2	60	**	99030337			98634602	Yes
					99034493	99030197			98634601	No
SLV.30.A30.150	Yes	Yes	2	60	**	99030408			98634832	Yes
					99034662	99030296			98634831	No
		No	2	60	**	99030359			98634675	Yes
					99034660	99030180			98634674	No
	No	Yes	2	60	**	99030383			98634753	Yes
					99034664	99030265			98634752	No
		No	2	60	**	99030334			98634596	Yes
					99034658	99030194			98634595	No
SLV.30.A40.15	Yes	Yes	4	60	**	99030419			98634854	Yes
					99034527	99030307			98634853	No
		No	4	60	**	99030370			98634697	Yes
					99034526	99030245			98634696	No
	No	Yes	4	60	**	99030394			98634776	Yes
					99034817	99030276			98634775	No
		No	4	60	**	99030345			98634618	Yes
					99034797	99030205			98634617	No
SLV.30.A40.18	Yes	Yes	4	60	**	99030420			98634856	Yes
					99034529	99030308			98634855	No
		No	4	60	**	99030371			98634699	Yes
					99034528	99030246			98634698	No
	No	Yes	4	60	**	99030395			98634778	Yes
					99034819	99030277			98634777	No
		No	4	60	**	99030346			98634620	Yes
					99034799	99030206			98634619	No
SLV.30.A40.20	Yes	Yes	4	60	**	99030414			98634844	Yes
					99034825	99030302			98634843	No
		No	4	60	**	99030365			98634687	Yes
					99034805	99030240			98634686	No
	No	Yes	4	60	**	99030389			98634766	Yes
					99034815	99030271			98634765	No
		No	4	60	**	99030340			98634608	Yes
					99034795	99030200			98634607	No
SLV.30.A40.30	Yes	Yes	4	60	**	99030415			98634846	Yes
					99034532	99030303			98634845	No
		No	4	60	**	99030366			98634689	Yes
					99034531	99030241			98634688	No
	No	Yes	4	60	**	99030390			98634768	Yes
					99034533	99030272			98634767	No
		No	4	60	**	99030341			98634610	Yes
					99034530	99030201			98634609	No

* An IO113 module is required with the sensor model pump. IO modules are not included with the pumps and can be found in the section Accessories on page 146.

** Contact Grundfos.

Pump type	Sensor*	Explosion -proof	Poles	Hz	Voltage					Stainless steel impeller
					3 x 208-230 V DOL	3 x 230 V D/ 460 V Y DOL	3 x 460 V Y/D	3 x 575 V DOL	3 x 575 V Y/D	
	[.A]	[.EX]	[.2]	[.6]	[0J]	[1R]	[1H]	[0L]	[1L]	[.Q]
SLV.30.A40.55	Yes	Yes	2	60	**	99030422			98634860	Yes
					99034537	99030423			98634859	No
			4	60	**	99030310			98634862	Yes
					99034538	99030311			98634861	No
		No	2	60	**	99030373			98634703	Yes
					99034754	99030374			98634702	No
			4	60	**	99030248			98634705	Yes
					99034756	99030249			98634704	No
	No	Yes	2	60	**	99030397			98634782	Yes
					99034539	99030399			98634781	No
			4	60	**	99030279			98634784	Yes
					99034759	99030280			98634783	No
		No	2	60	**	99030348			98634624	Yes
					99034534	99030349			98634623	No
			4	60	**	99030208			98634626	Yes
					99034536	99030209			98634625	No
SLV.30.A40.80	Yes	Yes	2	60	**	99030416			98634848	Yes
					99034542	99030304			98634847	No
		No	2	60	**	99030367			98634691	Yes
					99034541	99030242			98634690	No
	No	Yes	2	60	**	99030391			98634770	Yes
					99034543	99030273			98634769	No
		No	2	60	**	99030342			98634612	Yes
					99034540	99030202			98634611	No
SLV.30.A40.100	Yes	Yes	2	60	**	99030417			98634850	Yes
					99034520	99030305			98634849	No
		No	2	60	**	99030368			98634693	Yes
					99034519	99030243			98634692	No
	No	Yes	2	60	**	99030392			98634772	Yes
					99034521	99030274			98634771	No
		No	2	60	**	99030343			98634614	Yes
					99034518	99030203			98634613	No
SLV.30.A40.125	Yes	Yes	2	60	**	99030421			98634858	Yes
					99034524	99030309			98634857	No
		No	2	60	**	99030372			98634701	Yes
					99034769	99030247			98634700	No
	No	Yes	2	60	**	99030396			98634780	Yes
					99034525	99030278			98634779	No
		No	2	60	**	99030347			98634622	Yes
					99034522	99030207			98634621	No
SLV.30.A40.150	Yes	Yes	2	60	**	99030418			98634852	Yes
					99034670	99030306			98634851	No
		No	2	60	**	99030369			98634695	Yes
					99034668	99030244			98634694	No
	No	Yes	2	60	**	99030393			98634774	Yes
					99034672	99030275			98634773	No
		No	2	60	**	99030344			98634616	Yes
					99034666	99030204			98634615	No
SLV.40.A40.40	Yes	Yes	4	60	**	99030424			98634864	Yes
					99034549	99030312			98634863	No
		No	4	60	**	99030375			98634707	Yes
					99034763	99030250			98634706	No
	No	Yes	4	60	**	99030400			98634786	Yes
					99034765	99030281			98634785	No
		No	4	60	**	99030350			98634628	Yes
					99034548	99030210			98634627	No

* An IO113 module is required with the sensor model pump. IO modules are not included with the pumps and can be found in the section Accessories on page 146.

** Contact Grundfos.

Pump type	Sensor*	Explosion -proof	Poles	Hz	Voltage					Stainless steel impeller
					3 x 208-230 V DOL	3 x 230 V D/ 460 V Y DOL	3 x 460 V Y/D	3 x 575 V DOL	3 x 575 V Y/D	
	[.A]	[.EX]	[.2]	[.6]	[0J]	[1R]	[1H]	[0L]	[1L]	[.Q]
SLV.40.A40.55	Yes	Yes	4	60	**	99030426			98634868	Yes
					99034552	99030314			98634867	No
		No	4	60	**	99030377			98634711	Yes
					99034551	99030252			98634710	No
	No	Yes	4	60	**	99030402			98634790	Yes
					99034767	99030283			98634789	No
		No	4	60	**	99030352			98634632	Yes
					99034550	99030213			98634631	No
SLV.40.A40.75	Yes	Yes	4	60	**	99030427			98634870	Yes
					99034565	99030315			98634869	No
		No	4	60	**	99030378			98634713	Yes
					99034564	99030253			98634712	No
	No	Yes	4	60	**	99030403			98634792	Yes
					99034566	99030284			98634791	No
		No	4	60	**	99030353			98634634	Yes
					99034563	99030214			98634633	No
SLV.40.A40.100	Yes	Yes	4	60	**	99030425			98634866	Yes
					99034547	99030313			98634865	No
		No	4	60	**	99030376			98634709	Yes
					99034546	99030251			98634708	No
	No	Yes	4	60	**	99030401			98634788	Yes
					99034761	99030282			98634787	No
		No	4	60	**	99030351			98634630	Yes
					99034545	99030212			98634629	No

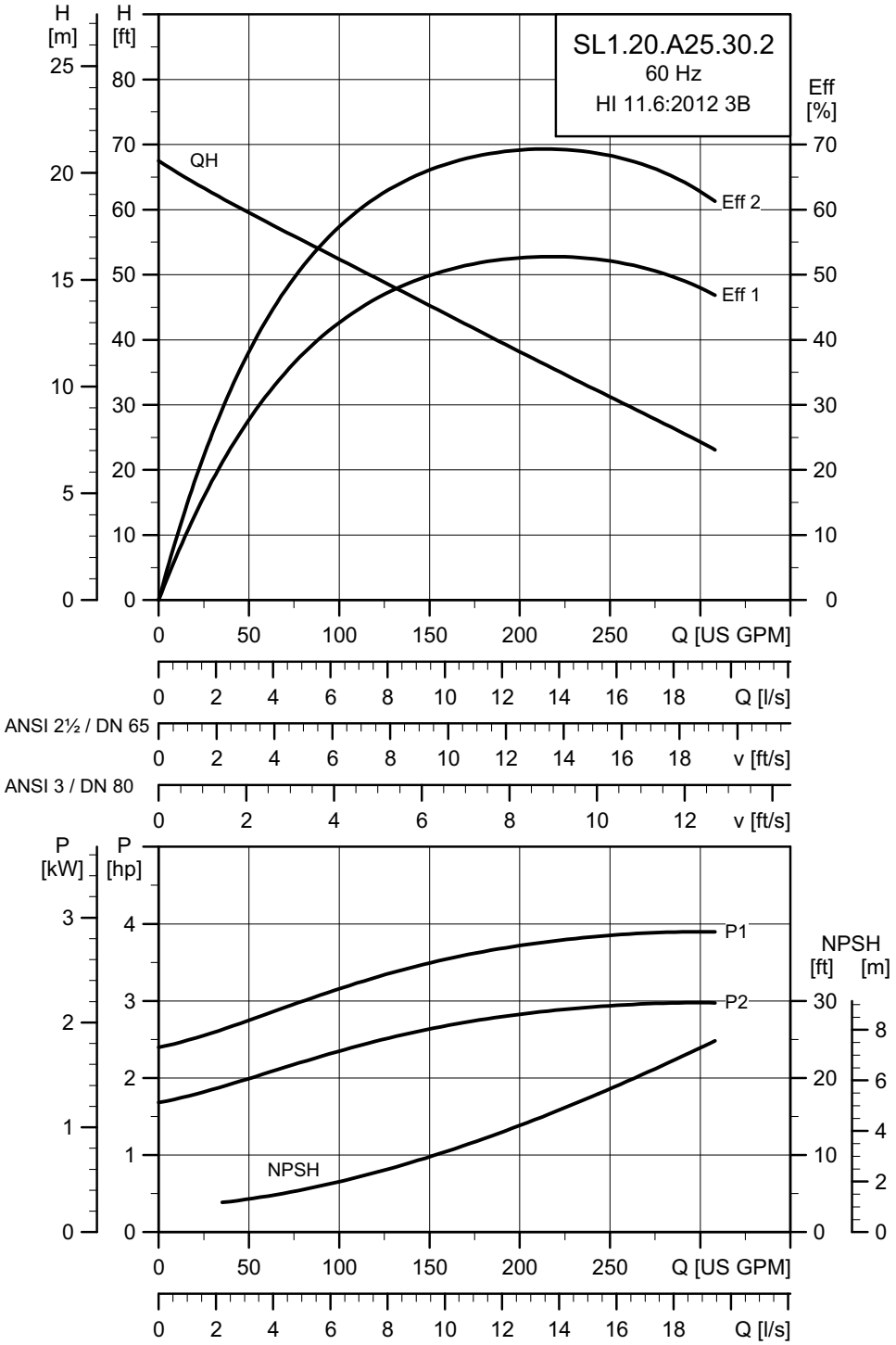
* An IO113 module is required with the sensor model pump. IO modules are not included with the pumps and can be found in the section Accessories on page 146.

** Contact Grundfos.

10. Performance curves and technical data

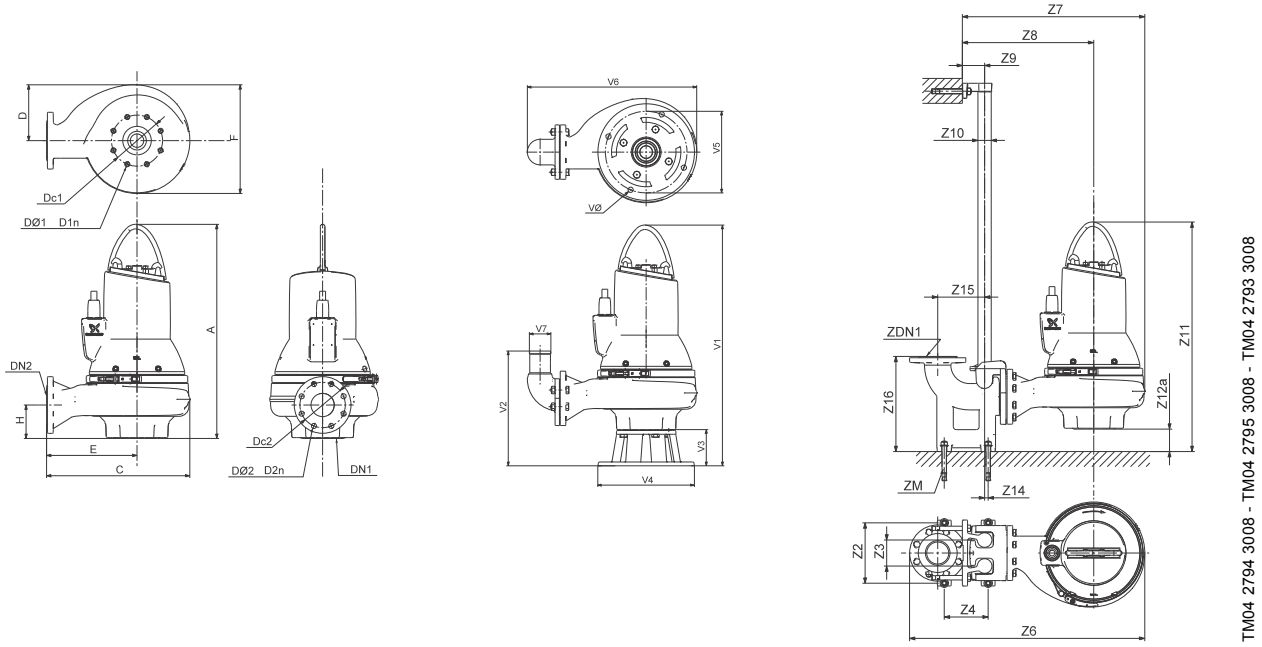
SL1.20.A25

Performance curves: SL1.20.A25.30.2.--.C



TM04 7833 1914

Dimensional sketches: SL1.20.A25.30.2.--.C



TM04 2794 3008 - TM04 2795 3008 - TM04 2793 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	25.2	14.4	6.7	8.5	12.6	3.7	2.5	5.5	4 x M16	2.5	5.5	4 x 0.75	144.6 lb
[mm]	641	366	171	216	321	69	DN 65	140	4 x M16	DN 65	140	4 x 19.1	65.6 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.3	3.7	5.5	27.6	20.3	14.3	3.2	1.5	29.1	3.8	0.1	6.9	10.5	2.5	4 x M16
[mm]	210	95	140	700	514	364	81	40	738	97	1	175	266	65	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	31	14.1	5.1	12.8	10.6	18.8	2.6	0.7
[mm]	771	358	130	325	270	479	65	19

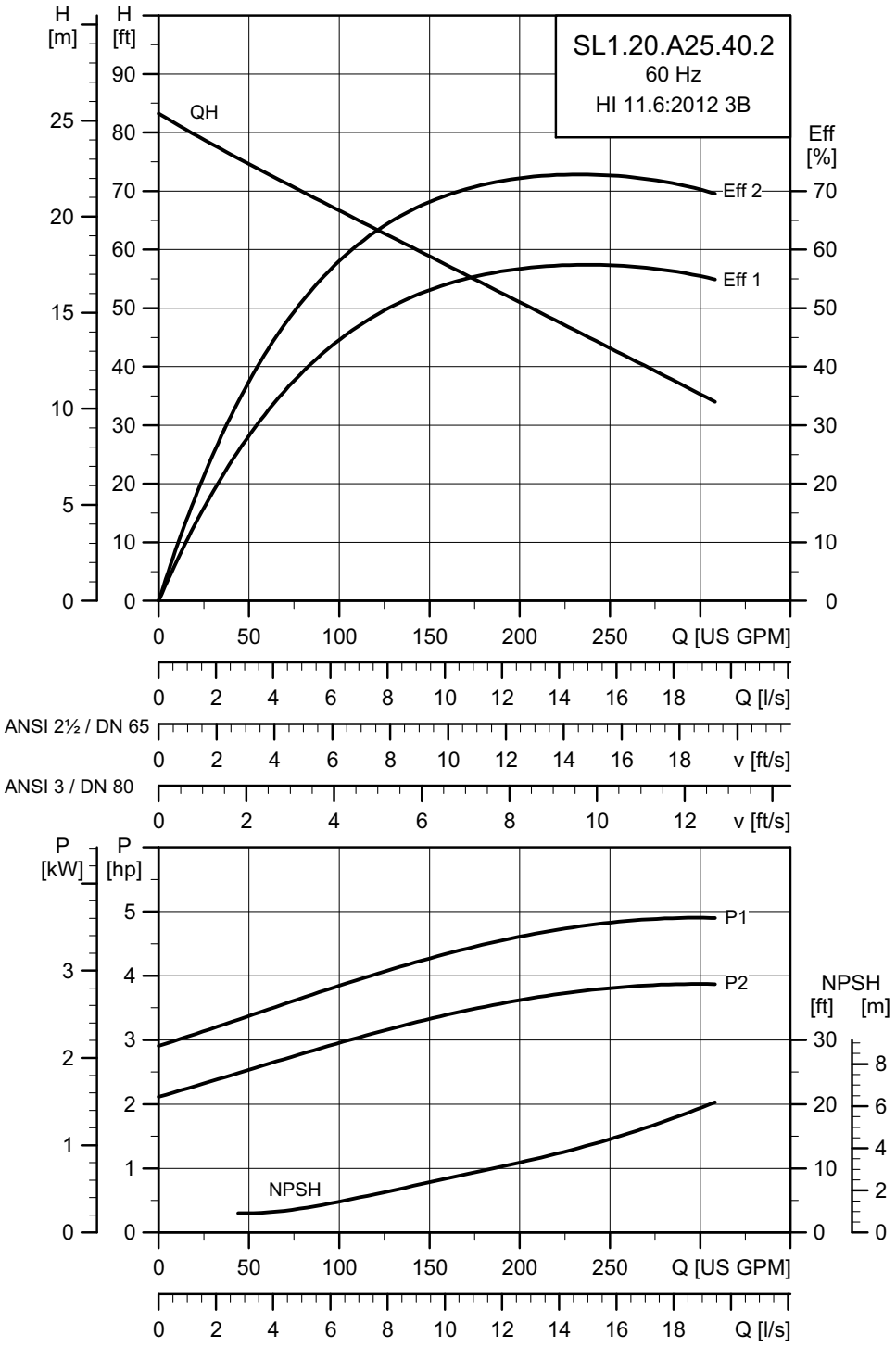
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	4.0 (3.0)	3.0 (2.2)	2	3503	DOL	9.5 - 8.9	68	83.8	85.8	85.0	0.78	0.85	0.89	1.15	0.154 (0.0065)	15.5 (21)
61R	3 x 230 V D/ 460 V Y	4.0 (3.0)	3.0 (2.2)	2	3503	Y/D	8.55	50	84	85.2	83.8	0.81	0.87	0.9	1.15	0.154 (0.0065)	12.5 (17)
61L	3 x 575 V D Y/D	4.0 (3.0)	3.0 (2.2)	2	3503	Y/D	3.5	26	83.8	85.8	85.0	0.78	0.85	0.89	1.15	0.154 (0.0065)	15.5 (21)

Pump data

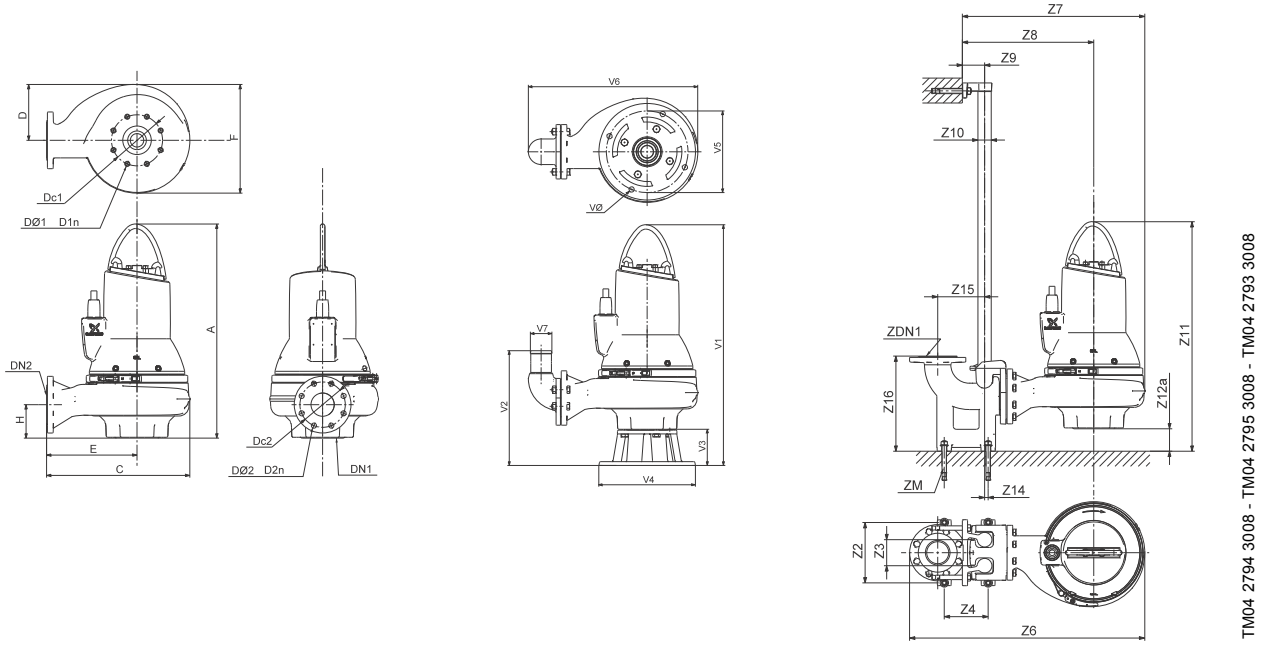
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	2 (50)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.20.A25.40.2.--.C



TM04 7834 1914

Dimensional sketches: SL1.20.A25.40.2.--.C



TM04 2794 3008 - TM04 2795 3008 - TM04 2793 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	25.2	14.4	6.7	8.5	12.6	3.7	2.5	5.5	4 x M16	2.5	5.5	4 x 0.75	207.2 lb
[mm]	641	366	171	216	321	69	DN 65	140	4 x M16	DN 65	140	4 x 19.1	94 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.3	3.7	5.5	27.6	20.3	14.3	3.2	1.5	29.1	3.8	0.1	6.9	10.5	2.5	4 x M16
[mm]	210	95	140	700	514	364	81	40	738	97	1	175	266	65	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	30.4	14.1	5.1	12.8	10.6	18.8	2.6	0.7
[mm]	771	358	130	325	270	479	65	19

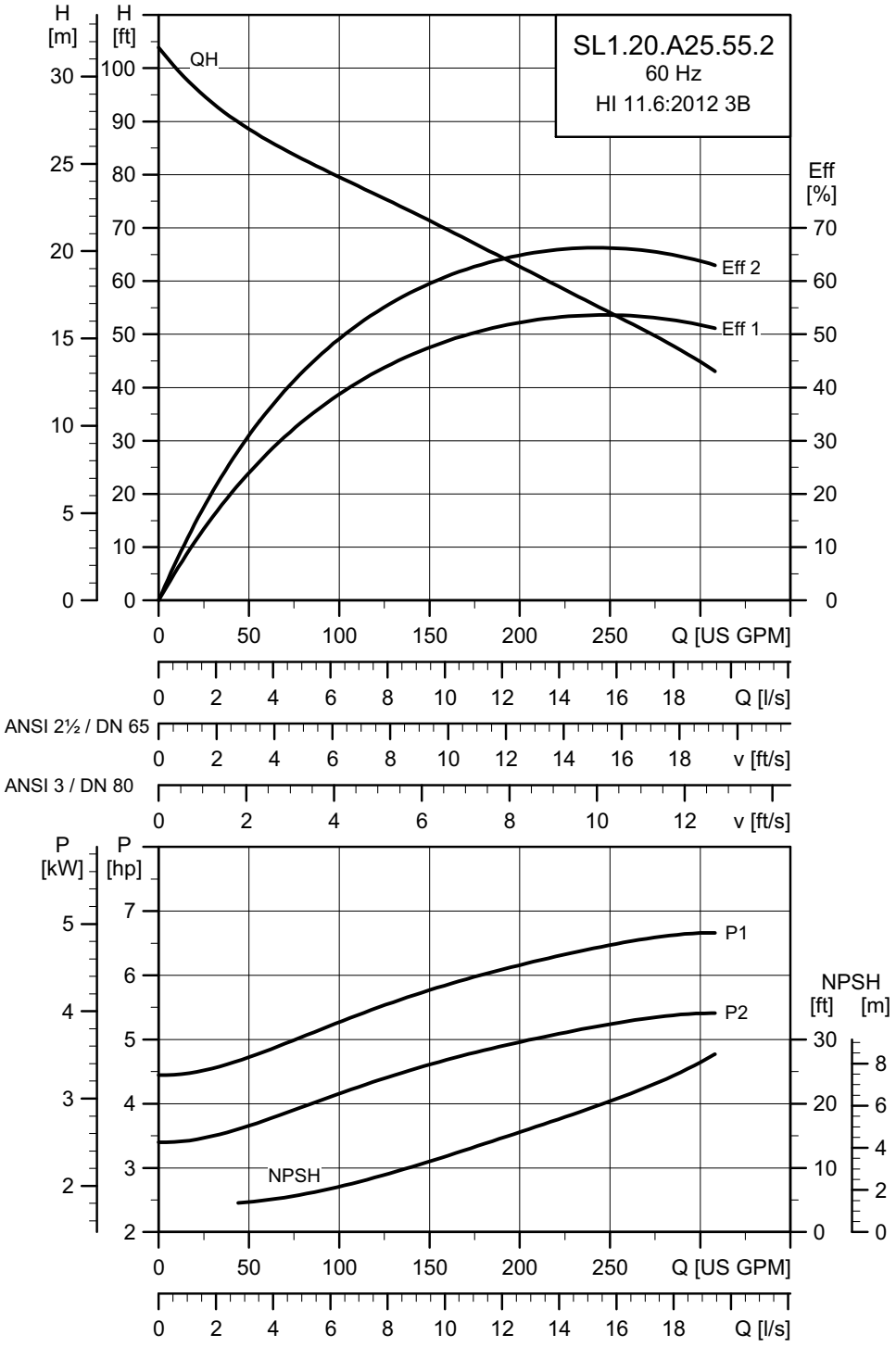
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	5.1 (3.8)	4.0 (3.0)	2	3515	DOL	12.4 - 12.3	98	84.8	86.5	86.5	0.74	0.83	0.87	1.15	0.154 (0.0065)	40.6 (55)
61R	3 x 230 V D/ 460 V Y	5.1 (3.8)	4.0 (3.0)	2	3515	Y/D	11.4	80	85.3	85.9	85.5	0.8	0.86	0.89	1.15	0.154 (0.0065)	20.6 (28)
61L	3 x 575 V D Y/D	5.1 (3.8)	4.0 (3.0)	2	3515	Y/D	4.5	37	84.8	86.5	86.5	0.74	0.83	0.87	1.15	0.154 (0.0065)	40.6 (55)

Pump data

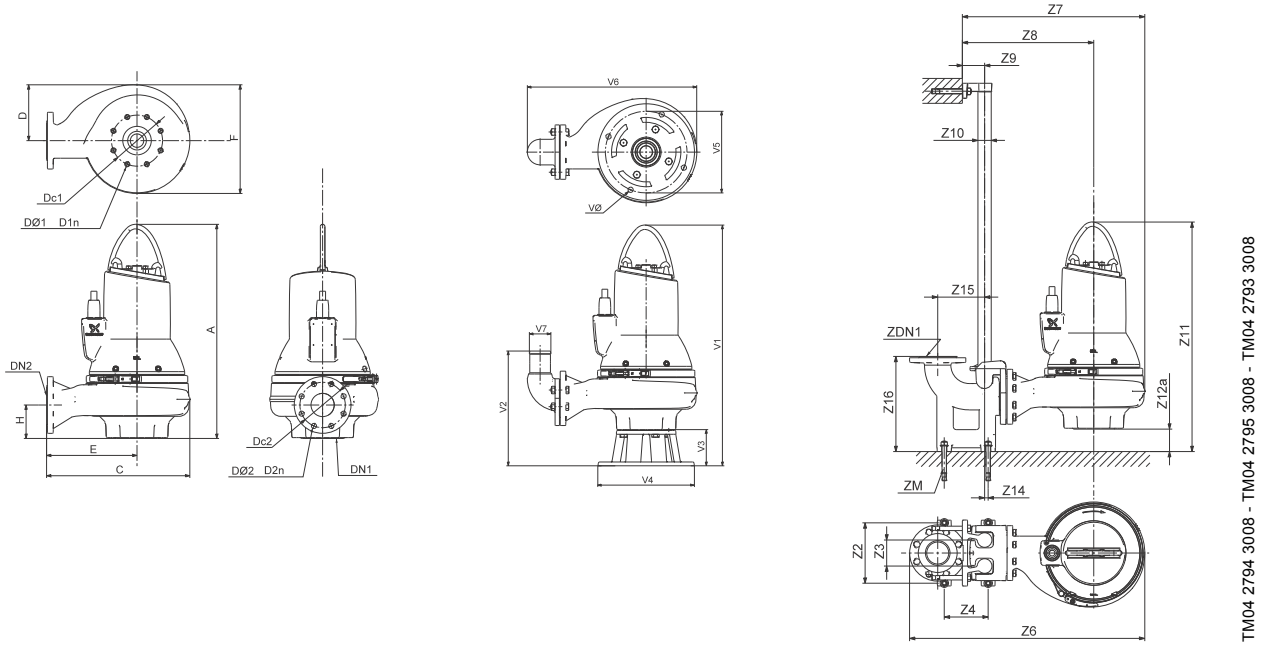
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
S-tube	2 (50)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.20.A25.55.2.--.C



TM04 7835 1914

Dimensional sketches: SL1.20.A25.55.2.--.C



TM04 2794 3008 - TM04 2795 3008 - TM04 2793 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	26.7	16	7.9	8.9	14.9	3.7	2.5	5.5	4 x M16	2.5	5.5	4 x 0.75	279.9 lb
[mm]	677	407	200	227	379	69	DN 65	140	4 x M16	DN 65	140	4 x 19.1	127 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.3	3.7	5.5	29.2	21.9	14.8	3.2	1.5	30.5	3.8	0.1	6.9	10.5	2.5	4 x M16
[mm]	210	95	140	741	555	375	81	40	774	97	1	175	266	65	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	31.8	14.1	5.1	12.8	10.6	20.5	2.6	0.7
[mm]	807	358	130	325	270	520	65	19

Electrical data

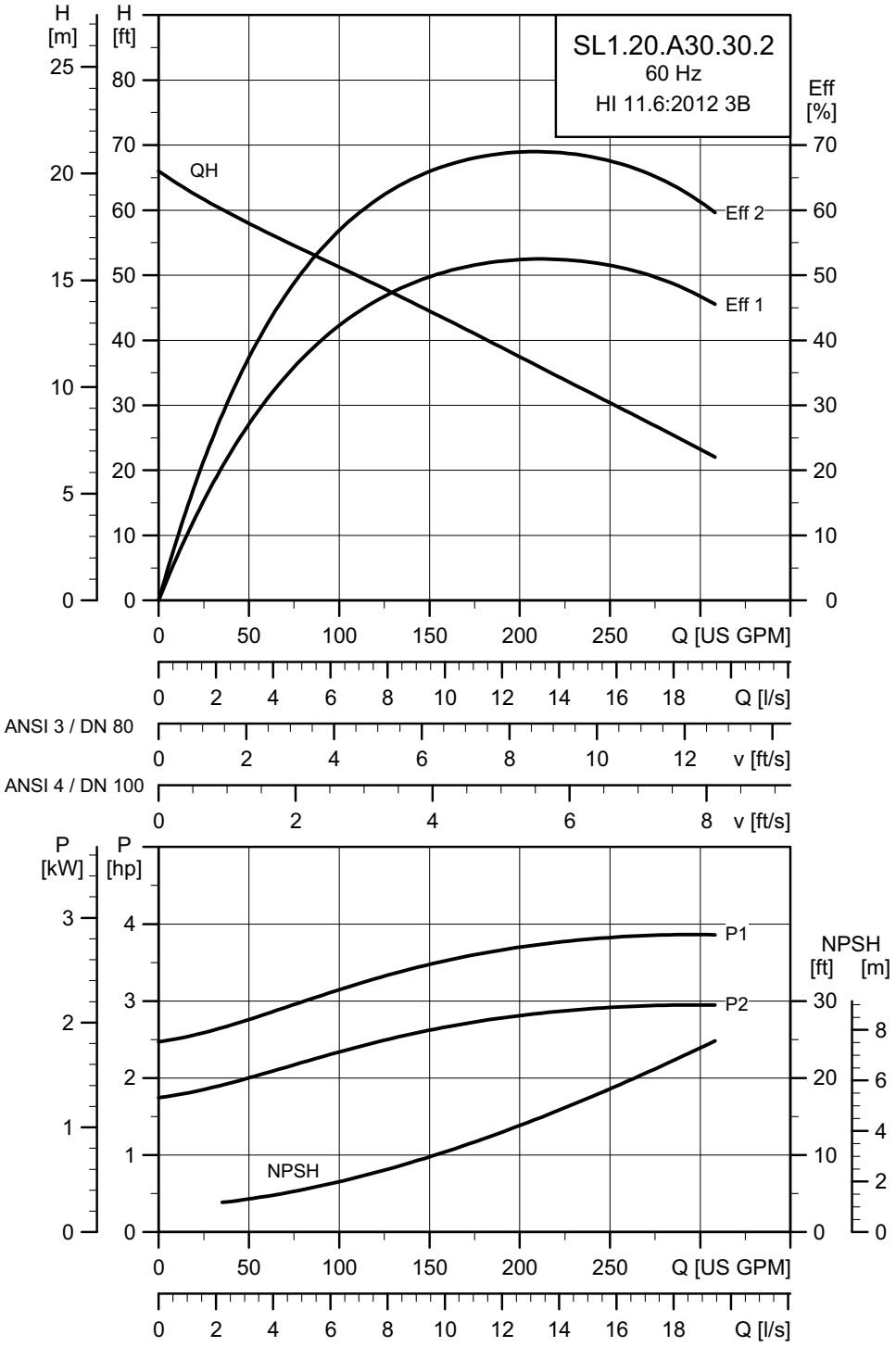
Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.7 (5.0)	5.0 (4.0)	2	3535	DOL	15.2 - 14.7	166	82.0	85.0	86.0	0.76	0.84	0.88	1.15	0.119 (0.0050)	41.3 (56)
61R	3 x 230 V D/ 460 V Y	6.7 (5.0)	5.0 (4.0)	2	3535	Y/D	14.4	120	82.7	85.4	86.1	0.8	0.87	0.9	1.15	0.119 (0.0050)	28.7 (56)
61L	3 x 575 V D Y/D	6.8 (5.0)	5.0 (4.0)	2	3535	Y/D	5.5	64	82.0	85.0	86.0	0.76	0.84	0.88	1.15	0.119 (0.0050)	41.3 (56)

Pump data

Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	2 (50)	10	20	IP68	H	A	104 (40)	4-14

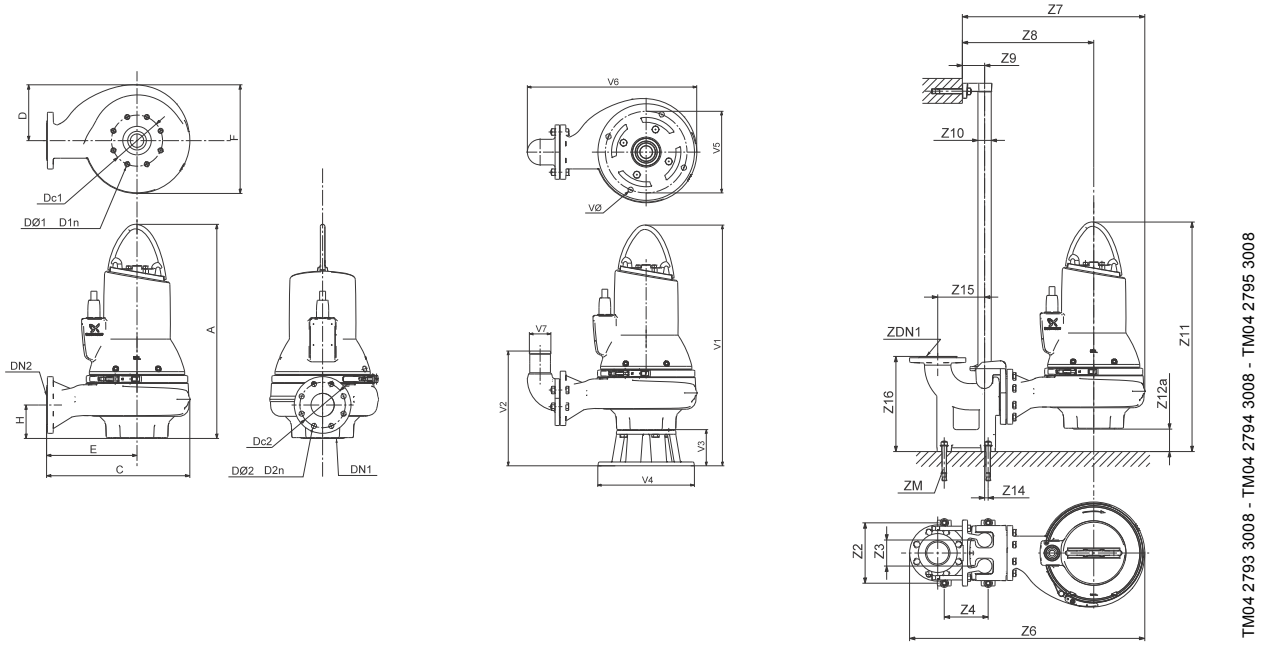
SL1.20.A30

Performance curves: SL1.20.A30.30.2.--.C



TM04 7836 1914

Dimensional sketches: SL1.20.A30.30.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	25.2	14.4	6.7	8.5	12.6	3.9	2.5	5.5	4 x M16	3	6	8 x 0.75	146.3 lb
[mm]	641	366	171	216	321	69	DN 65	140	4 x M16	DN 80	153	8 x 19.1	66.4 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	28.3	20.7	14.8	3.2	1.5	30.4	5.2	0.51	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	719	526	376	81	40	772	131	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	30.4	14.7	5.1	12.8	10.6	19	3.2	0.7
[mm]	771	373	130	325	270	482	80	19

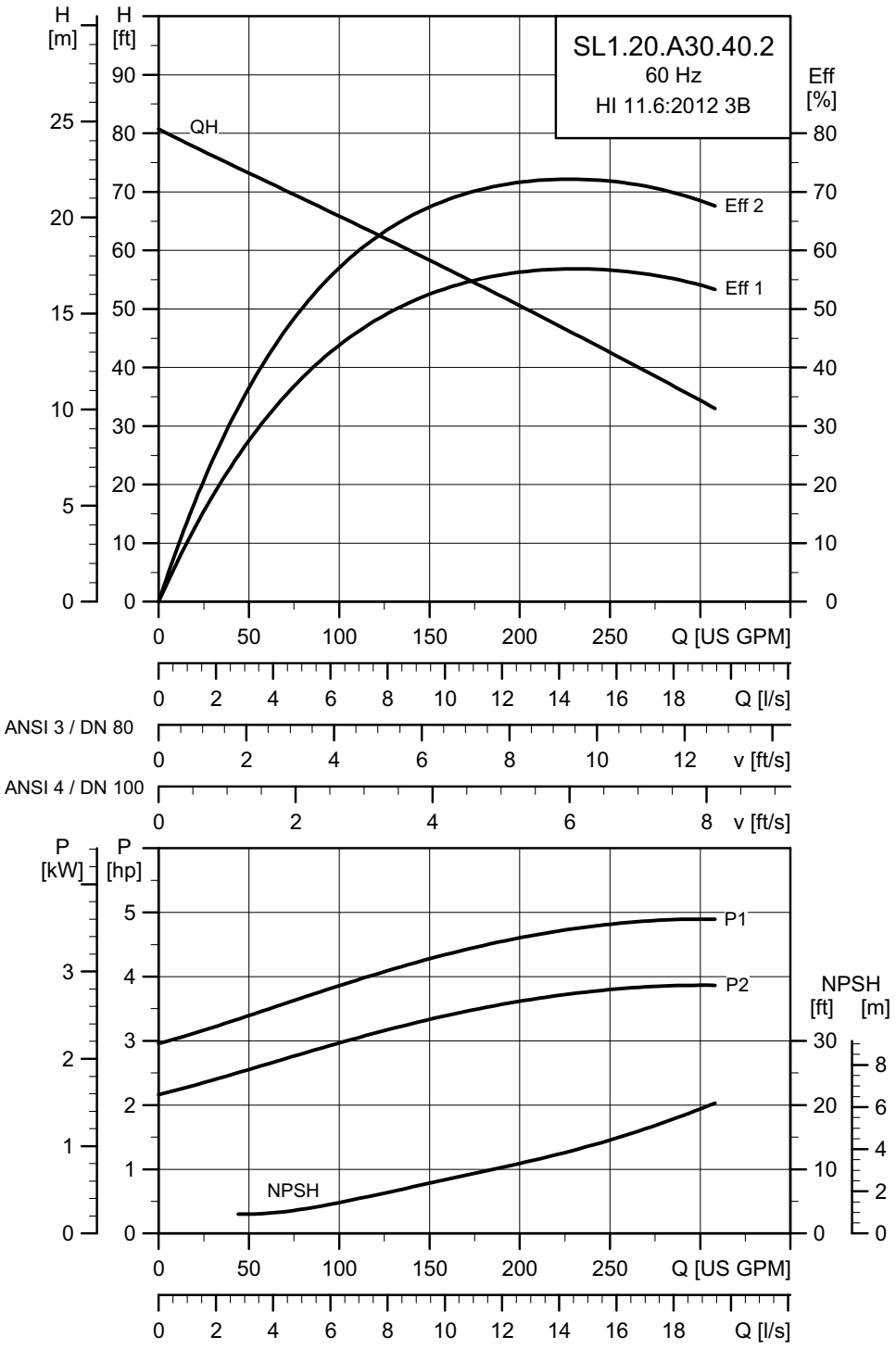
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	4.0 (3.0)	3.0 (2.2)	2	3503	DOL	9.5 - 8.9	68	83.8	85.8	85.0	0.78	0.85	0.89	1.15	0.119 (0.0050)	15.5 (21)
61R	3 x 230 V D/ 460 V Y	4.0 (3.0)	3.0 (2.2)	2	3503	Y/D	8.55	50	84	85.2	83.8	0.81	0.87	0.9	1.15	0.119 (0.0050)	12.5 (17)
61L	3 x 575 V D Y/D	4.0 (3.0)	3.0 (2.2)	2	3503	Y/D	3.5	26	83.8	85.8	85.0	0.78	0.85	0.89	1.15	0.119 (0.0050)	15.5 (21)

Pump data

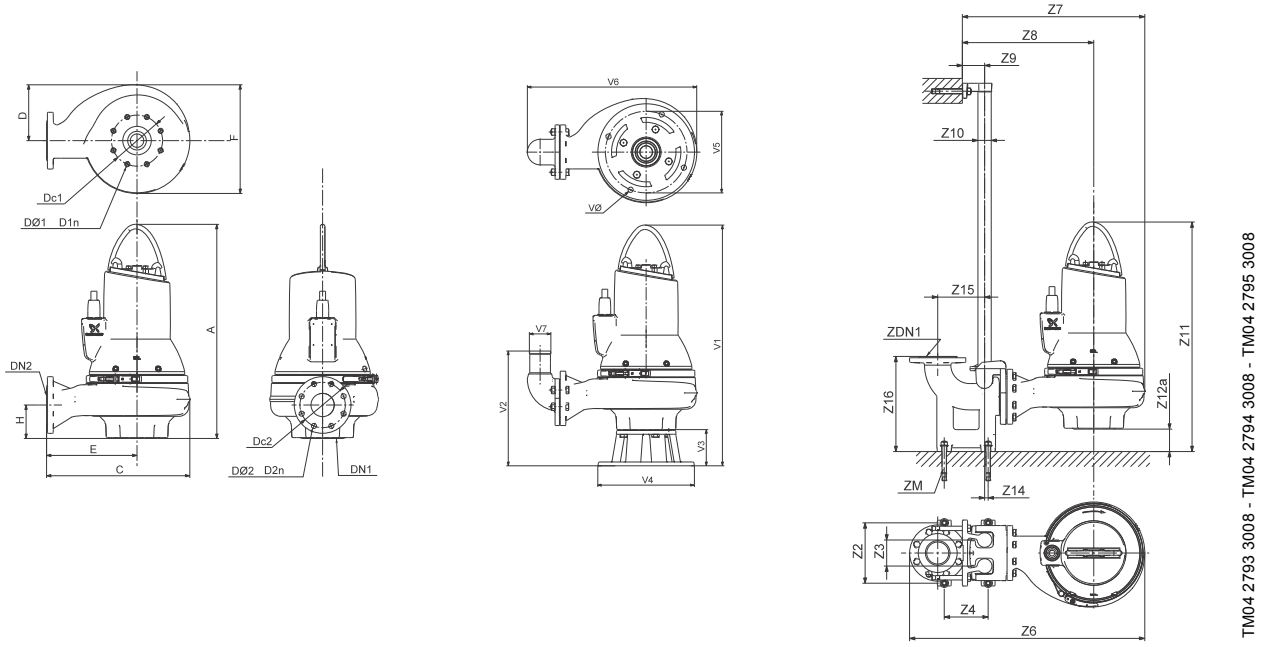
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	2 (50)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.20.A30.40.2.--.C



TM04 7837 1914

Dimensional sketches: SL1.20.A30.40.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	25.2	14.4	6.7	8.5	12.6	3.9	2.5	5.5	4 x M16	3	6	8 x 0.75	208.9 lb
[mm]	641	366	171	216	321	69	DN 65	140	4 x M16	DN 80	153	8 x 19.1	94.8 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	28.3	20.7	14.8	3.2	1.5	30.4	5.2	0.5	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	719	526	376	81	40	772	131	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	30.4	14.7	5.1	12.8	10.6	19	3.2	0.7
[mm]	771	373	130	325	270	482	80	19

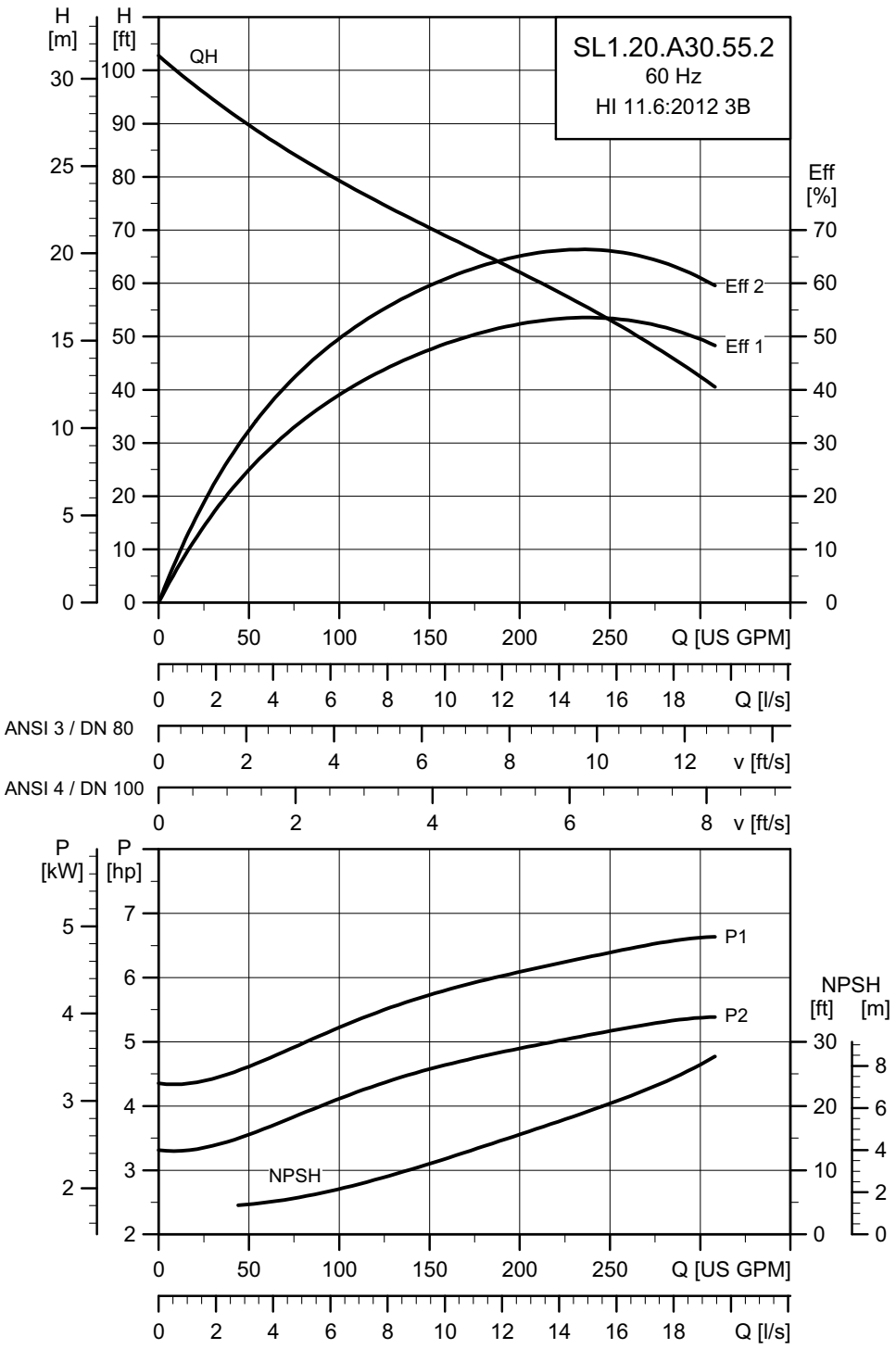
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	5.1 (3.8)	4.0 (3.0)	2	3515	DOL	12.4 - 12.3	98	84.8	86.5	86.5	0.74	0.83	0.87	1.15	0.204 (0.0086)	40.6 (55)
61R	3 x 230 V D/ 460 V Y	5.1 (3.8)	4.0 (3.0)	2	3515	Y/D	11.4	80	85.3	85.9	85.5	0.8	0.86	0.89	1.15	0.204 (0.0086)	20.7 (28)
61L	3 x 575 V D Y/D	5.1 (3.8)	4.0 (3.0)	2	3515	Y/D	4.5	37	84.8	86.5	86.5	0.74	0.83	0.87	1.15	0.204 (0.0086)	40.6 (55)

Pump data

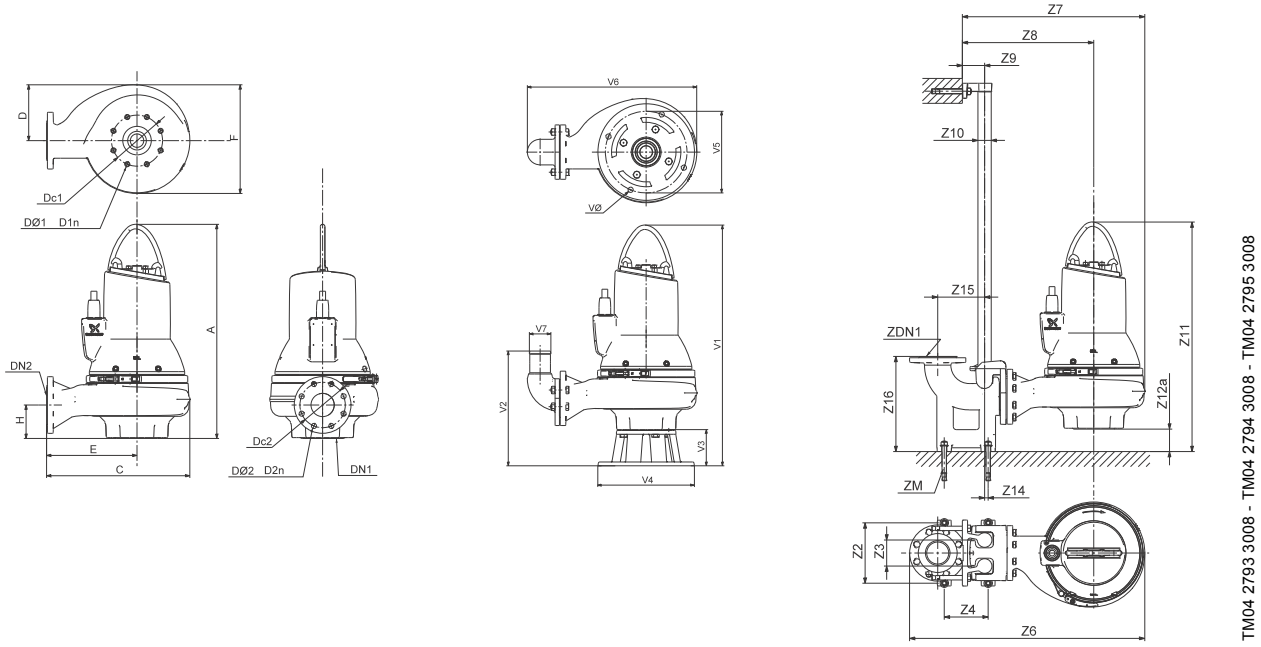
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	2 (50)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.20.A30.55.2.--.C



TM04 7838 1914

Dimensional sketches: SL1.20.A30.55.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	26.7	16	7.9	8.9	14.9	3.9	2.5	5.5	4 x M16	3	6	8 x 0.75	281.7 lb
[mm]	677	407	200	227	379	69	DN 65	140	4 x M16	DN 80	153	8 x 19.1	127.8 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	29.9	22.4	15.2	3.2	1.5	31.8	5.2	0.5	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	760	567	387	81	40	808	131	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	31.8	14.7	5.1	12.8	10.6	20.6	3.2	0.7
[mm]	807	373	130	325	270	523	80	19

Electrical data

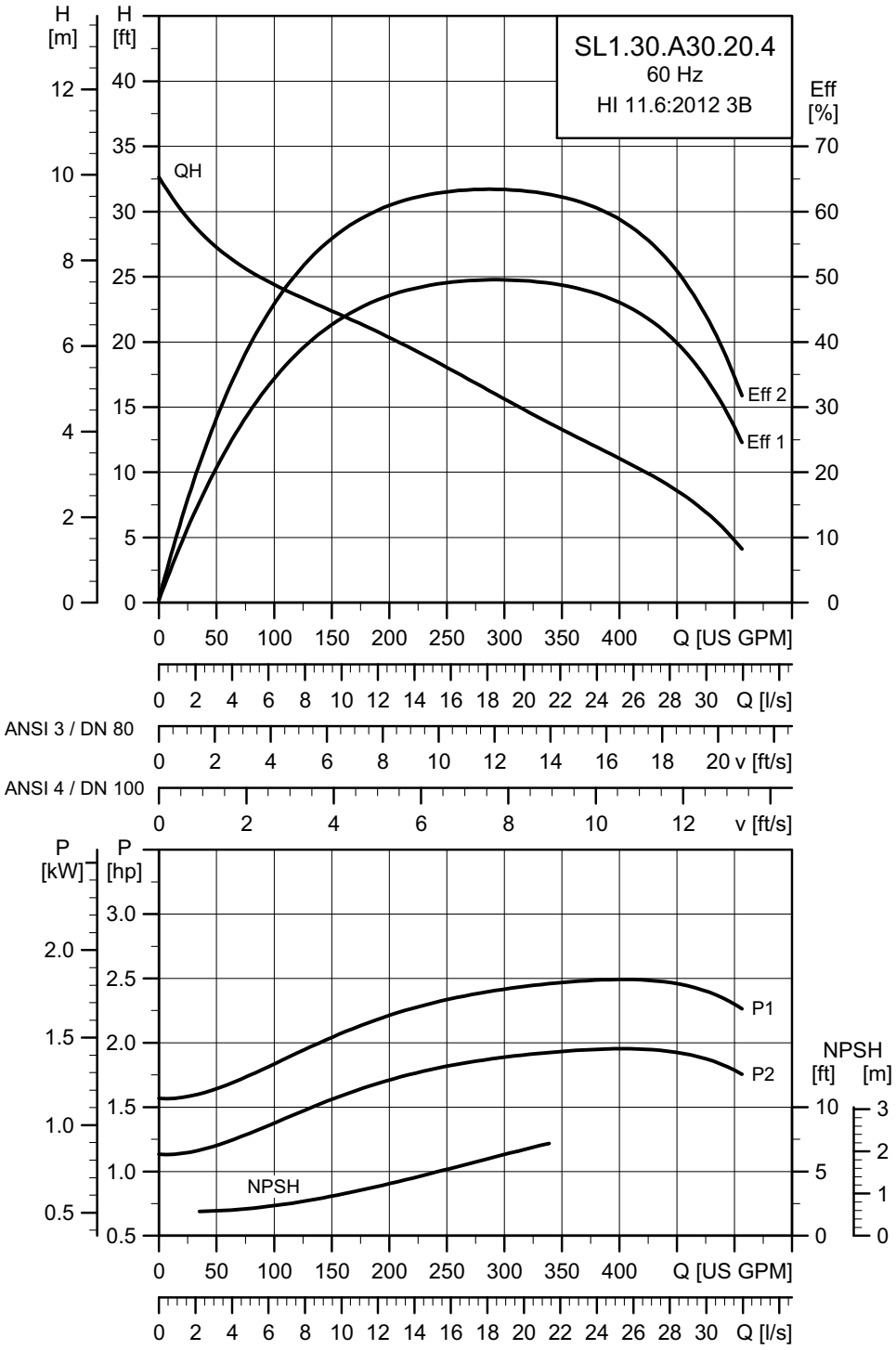
Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.7 (5.0)	5.0 (4.0)	2	3535	DOL	15.2 - 14.7	166	82.0	85.0	86.0	0.76	0.84	0.88	1.15	0.204 (0.0086)	41.3 (56)
61R	3 x 230 V D/ 460 V Y	6.7 (5.0)	5.0 (4.0)	2	3535	Y/D	14.4	120	82.7	85.4	86.1	0.8	0.87	0.9	1.15	0.204 (0.0086)	28.8 (39)
61L	3 x 575 V D Y/D	6.8 (5.0)	5.0 (4.0)	2	3535	Y/D	5.5	64	82.0	85.0	86.0	0.76	0.84	0.88	1.15	0.204 (0.0086)	41.3 (56)

Pump data

Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
S-tube	2 (50)	10	20	IP68	H	A	104 (40)	4-14

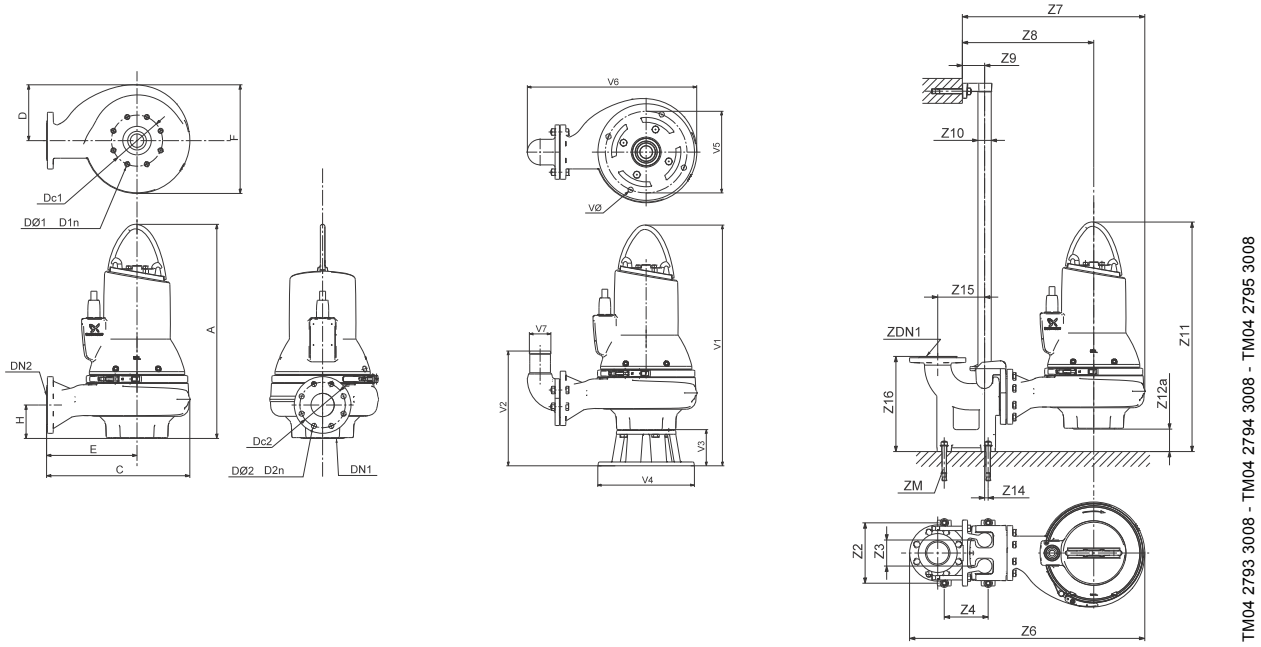
SL1.30.A30

Performance curves: SL1.30.A30.20.4.--.C



TM04 7839 1914

Dimensional sketches: SL1.30.A30.20.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	26.9	17.1	6.7	10.7	13.7	3.9	4	7.5	8 x M16	3	6	8 x 0.75	220.2 lb
[mm]	682	435	171	272	347	89	DN 100	191	8 x M16	DN 80	153	8 x 19.1	99.9 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	31	23.5	17	3.2	1.5	31.3	4.4	0.5	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	788	595	432	81	40	793	111	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	32.0	15.5	5.1	14	11.8	21.7	3.2	0.7
[mm]	812	393	130	355	300	551	80	19

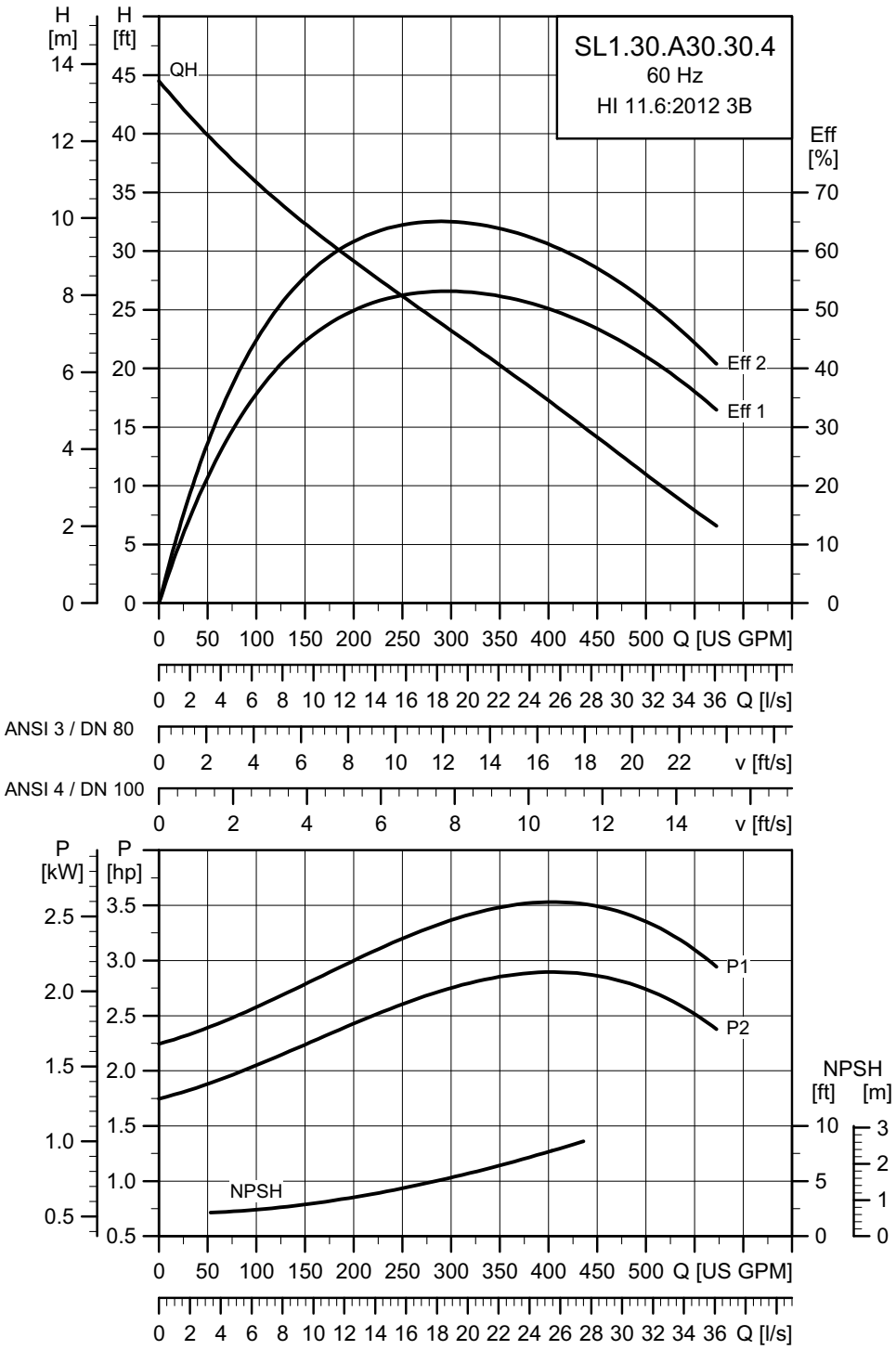
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D DOL	2.6 (1.9)	2.0 (1.5)	4	1753	DOL	7.1 - 7.9	53	83.3	85.7	86.0	0.51	0.63	0.72	1.15	0.297 (0.0125)	22.1 (30)
61R	3 x 230 V D/ 460 V Y	2.6 (1.9)	2.0 (1.5)	4	1753	Y/D	6.55	40	84.2	85.7	85.4	0.56	0.69	0.76	1.15	0.297 (0.0125)	18.4 (25)
60L	3 x 575 V D DOL	2.6 (1.9)	2.0 (1.5)	4	1753	DOL	2.6	20	83.3	85.7	86.0	0.51	0.63	0.72	1.15	0.297 (0.0125)	22.1 (30)
61L	3 x 575 V D Y/D	2.6 (1.9)	2.0 (1.5)	4	1753	Y/D	2.6	20	83.3	85.7	86.0	0.51	0.63	0.72	1.15	0.297 (0.0125)	22.1 (30)

Pump data

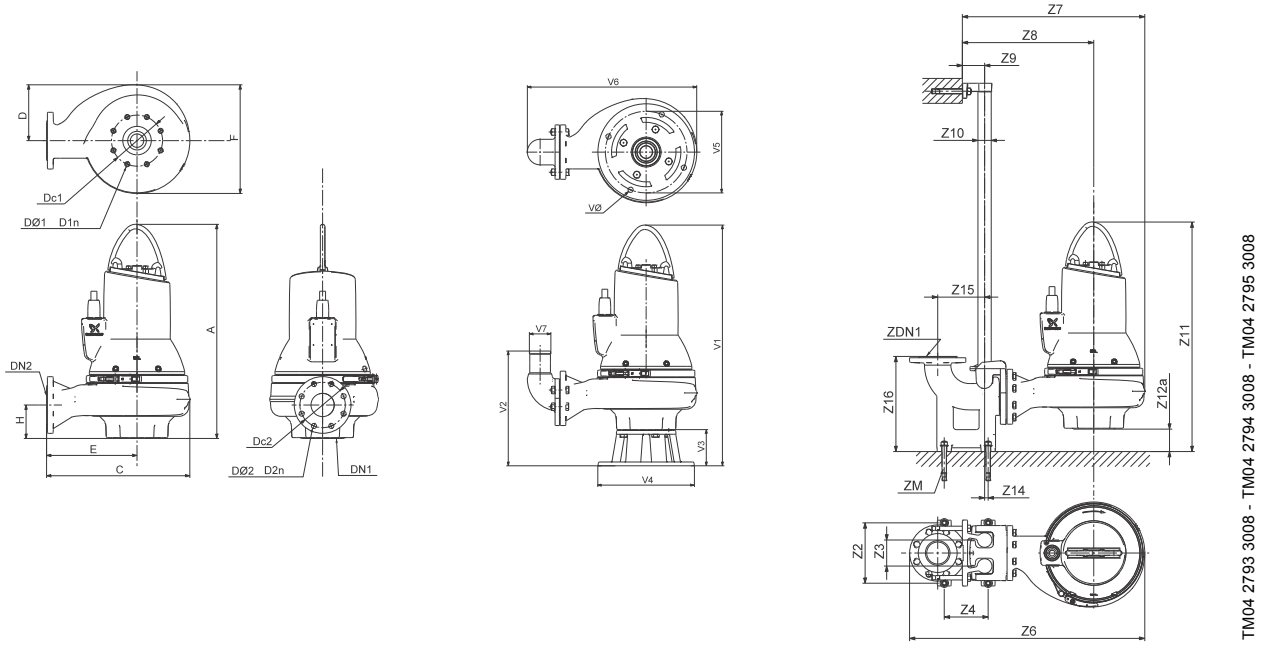
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.30.A30.30.4.--.C



TM04 7840 1914

Dimensional sketches: SL1.30.A30.30.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	26.9	17.1	6.7	10.7	13.7	3.9	4.0	7.5	8 x M16	3.0	6.0	8 x 0.75	239.4 lb
[mm]	682	435	171	272	347	89	DN 100	191	8 x M16	DN 80	153	8 x 19.1	108.6 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	31.0	23.5	17.0	3.2	1.5	31.3	4.4	0.5	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	788	595	432	81	40	793	111	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	32.0	15.5	5.1	14.0	11.8	21.7	3.2	0.7
[mm]	812	393	130	355	300	551	80	19

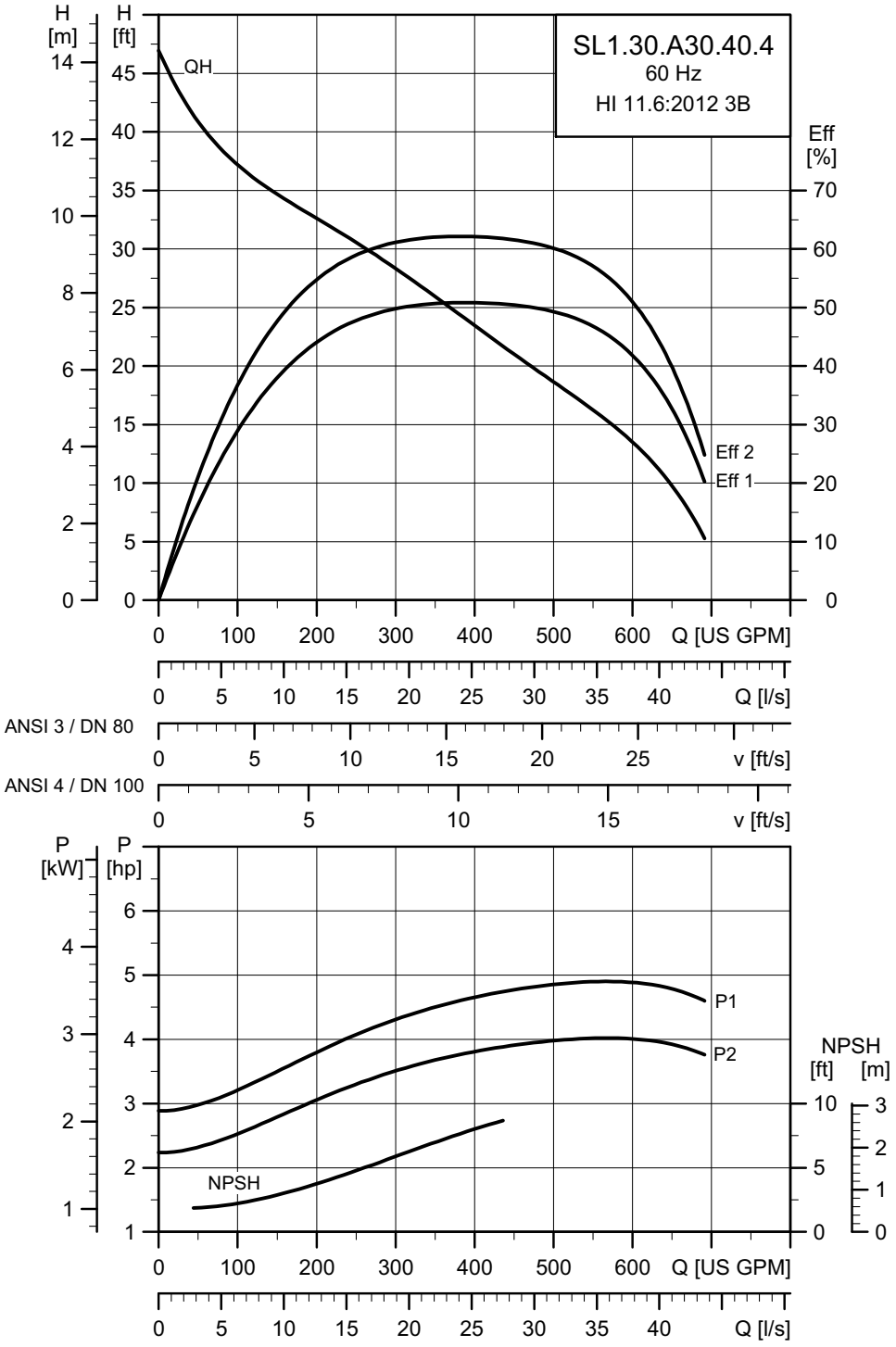
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	3.7 (2.7)	3.0 (2.2)	4	1763	DOL	9.8 - 10.6	70	84.7	86.6	87.0	0.59	0.70	0.76	1.15	0.297 (0.0125)	26.6 (36)
61R	3 x 230 V D/ 460 V Y	3.7 (2.7)	3.0 (2.2)	4	1763	Y/D	8.95	40	85.5	86.6	86.3	0.65	0.75	0.8	1.15	0.297 (0.0125)	26.6 (36)
61L	3 x 575 V D Y/D	3.7 (2.7)	3.0 (2.2)	4	1763	Y/D	3.5	27	84.7	86.6	87.0	0.59	0.70	0.76	1.15	0.297 (0.0125)	26.6 (36)

Pump data

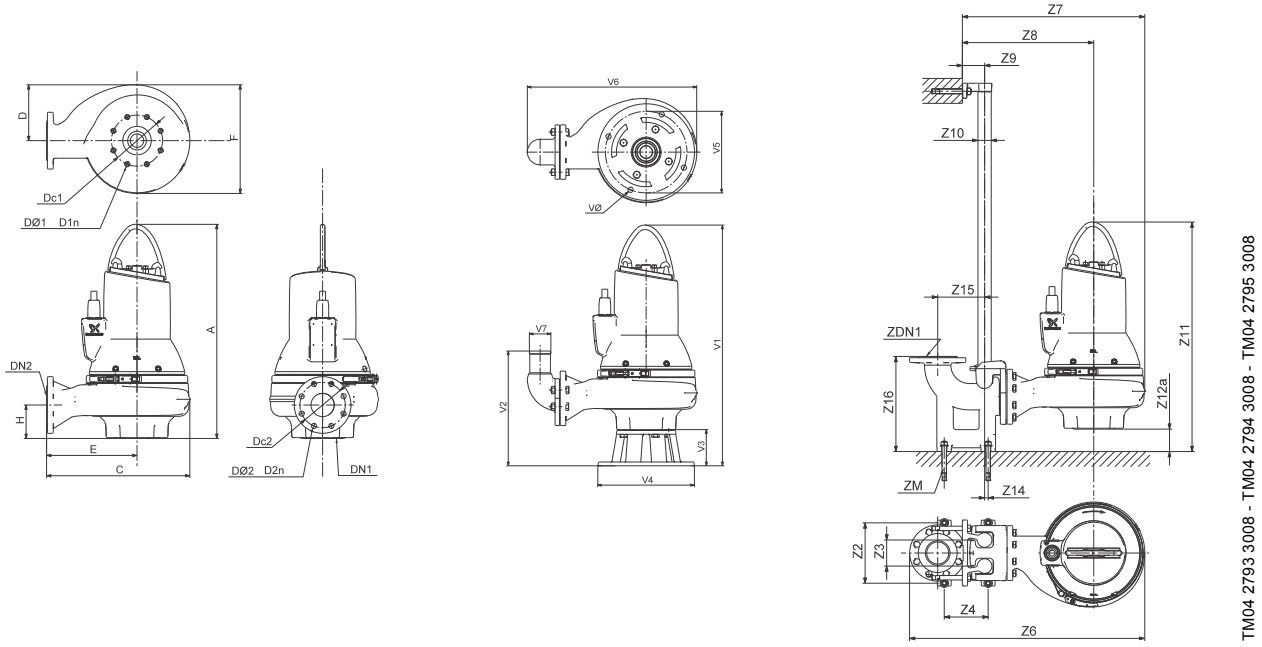
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.30.A30.40.4.--.C



TM04 7841 1914

Dimensional sketches: SL1.30.A30.40.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28	19.9	7.9	12.6	15.6	4.6	4.0	7.5	8 x M16	3.0	6.0	8 x 0.75	288.9 lb
[mm]	711	505	200	319	397	118	DN 100	191	8 x M16	DN 80	153	8 x 19.1	131.1 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	33.8	26.2	18.9	3.2	1.5	31.3	3.2	0.5	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	858	665	479	81	40	793	82	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.1	16.6	5.1	14.0	11.8	24.4	3.2	0.7
[mm]	841	422	130	355	300	621	80	19

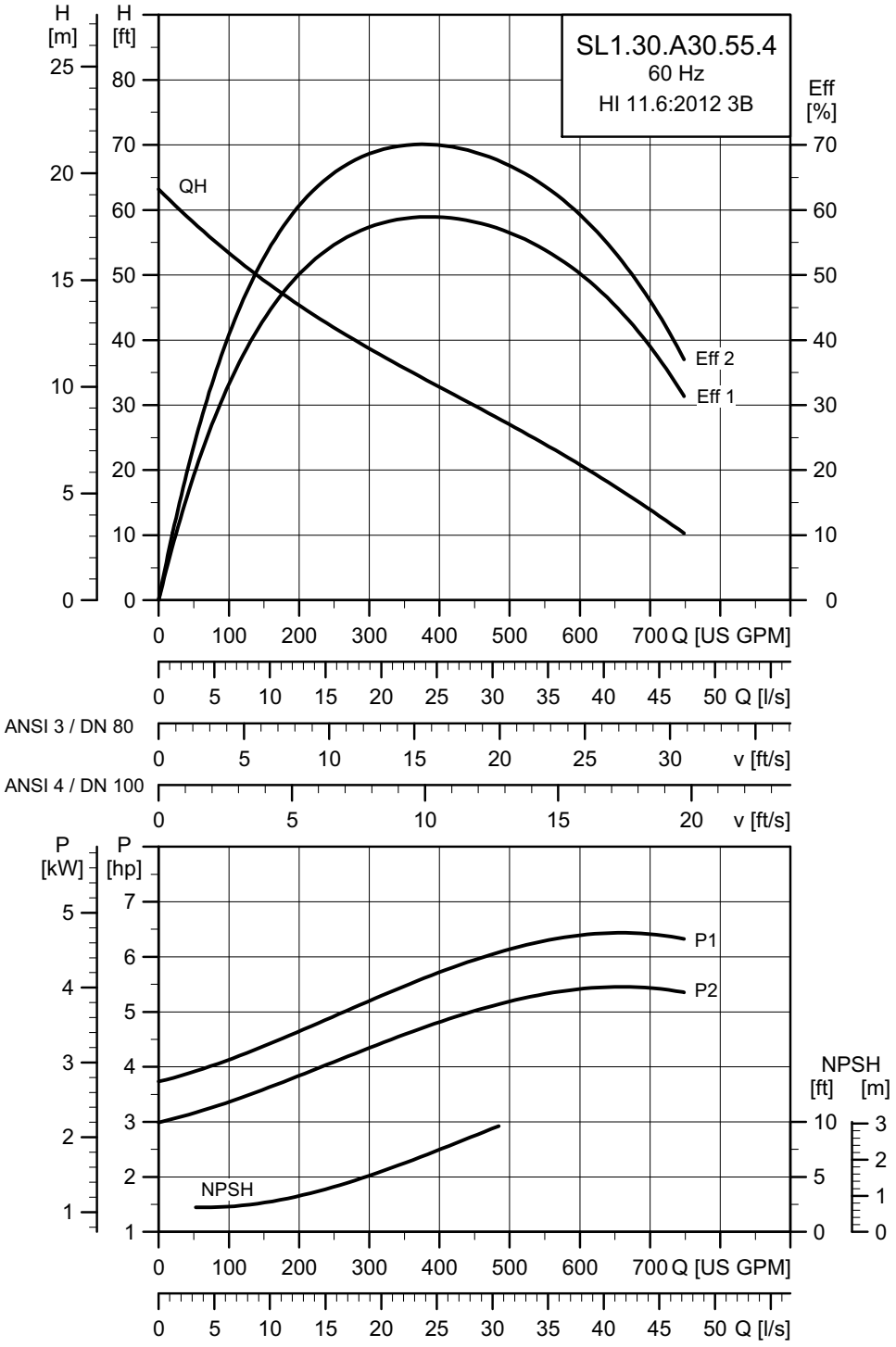
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	5.5 (4.0)	4.0 (3.0)	4	1755	DOL	12.5 - 12.9	98	84.6	86.3	86.4	0.63	0.75	0.79	1.15	0.337 (0.0142)	40.6 (55)
61R	3 x 230 V D/ 460 V Y	5.1 (3.7)	4.0 (3.0)	4	1755	Y/D	12	75	85	86.0	85.6	0.70	0.79	0.82	1.15	0.337 (0.0142)	32.5 (44)
61L	3 x 575 V D Y/D	5.1 (3.7)	4.0 (3.0)	4	1755	Y/D	4.5	37	84.6	86.3	86.4	0.63	0.75	0.79	1.15	0.337 (0.0142)	40.6 (55)

Pump data

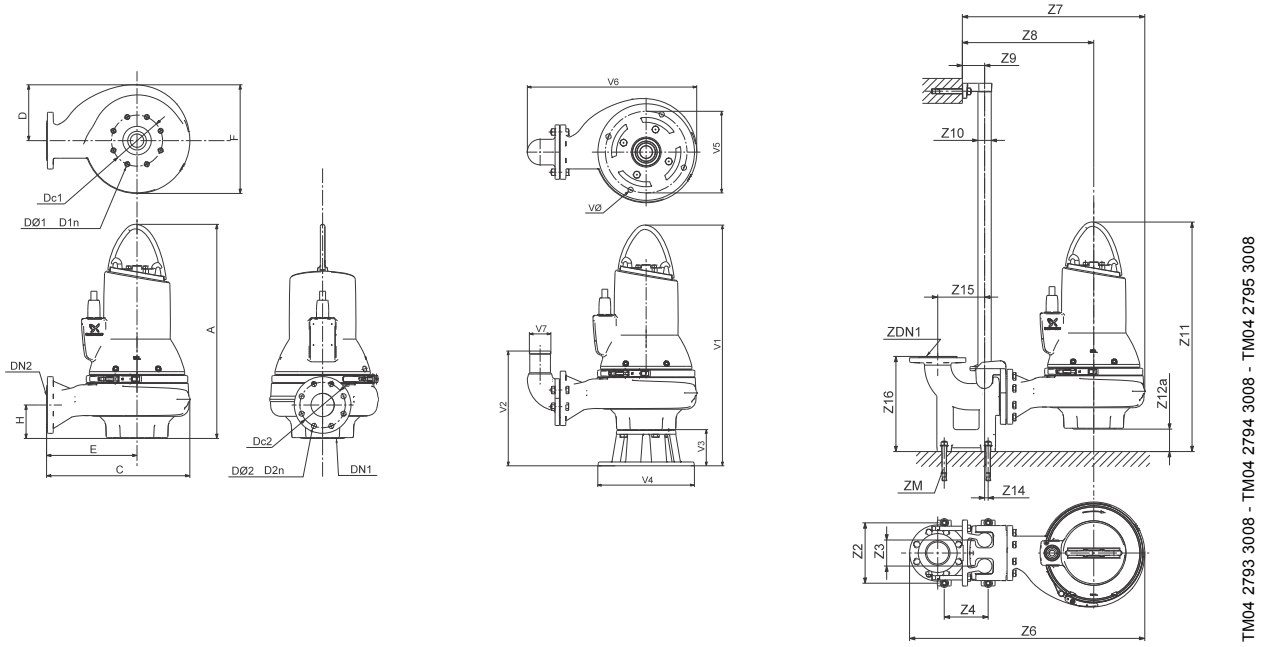
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.30.A30.55.4.--.C



TM04 7842 1914

Dimensional sketches: SL1.30.A30.55.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.4	19.9	7.9	12.6	15.6	4.6	4.0	7.5	8 x M16	3.0	6.0	8 x 0.75	318.5 lb
[mm]	748	505	200	319	397	118	DN 100	191	8 x M16	DN 80	153	8 x 19.1	144.5 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	33.8	26.2	18.9	3.2	1.5	32.7	3.2	0.5	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	858	665	479	81	40	830	82	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.6	16.6	5.1	14.0	11.8	24.4	3.2	0.7
[mm]	878	422	130	355	300	621	80	19

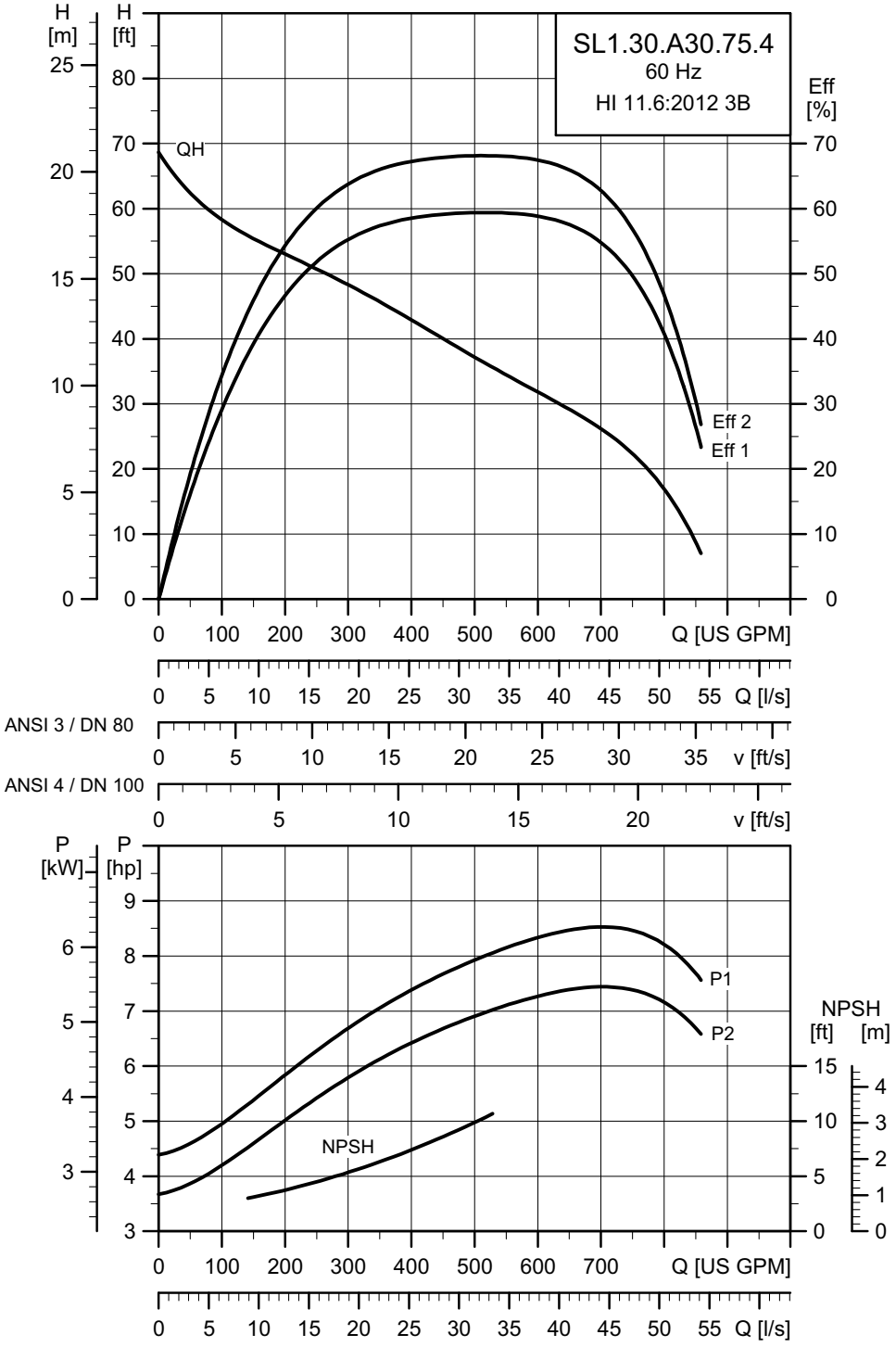
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.5 (4.8)	5.5 (4.0)	4	1767	DOL	17.3 - 19.0	133	85.3	87.4	88.2	0.53	0.66	0.74	1.15	0.337 (0.0142)	61.2 (83)
61R	3 x 230 V D/ 460 V Y	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	16.2	120	86.2	87.8	87.8	0.59	0.70	0.78	1.15	0.337 (0.0142)	48.7 (66)
61L	3 x 575 V D Y/D	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	6.3	51	85.3	87.4	88.2	0.53	0.66	0.74	1.15	0.337 (0.0142)	61.2 (83)

Pump data

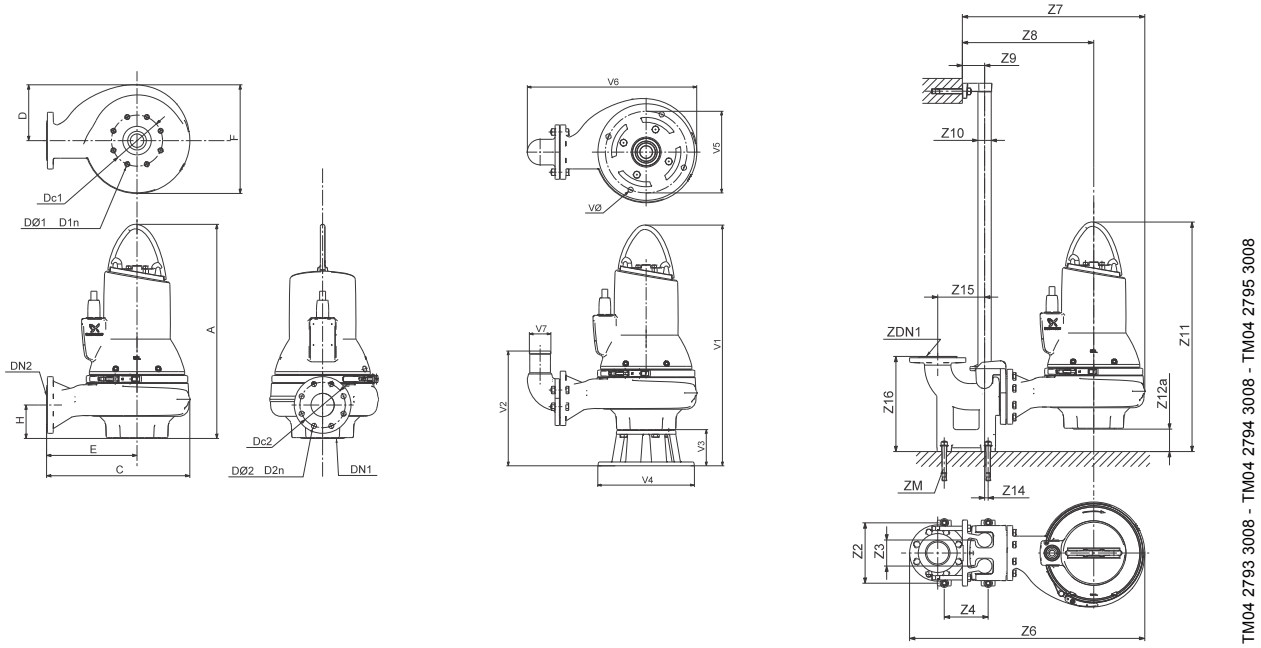
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.30.A30.75.4.--.C



TM04 7843 1914

Dimensional sketches: SL1.30.A30.75.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.7	19.9	7.9	12.6	15.6	4.6	4.0	7.5	8 x M16	3.0	6.0	8 x 0.75	342.1 lb
[mm]	755	505	200	319	397	118	DN 100	191	8 x M16	DN 80	153	8 x 19.1	155.2 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	33.8	26.2	18.9	3.2	1.5	33.0	3.2	0.5	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	858	665	479	81	40	837	82	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.9	16.6	5.1	14.0	11.8	24.4	3.2	0.7
[mm]	885	422	130	355	300	621	80	19

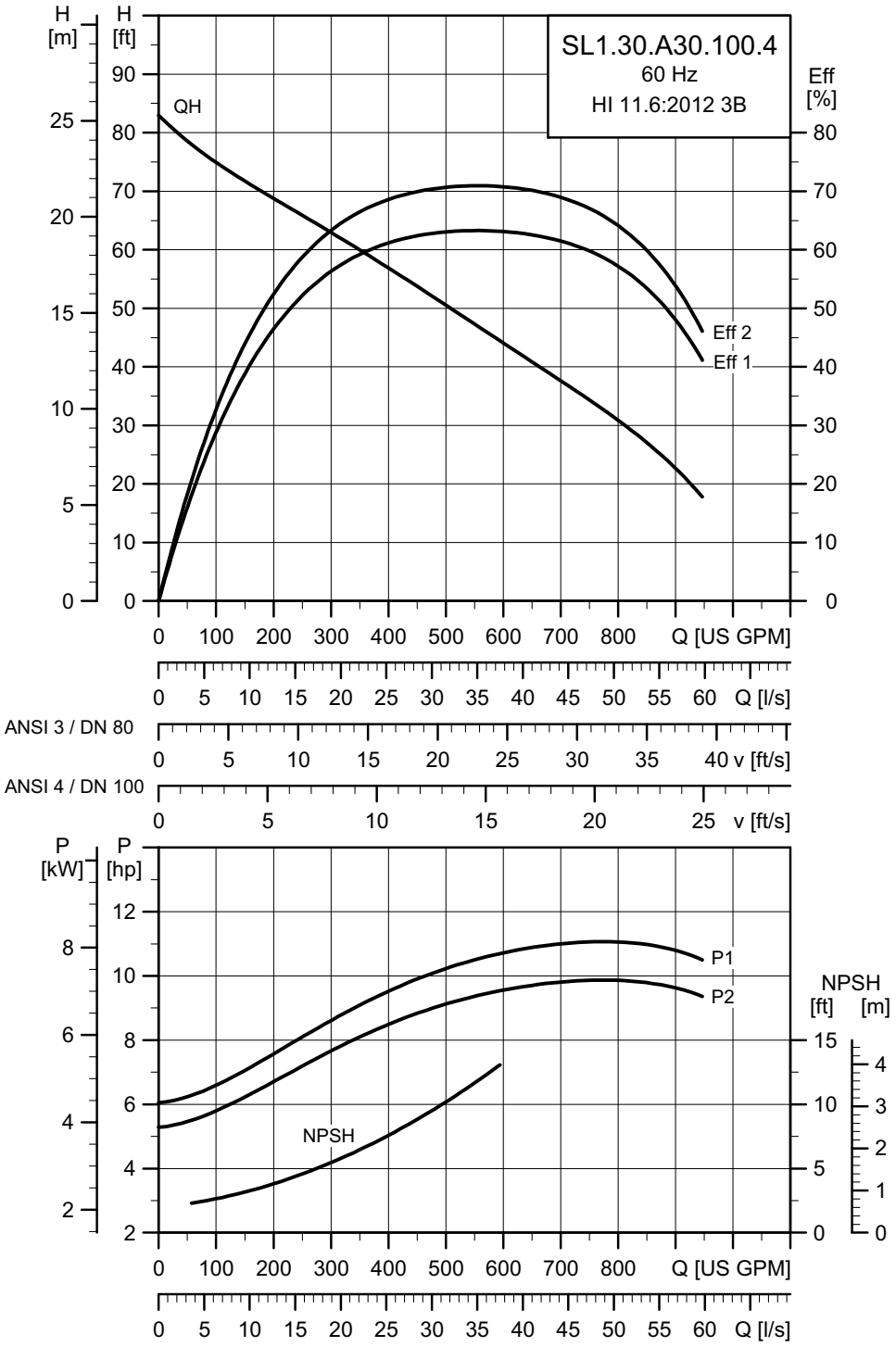
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	8.5 (6.3)	7.4 (5.5)	4	1765	DOL	20.2 - 19.7	149	88.9	90.0	89.6	0.73	0.81	0.86	1.15	0.643 (0.0271)	73.0 (99)
61R	3 x 230 V D/ 460 V Y	8.7 (6.4)	7.4 (5.5)	4	1765	Y/D	19.2	120	88.2	90.0	88.9	0.77	0.84	0.87	1.15	0.643 (0.0271)	60.5 (82)
61L	3 x 575 V D Y/D	8.7 (6.4)	7.4 (5.5)	4	1765	Y/D	7.3	57	88.9	90.0	89.6	0.73	0.81	0.86	1.15	0.643 (0.0271)	73.0 (99)

Pump data

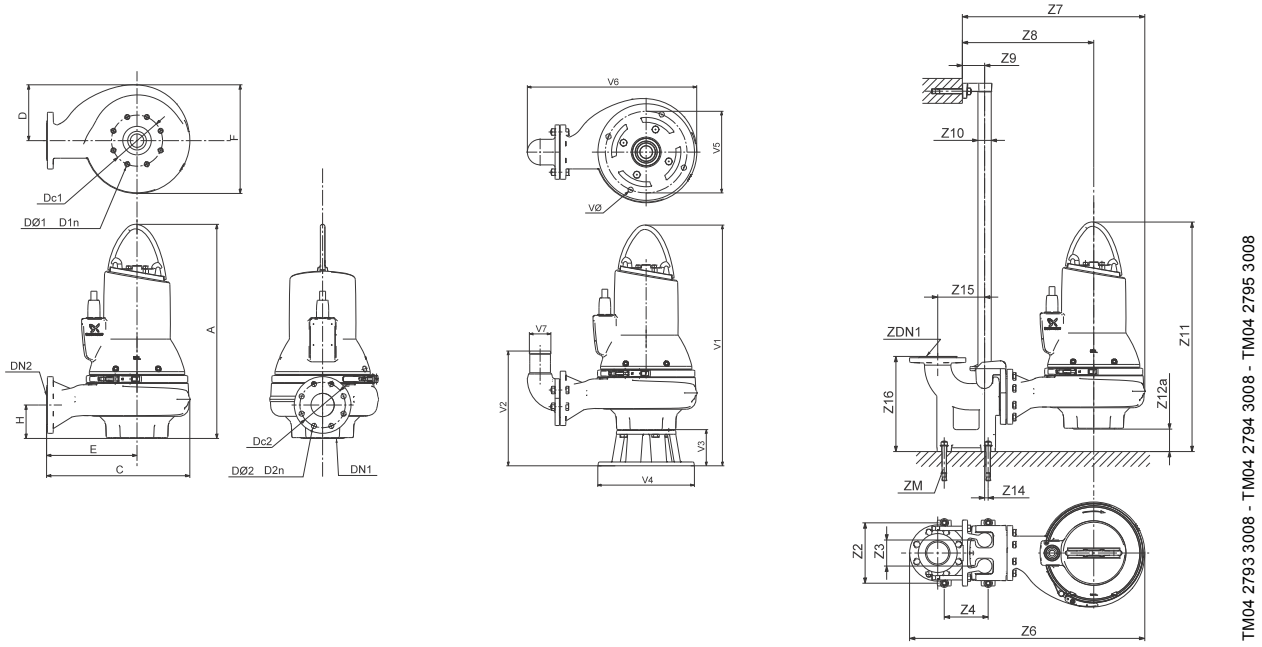
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.30.A30.100.4.--.C



TM04 7844 1914

Dimensional sketches: SL1.30.A30.100.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	32.2	20.9	8.5	12.9	16.7	4.6	4.0	7.5	8 x M16	3.0	6.0	8 x 0.75	419 lb
[mm]	818	530	217	328	423	118	DN 100	191	8 x M16	DN 80	153	8 x 19.1	190.1 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	34.8	27.2	19.2	3.2	1.5	35.5	3.2	0.5	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	883	690	488	81	40	900	82	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	37.4	16.6	5.1	14.0	11.8	25.4	3.2	0.7
[mm]	948	422	130	355	300	646	80	19

Electrical data

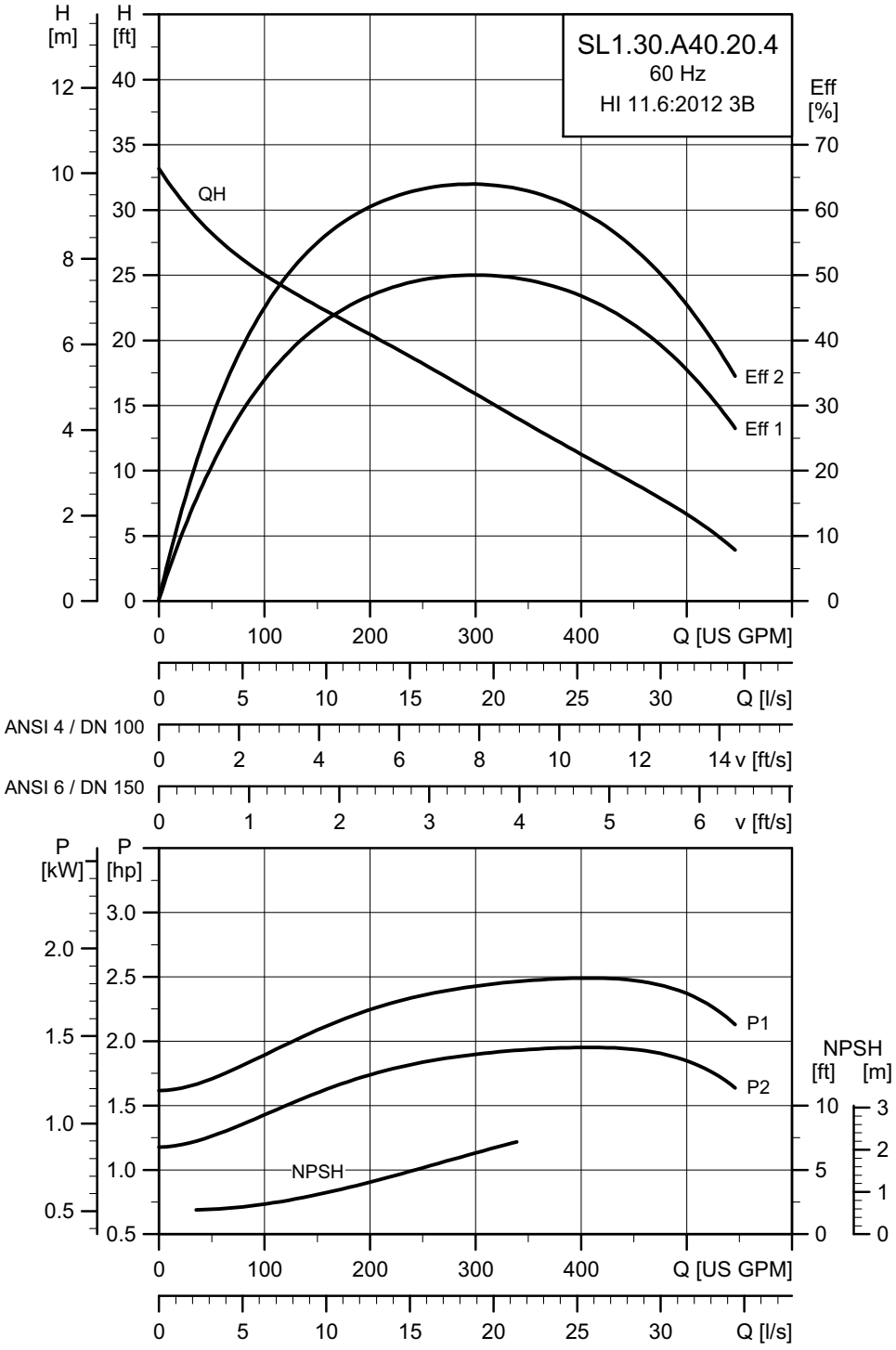
Pump type	Voltage [V]	P1 [Hphp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	11.4 (8.4)	10.0 (7.5)	4	1766	DOL	27.0 - 27.5	205	91.0	91.4	91.0	0.71	0.81	0.85	1.15	0.643 (0.0271)	118 (160)
61R	3 x 230 V D/ 460 V Y	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	26	160	90.9	91.1	90.3	0.75	0.84	0.87	1.15	0.643 (0.0271)	81.1 (110)
61L	3 x 575 V D Y/D	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	9.8	79	91.0	91.4	91.0	0.71	0.81	0.85	1.15	0.643 (0.0271)	118 (160)

Pump data

Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

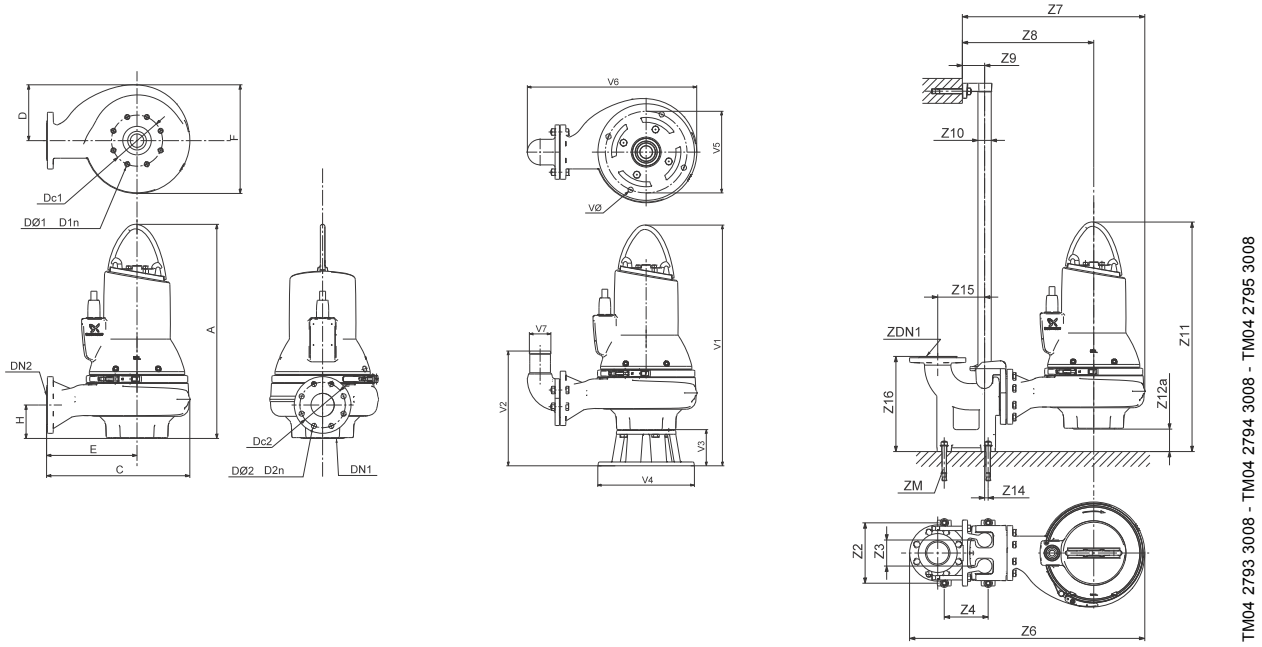
SL1.30.A40

Performance curves: SL1.30.A40.20.4.--.C



TM04 7845 1914

Dimensional sketches: SL1.30.A40.20.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	26.9	17.1	6.7	10.7	13.7	4.4	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	222.6 lb
[mm]	682	435	171	272	347	90	DN 100	191	8 x M16	DN 100	191	8 x 19.1	101 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.2	4.3	8.7	34.6	25.7	19.3	4.3	2.0	32.8	5.9	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	878	652	489	110	50	832	150	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	32.0	14.4	5.1	14.0	11.8	23.5	3.9	0.7
[mm]	812	364	130	355	300	598	100	19

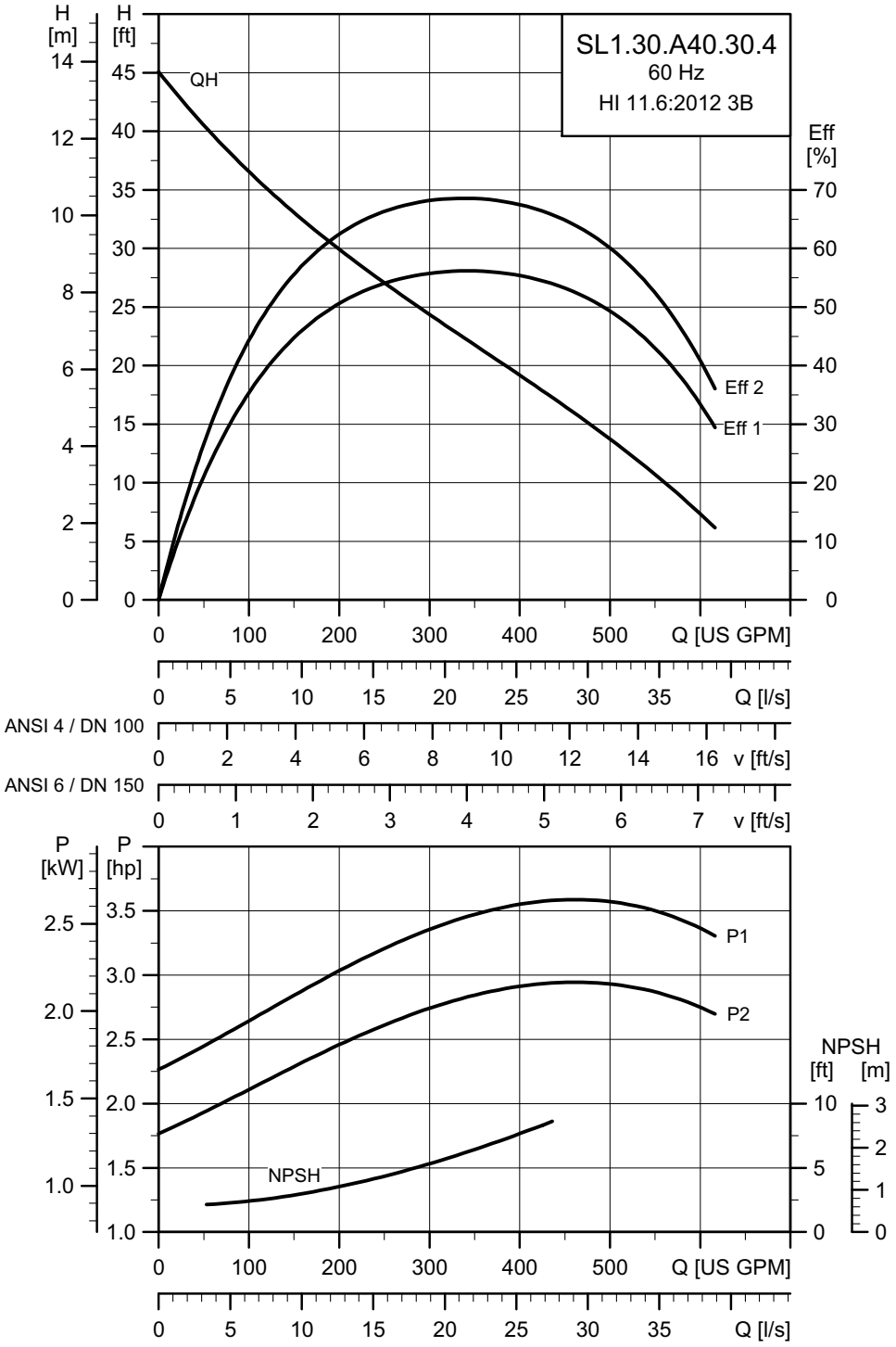
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D DOL	2.6 (1.9)	2.0 (1.5)	4	1753	DOL	7.1 - 7.9	53	83.3	85.7	86.0	0.51	0.63	0.72	1.15	0.361 (0.0152)	22.1 (30)
61R	3 x 230 V D/ 460 V Y	2.6 (1.9)	2.0 (1.5)	4	1753	Y/D	6.55	40	84.2	85.7	85.4	0.56	0.69	0.76	1.15	0.361 (0.0152)	18.4 (25)
60L	3 x 575 V D DOL	2.6 (1.9)	2.0 (1.5)	4	1753	DOL	2.6	20	83.3	85.7	86.0	0.51	0.63	0.72	1.15	0.361 (0.0152)	22.1 (30)
61L	3 x 575 V D Y/D	2.6 (1.9)	2.0 (1.5)	4	1753	Y/D	2.6	20	83.3	85.7	86.0	0.51	0.63	0.72	1.15	0.361 (0.0152)	22.1 (30)

Pump data

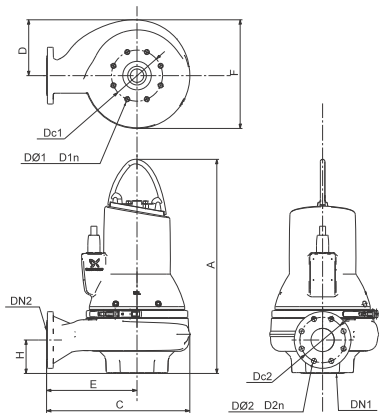
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

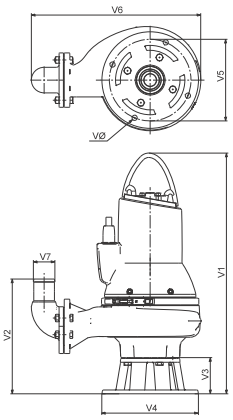
Performance curves: SL1.30.A40.30.4.--.C

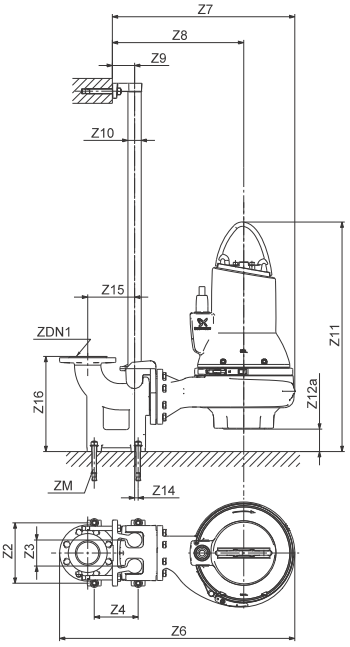


TM04 7846 1914

Dimensional sketches: SL1.30.A40.30.4.--.C







TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	26.9	17.1	6.7	10.7	13.7	4.4	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	242.2 lb
[mm]	682	435	171	272	347	90	DN 100	191	8 x M16	DN 100	191	8 x 19.1	109.9 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.2	4.3	8.7	34.6	25.7	19.3	4.3	2.0	32.8	5.9	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	878	652	489	110	50	832	150	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	32.0	14.4	5.1	14.0	11.8	23.5	3.9	0.7
[mm]	812	364	130	355	300	598	100	19

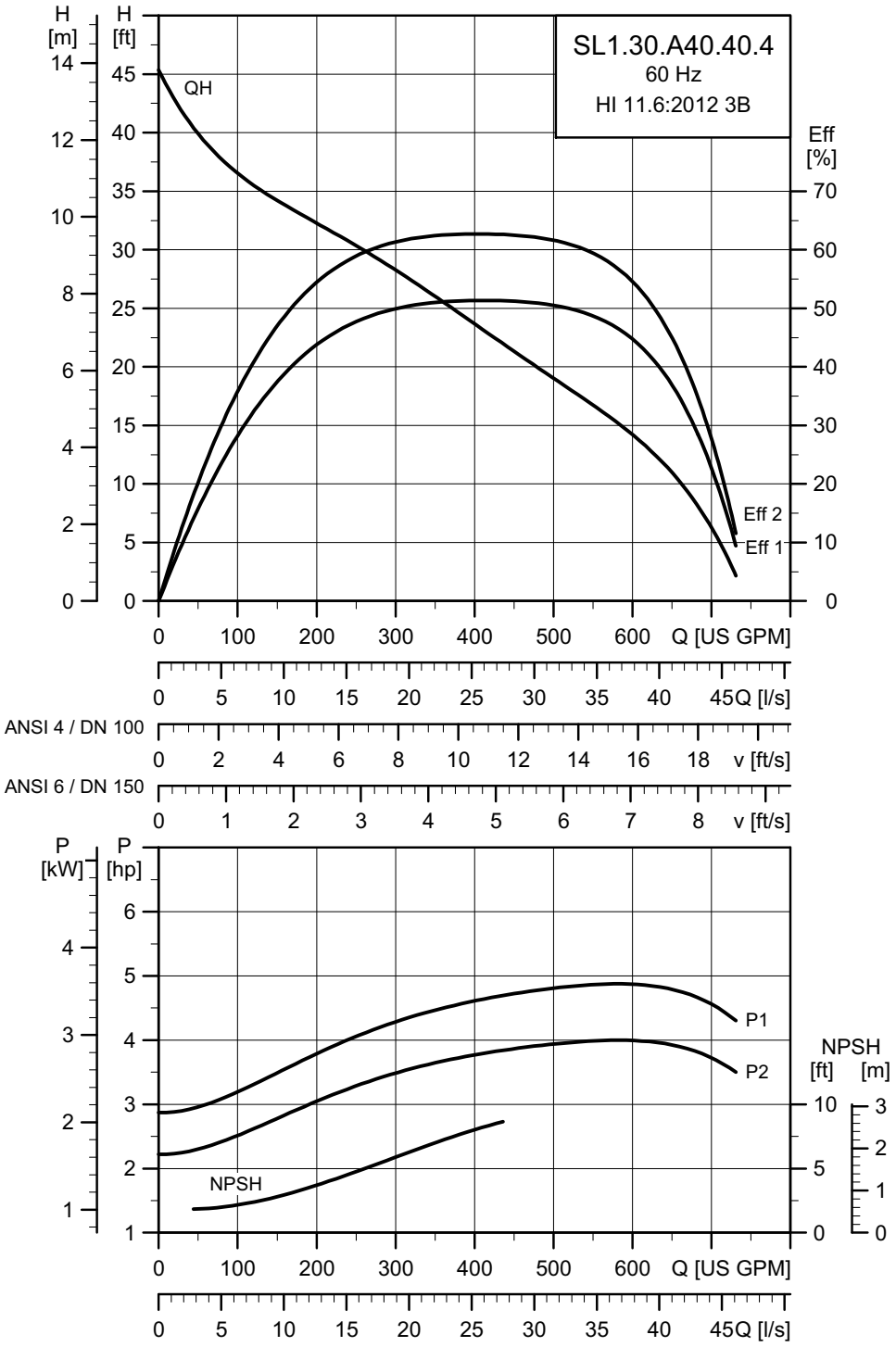
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	3.7 (2.7)	3.0 (2.2)	4	1763	DOL	9.8 - 10.6	70	84.7	86.6	87.0	0.59	0.70	0.76	1.15	0.361 (0.0152)	26.6 (36)
61R	3 x 230 V D/ 460 V Y	3.7 (2.7)	3.0 (2.2)	4	1763	Y/D	8.95	40	85.5	86.6	86.3	0.65	0.75	0.80	1.15	0.361 (0.0152)	26.6 (36)
61L	3 x 575 V D Y/D	3.7 (2.7)	3.0 (2.2)	4	1763	Y/D	3.5	27	84.7	86.6	87.0	0.59	0.70	0.76	1.15	0.361 (0.0152)	26.6 (36)

Pump data

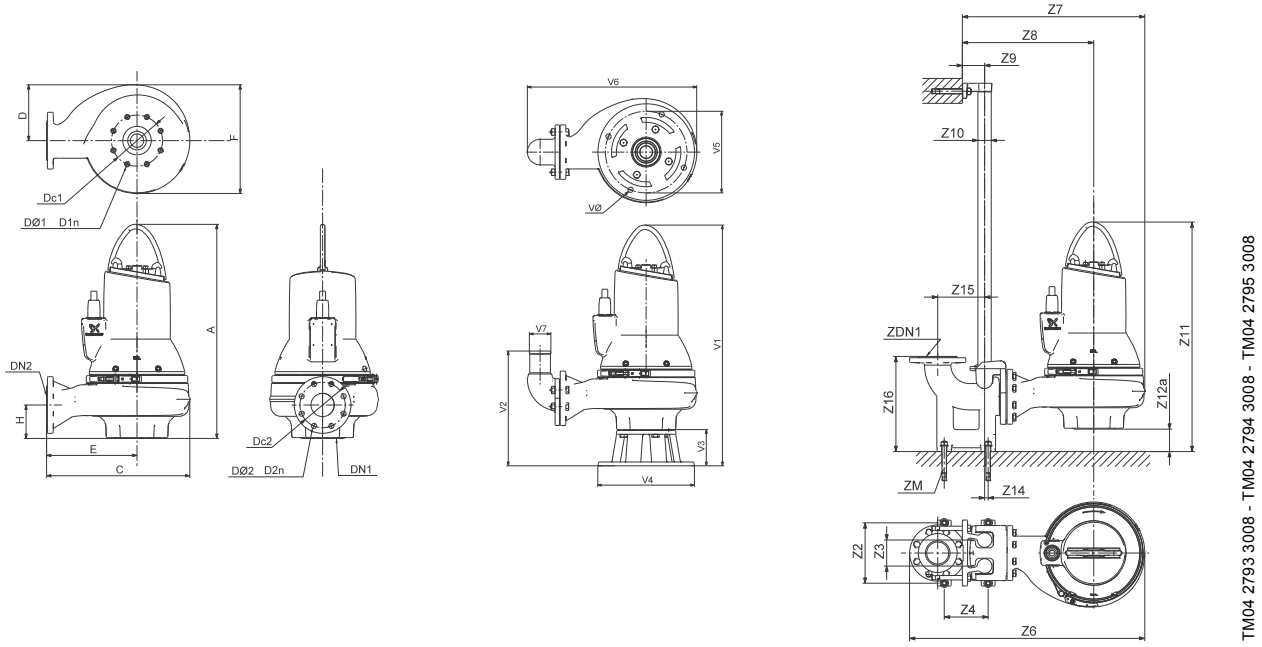
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.30.A40.40.4.--.C



TM04 7847 1914

Dimensional sketches: SL1.30.A40.40.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.6	19.9	7.9	12.6	15.6	4.6	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	291.1 lb
[mm]	726	505	200	319	397	115	DN 100	191	8 x M16	DN 100	191	8 x 19.1	132.1 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.2	4.3	8.7	37.3	28.5	21.1	4.3	2.0	33.5	4.9	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	948	722	536	110	50	851	125	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.7	15.3	5.1	14.0	11.8	26.3	3.9	0.7
[mm]	856	389	130	355	300	668	100	19

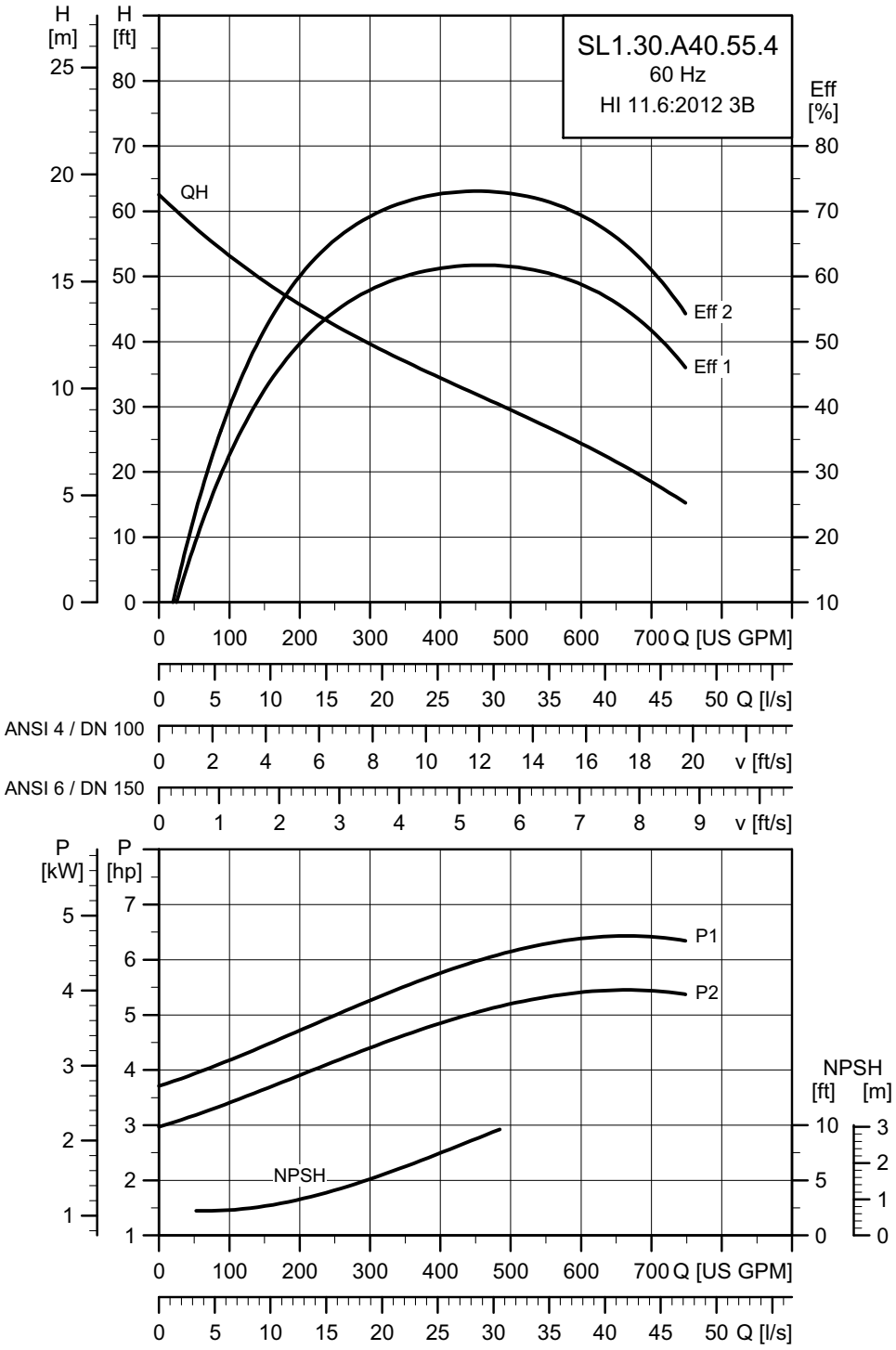
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	5.5 (4.0)	4.0 (3.0)	4	1755	DOL	12.5 - 12.9	98	84.6	86.3	86.4	0.63	0.75	0.79	1.15	0.956 (0.0403)	40.6 (55)
61R	3 x 230 V D/ 460 V Y	5.1 (3.7)	4.0 (3.0)	4	1755	Y/D	12.0	75	85.0	86.0	85.6	0.70	0.79	0.82	1.15	0.956 (0.0403)	32.5 (44)
61L	3 x 575 V D Y/D	5.1 (3.7)	4.0 (3.0)	4	1755	Y/D	4.5	37	84.6	86.3	86.4	0.63	0.75	0.79	1.15	0.956 (0.0403)	40.6 (55)

Pump data

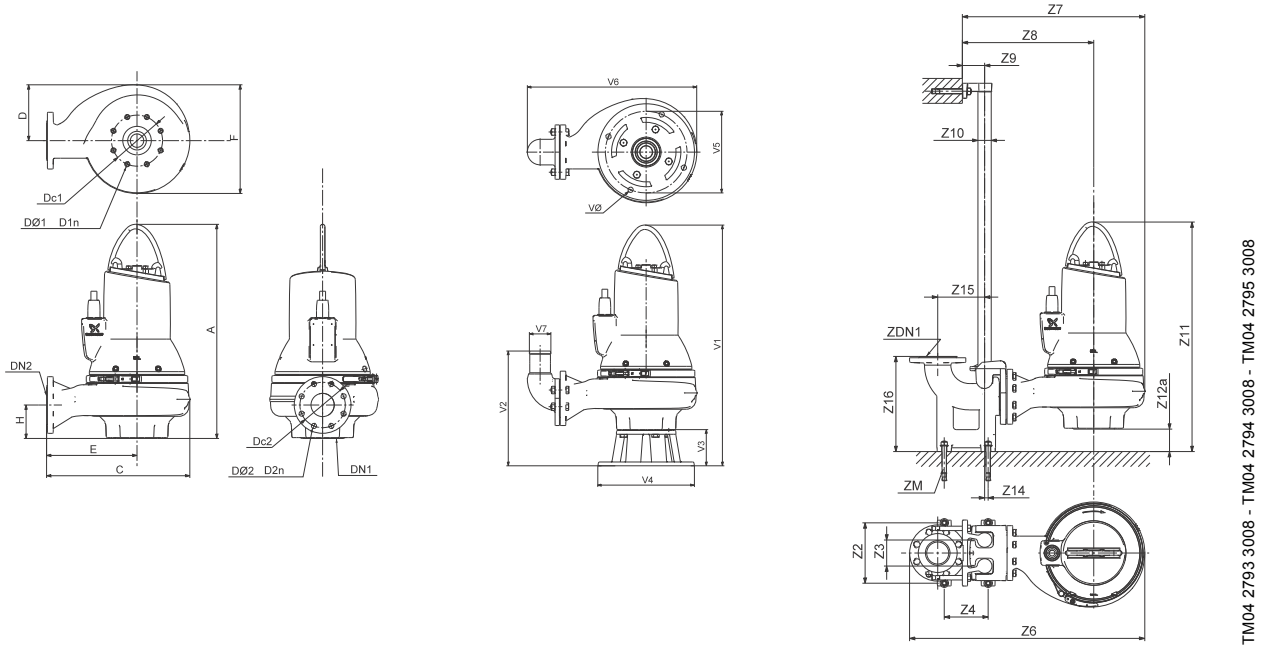
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.30.A40.55.4.--.C



TM04 7848 1914

Dimensional sketches: SL1.30.A40.55.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.4	19.9	7.9	12.6	15.6	4.6	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	320.5 lb
[mm]	748	505	200	319	397	115	DN 100	191	8 x M16	DN 100	191	8 x 19.1	145.4 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.2	4.3	8.7	37.3	28.5	21.1	4.3	2.0	34.37	4.9	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	948	722	536	110	50	873	125	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.6	15.3	5.1	14.0	11.8	26.3	3.9	0.7
[mm]	878	389	130	355	300	668	100	19

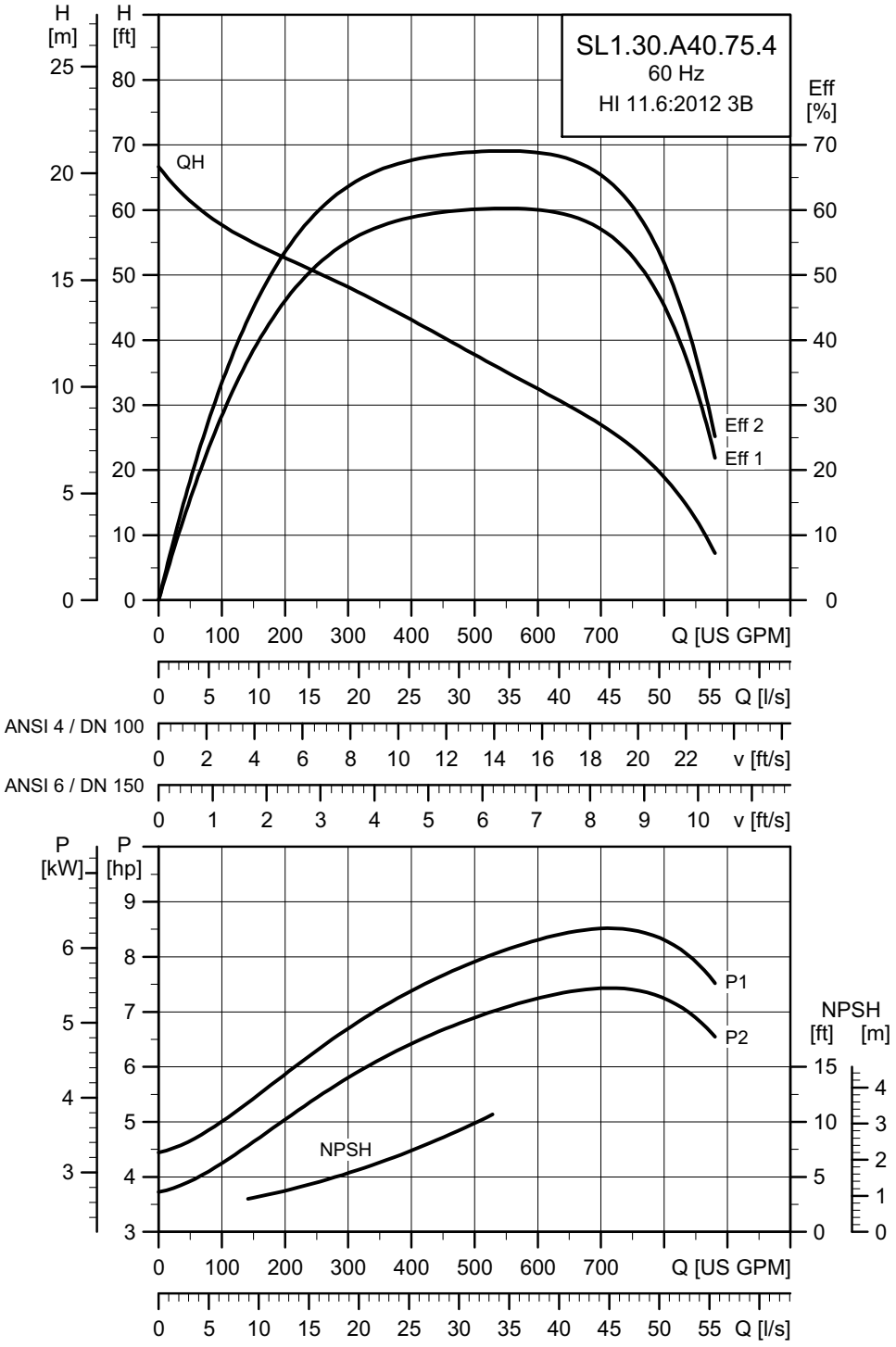
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.5 (4.8)	5.5 (4.0)	4	1767	DOL	17.3 - 19.0	133	85.3	87.4	88.2	0.53	0.66	0.74	1.15	0.956 (0.0403)	61.2 (83)
61R	3 x 230 V D/ 460 V Y	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	16.2	120	86.2	87.8	87.8	0.59	0.70	0.78	1.15	0.956 (0.0403)	48.7 (66)
61L	3 x 575 V D Y/D	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	6.3	51	85.3	87.4	88.2	0.53	0.66	0.74	1.15	0.956 (0.0403)	61.2 (83)

Pump data

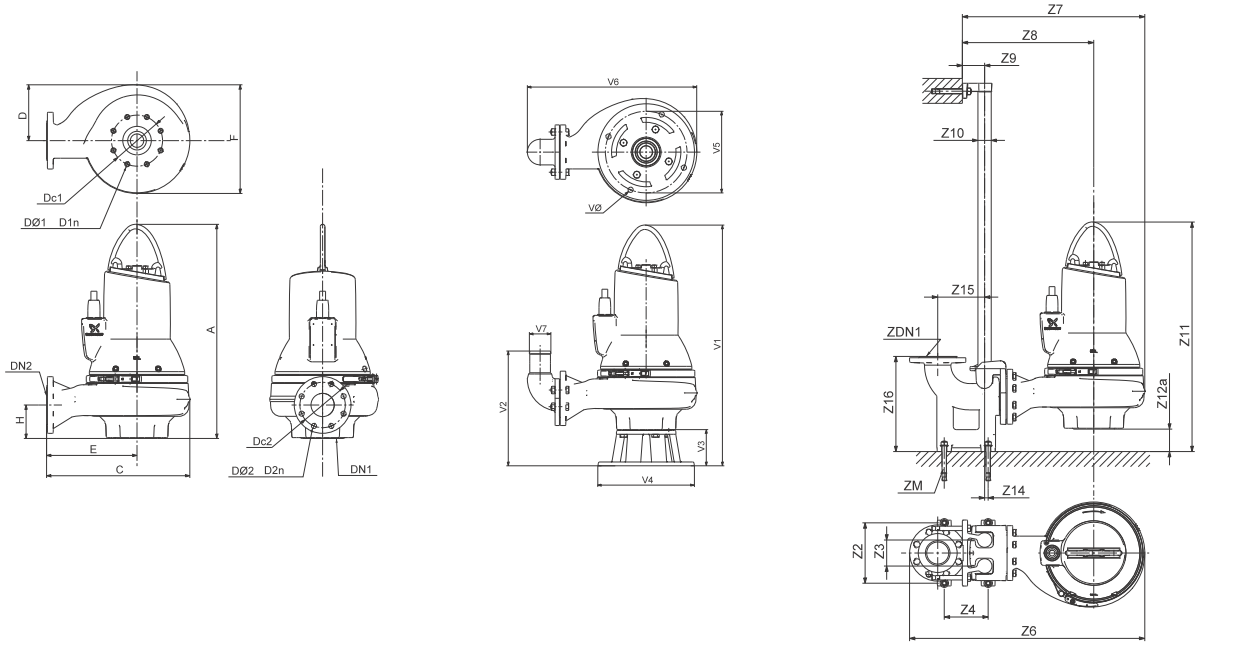
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.30.A40.75.4.--.C



TM04 7849 1914

Dimensional sketches: SL1.30.A40.75.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.7	19.9	7.9	12.6	15.6	4.6	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	344 lb
[mm]	755	505	200	319	397	115	DN 100	191	8 x M16	DN 100	191	8 x 19.1	156.1 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.2	4.3	8.7	37.3	28.5	21.1	4.3	2.0	34.7	4.9	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	948	722	536	110	50	880	125	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.9	15.3	5.1	14.0	11.8	26.3	3.9	0.7
[mm]	885	389	130	355	300	668	100	19

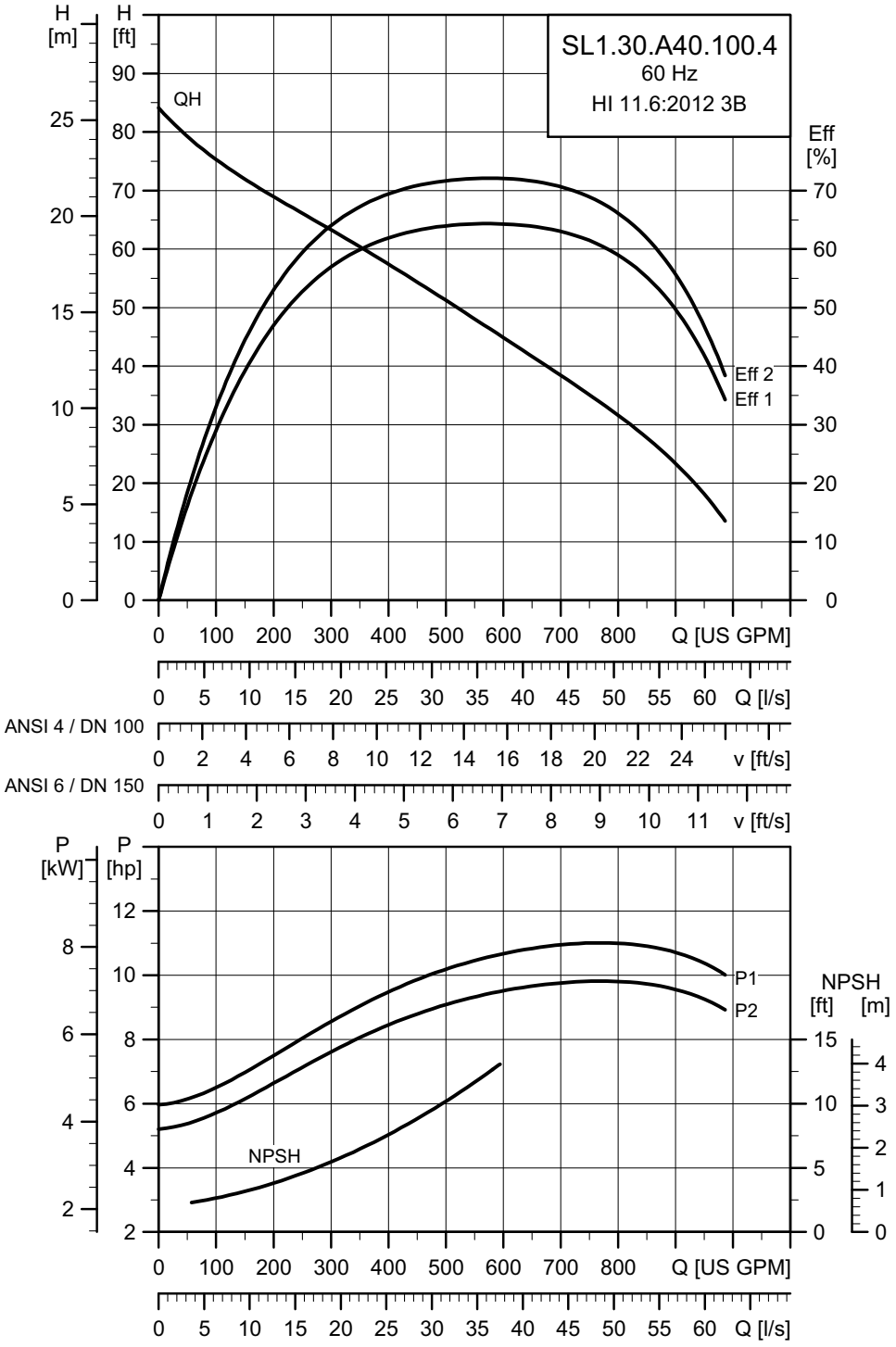
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	8.5 (6.3)	7.5 (5.5)	4	1765	DOL	20.2 - 19.7	149	88.9	90.0	89.6	0.73	0.81	0.86	1.15	0.482 (0.0203)	73 (99)
61R	3 x 230 V D / 460 V	8.7 (6.4)	7.5 (5.5)	4	1765	Y/D	19.2	120	89.2	90.0	88.9	0.77	0.84	0.87	1.15	0.482 (0.0203)	60.5 (82)
61L	3 x 575 V D Y/D	8.7 (6.4)	7.5 (5.5)	4	1765	Y/D	7.3	57	88.9	90.0	89.6	0.73	0.81	0.86	1.15	0.482 (0.0203)	73 (99)

Pump data

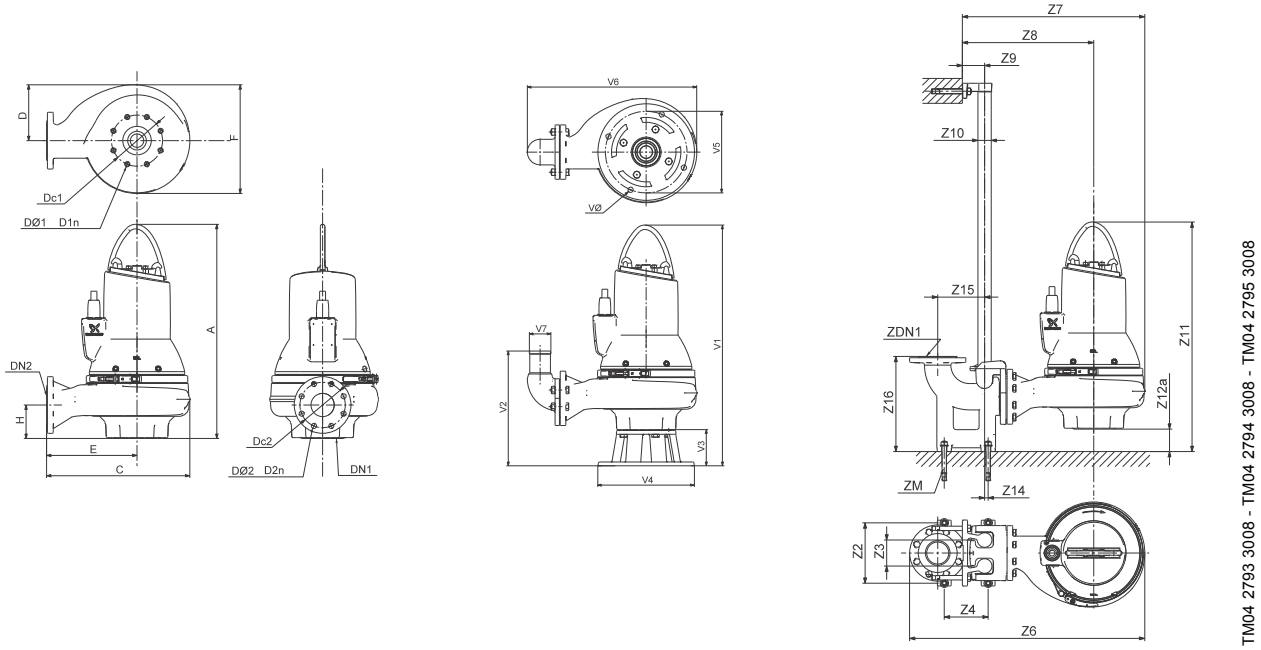
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.30.A40.100.4.--.C



TM04 7850 1914

Dimensional sketches: SL1.30.A40.100.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	32.2	20.9	8.5	12.9	16.7	4.6	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	421.2 lb
[mm]	818	530	217	328	423	116	DN 100	191	8 x M16	DN 100	191	8 x 19.1	191.1 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.2	4.3	8.7	38.3	29.5	21.5	4.3	2.0	37.1	4.9	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	973	747	545	110	50	942	124	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	37.4	15.4	5.1	14.0	11.8	27.3	3.9	0.7
[mm]	948	390	130	355	300	693	100	19

Electrical data

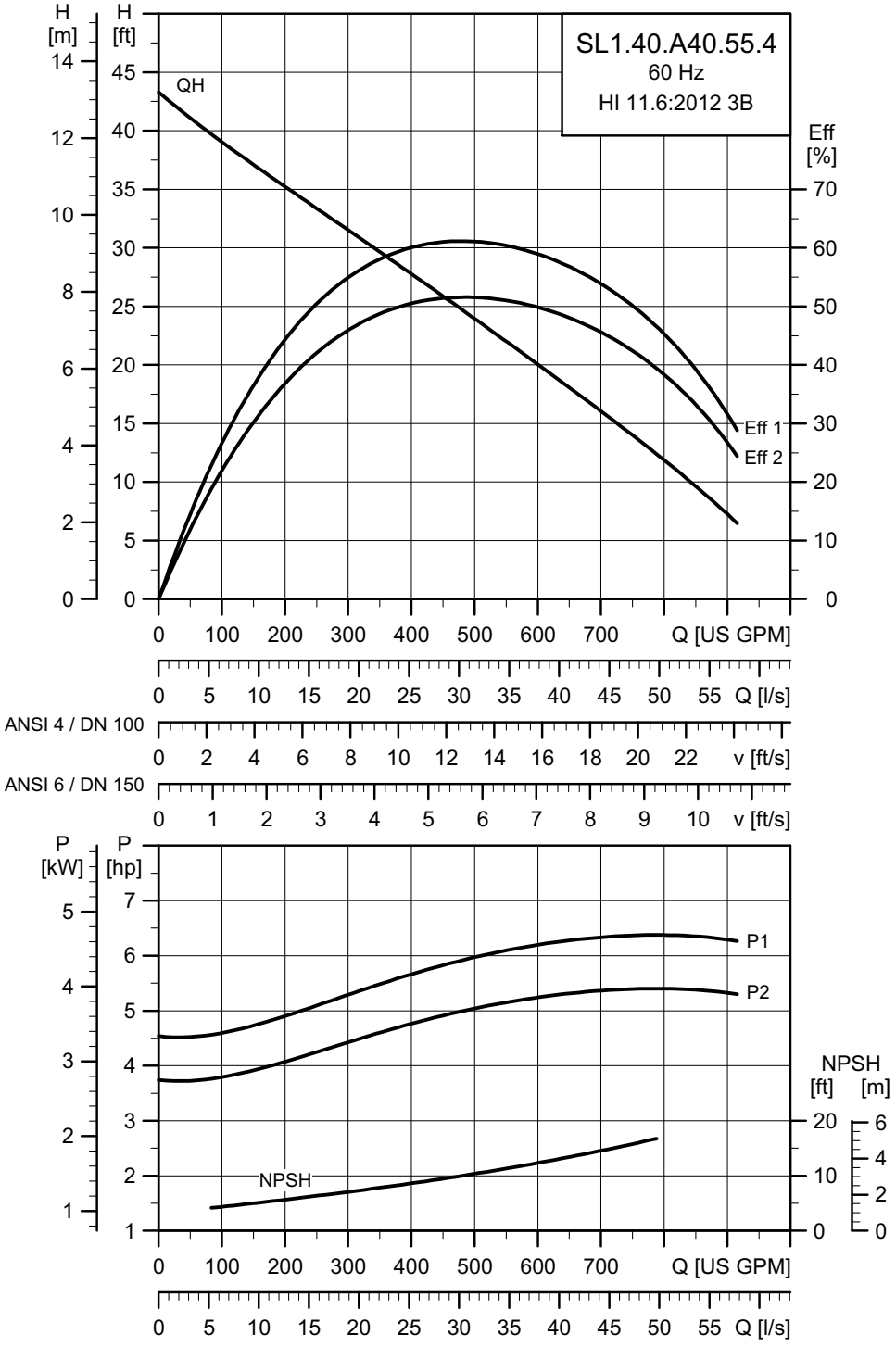
Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	11.4 (8.4)	10.0 (7.5)	4	1766	DOL	27.0 - 27.5	205	91.0	91.4	91.0	0.71	0.81	0.85	1.15	0.458 (0.0193)	118 (160)
61R	3 x 230 V D/ 460 V Y	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	26.0	160	90.9	91.1	90.3	0.75	0.84	0.87	1.15	0.458 (0.0193)	81.1 (110)
61L	3 x 575 V D Y/D	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	9.8	79	91.0	91.4	91.0	0.71	0.81	0.85	1.15	0.458 (0.0193)	118 (160)

Pump data

Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	3 (80)	10	20	IP68	H	A	104 (40)	4-14

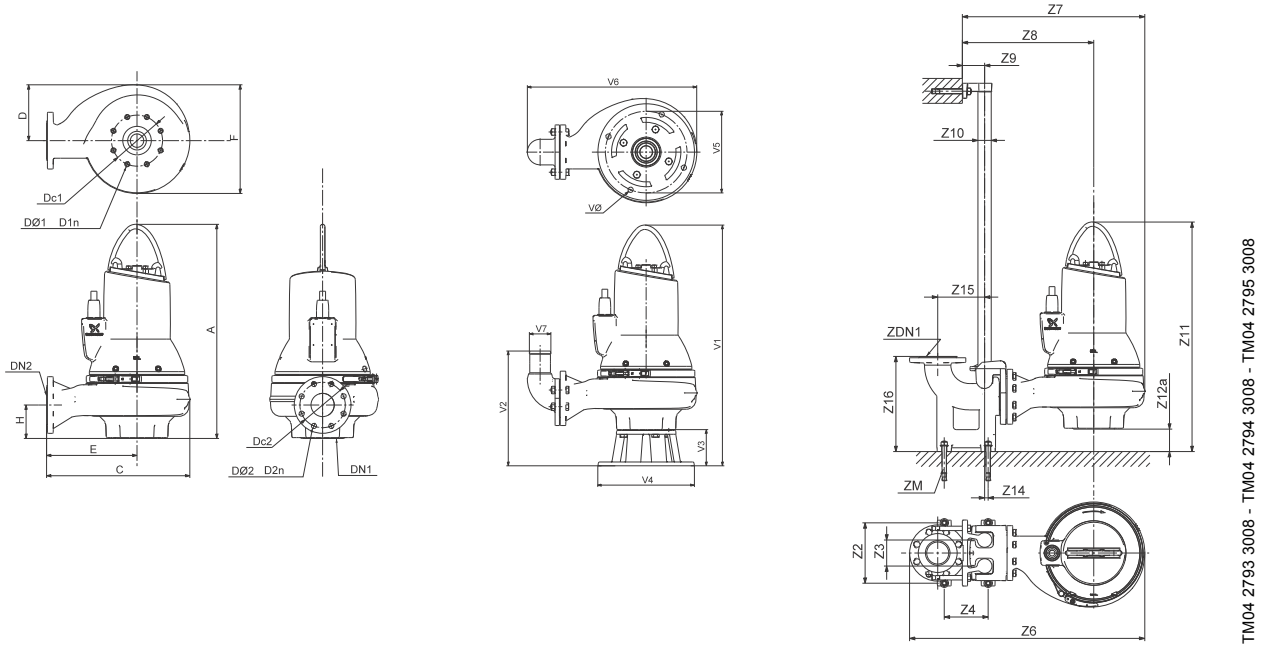
SL1.40.A40

Performance curves: SL1.40.A40.55.4.--.C



TM04 7851 1914

Dimensional sketches: SL1.40.A40.55.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.7	21.3	7.9	12.6	17.2	4.5	6.0	9.5	8 x M20	4.0	7.5	8 x 0.75	332.4 lb
[mm]	755	541	200	320	438	115	DN 150	242	8 x M20	DN 100	191	8 x 19.1	150.8 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.2	4.3	8.7	38.7	29.9	21.1	4.3	2.0	34.7	4.9	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	984	758	537	110	50	880	125	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	37.1	17.5	7.3	17.7	15.7	27.7	3.9	0.9
[mm]	941	445	186	450	400	704	100	22

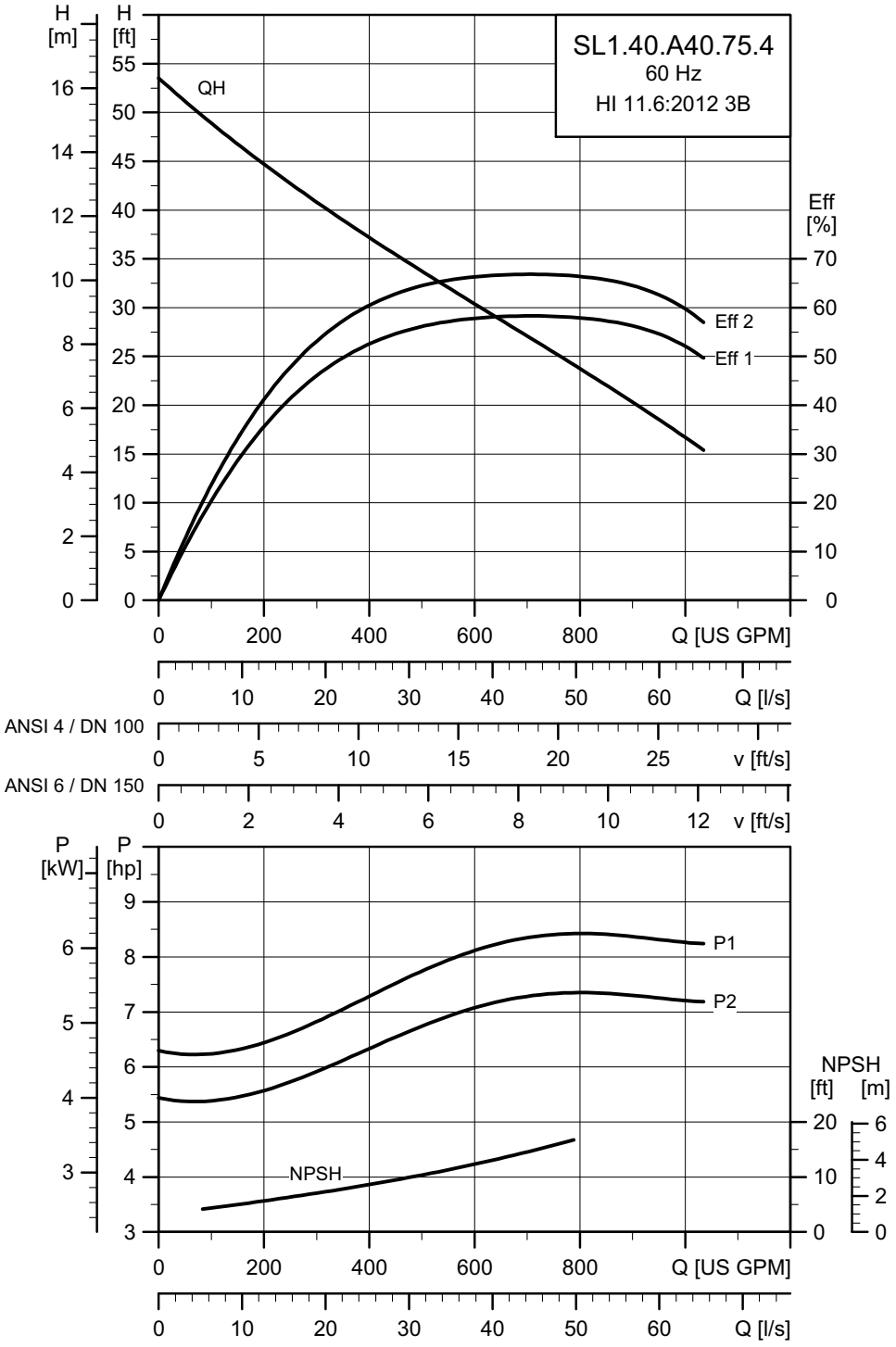
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.5 (4.8)	5.5 (4.0)	4	1767	DOL	17.3 - 19.0	133	85.3	87.4	88.2	0.53	0.66	0.74	1.15	1.4 (0.0590)	61.2 (83)
61R	3 x 230 V D/ 460 V Y	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	16.2	120	86.2	87.8	87.8	0.59	0.70	0.78	1.15	1.4 (0.0590)	48.7 (66)
61L	3 x 575 V D Y/D	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	6.3	51	85.3	87.4	88.2	0.53	0.66	0.74	1.15	1.4 (0.0590)	61.2 (83)

Pump data

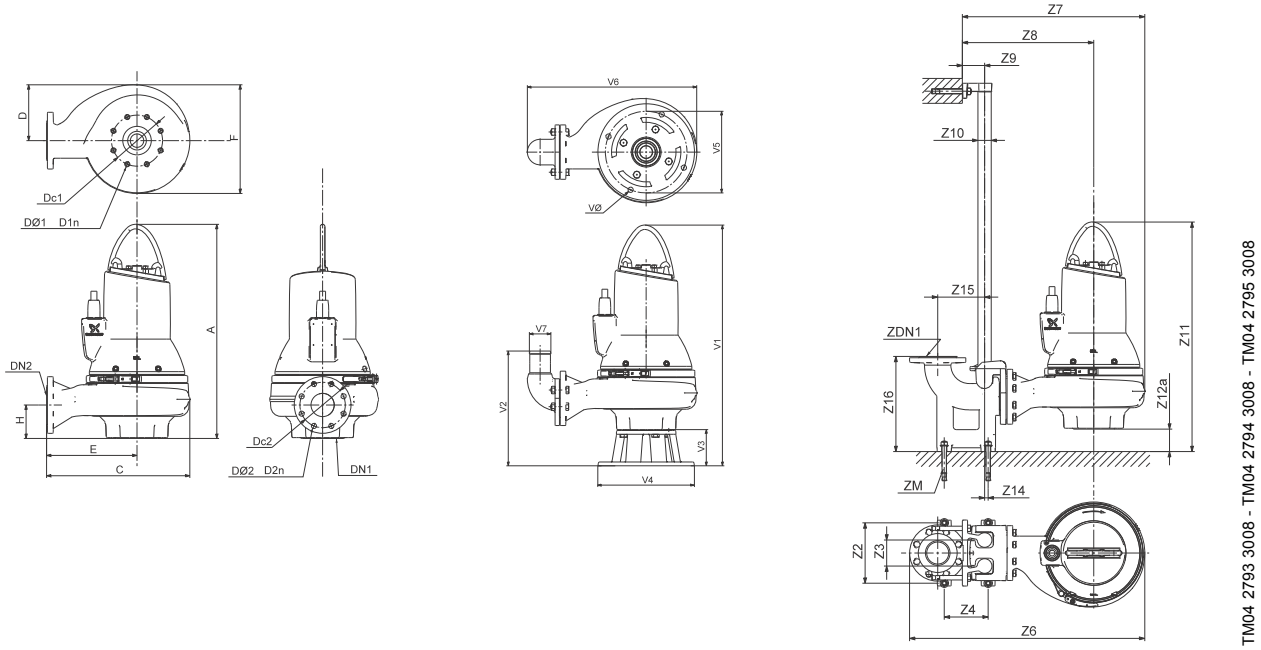
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	4 (100)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.40.A40.75.4.--.C



TM04 7852 1914

Dimensional sketches: SL1.40.A40.75.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	30.0	21.3	7.9	12.6	17.2	4.5	6.0	9.5	8 x M20	4.0	7.5	8 x 0.75	356.6 lb
[mm]	762	541	200	320	438	115	DN 150	242	8 x M20	DN 100	191	8 x 19.1	161.8 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.2	4.3	8.7	38.7	29.9	21.1	4.3	2.0	35.0	4.9	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	984	758	537	110	50	887	125	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	37.4	17.5	7.3	17.7	15.7	27.7	3.9	0.9
[mm]	948	445	186	450	400	704	100	22

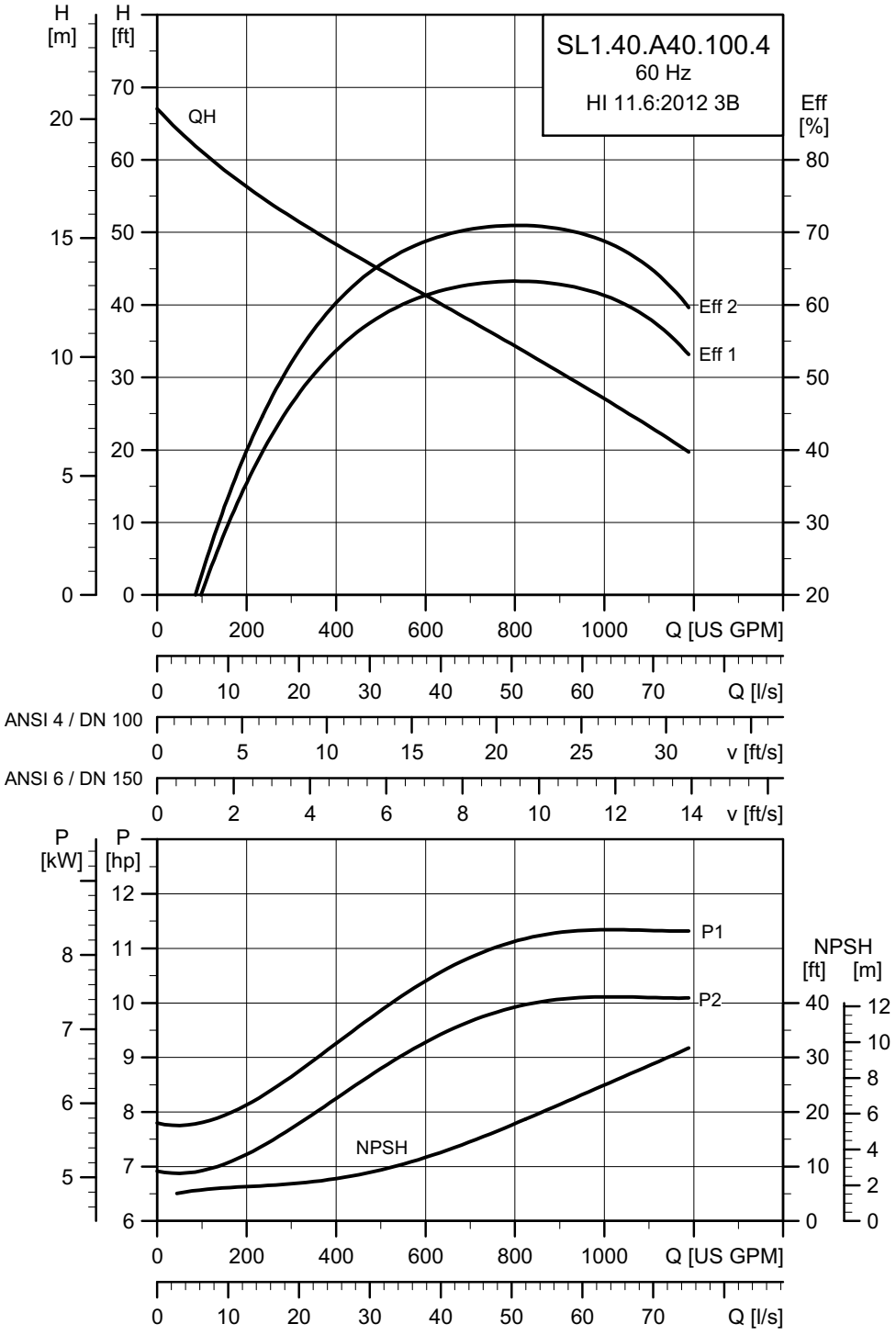
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	8.5 (6.3)	7.5 (5.5)	4	1765	DOL	20.2 - 19.7	149	88.9	90.0	89.6	0.73	0.81	0.86	1.15	1.4 (0.0590)	73 (99)
61R	3 x 230 V D/ 460 V Y	8.7 (6.4)	7.5 (5.5)	4	1765	Y/D	19.2	120	89.2	90.0	88.9	0.77	0.84	0.87	1.15	1.4 (0.0590)	60.5 (82)
61L	3 x 575 V D Y/D	8.7 (6.4)	7.5 (5.5)	4	1765	Y/D	7.3	57	88.9	90.0	89.6	0.73	0.81	0.86	1.15	1.4 (0.0590)	73 (99)

Pump data

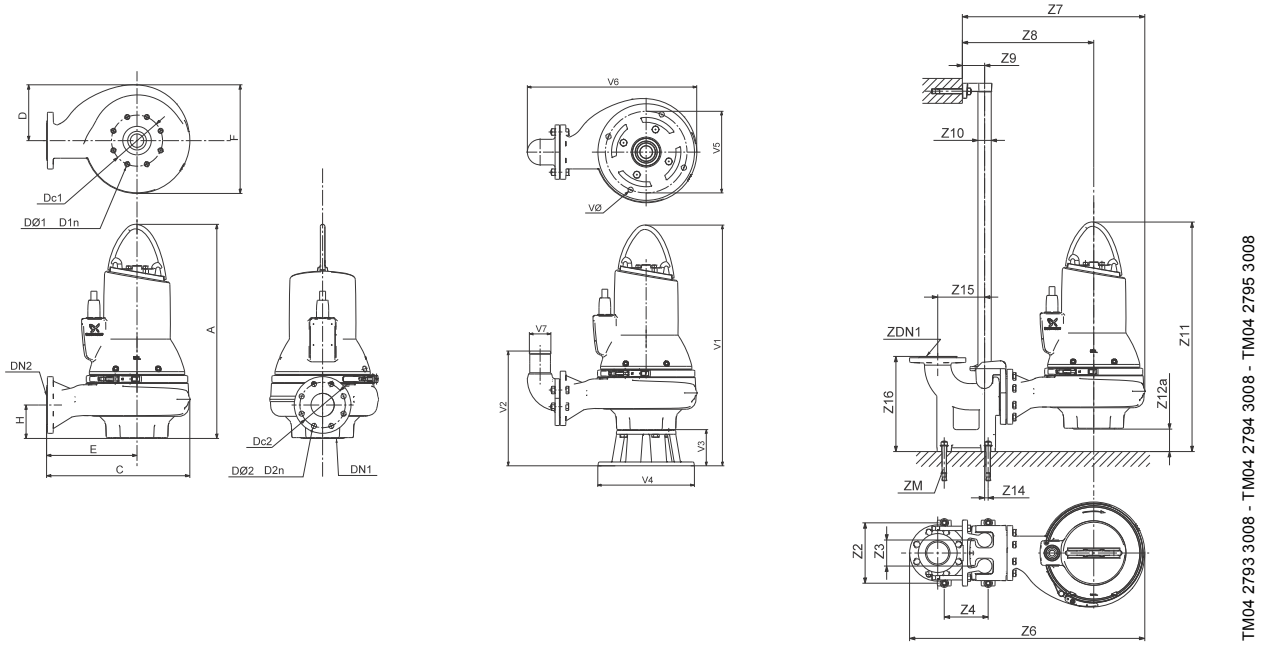
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	4 (100)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.40.A40.100.4.--.C



TM04 7853 231

Dimensional sketches: SL1.40.A40.100.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	32.6	21.3	8.5	12.3	18.2	4.5	6.0	9.5	8 x M20	4.0	7.5	8 x 0.75	415.7 lb
[mm]	827	541	217	312	462	115	DN 150	242	8 x M20	DN 100	191	8 x 19.1	188.6 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.2	4.3	8.7	38.7	29.9	20.8	4.3	2.0	37.5	4.9	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	984	758	529	110	50	952	125	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	39.9	17.5	7.3	17.7	15.7	27.7	3.9	0.9
[mm]	1013	445	186	450	400	704	100	22

Electrical data

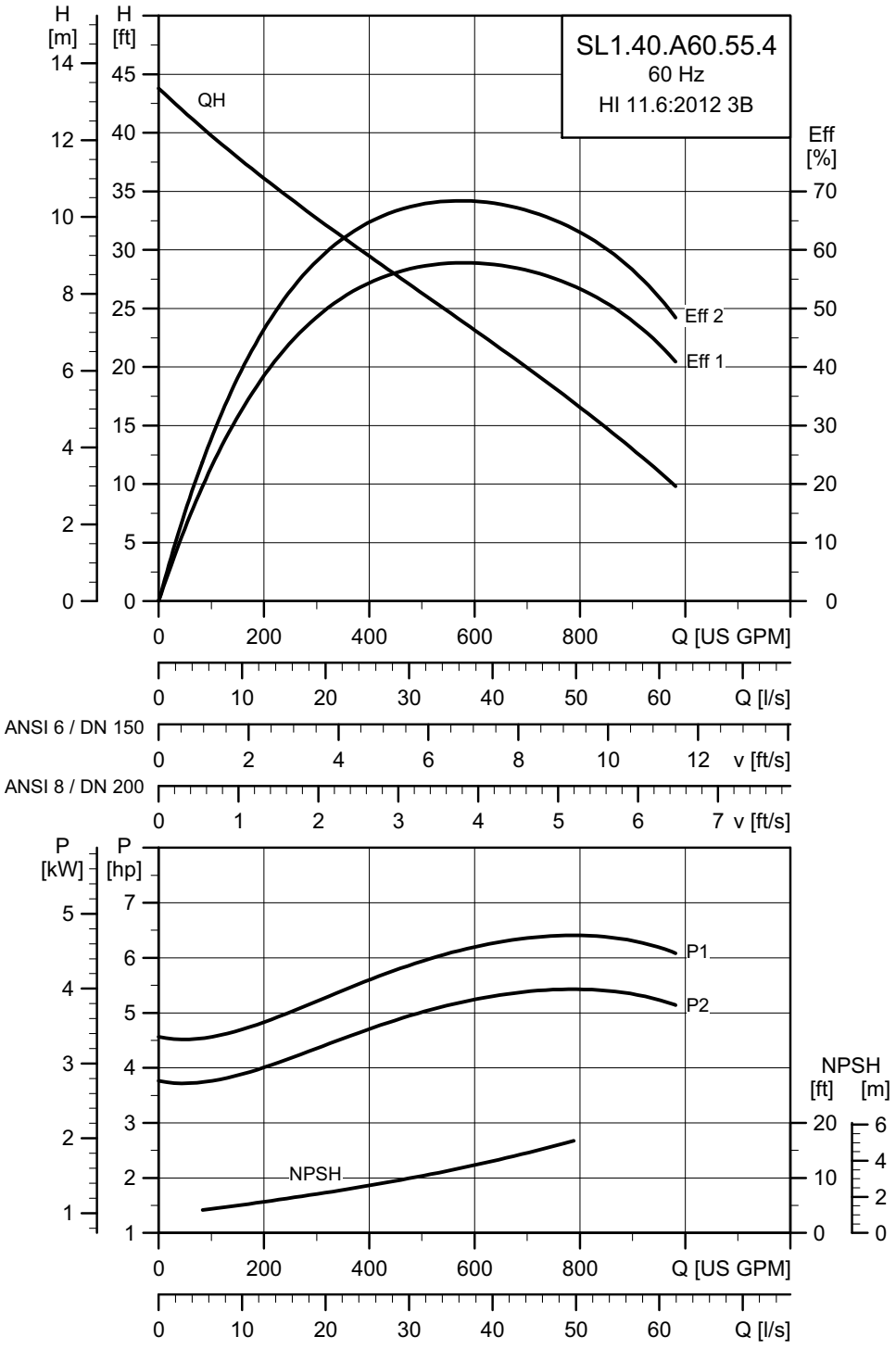
Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	11.4 (8.4)	10.0 (7.5)	4	1766	DOL	27.0 - 27.5	205	91.0	91.4	91.0	0.71	0.81	0.85	1.15	1.163 (0.0490)	118 (160)
61R	3 x 230 V D/ 460 V Y	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	26.0	160	90.9	91.1	90.3	0.75	0.84	0.87	1.15	1.163 (0.0490)	81.1 (110)
61L	3 x 575 V D Y/D	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	9.8	79	91.0	91.4	91.0	0.71	0.81	0.85	1.15	1.163 (0.0490)	118 (160)

Pump data

Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	4 (100)	10	20	IP68	H	A	104 (40)	4-14

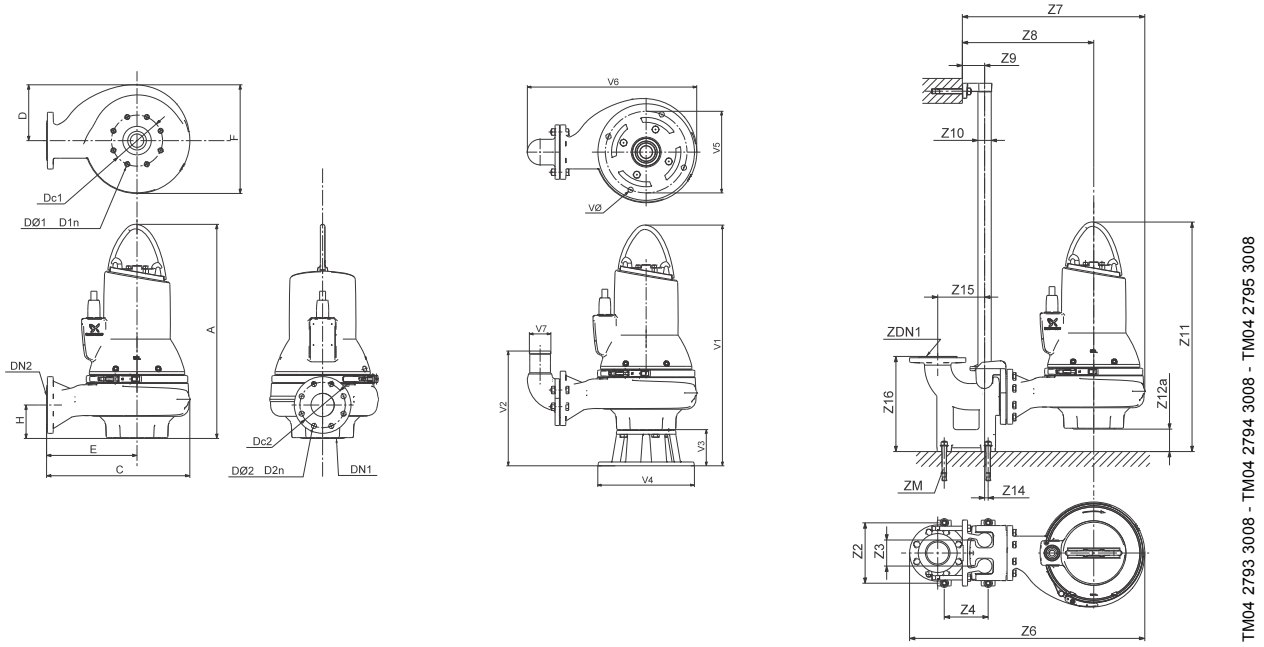
SL1.40.A60

Performance curves: SL1.40.A60.55.4.--.C



TM04 7854 1914

Dimensional sketches: SL1.40.A60.55.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.7	21.3	7.9	12.6	17.3	4.4	6.0	9.5	8 x M20	6.0	9.5	8 x 0.88	339.2 lb
[mm]	755	541	200	320	440	111	DN 150	242	8 x M20	DN 150	242	8 x 22.1	153.9 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	11.8	4.3	11.0	43.0	31.0	22.0	4.3	2.0	36.18	6.5	0	11.0	17.7	6.0	4 x M16
[mm]	300	110	280	1093	780	559	110	50	919	164	0	280	450	150	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	37.1	22.5	7.3	17.7	15.7	31.6	5.9	0.9
[mm]	941	570	186	450	400	803	150	22

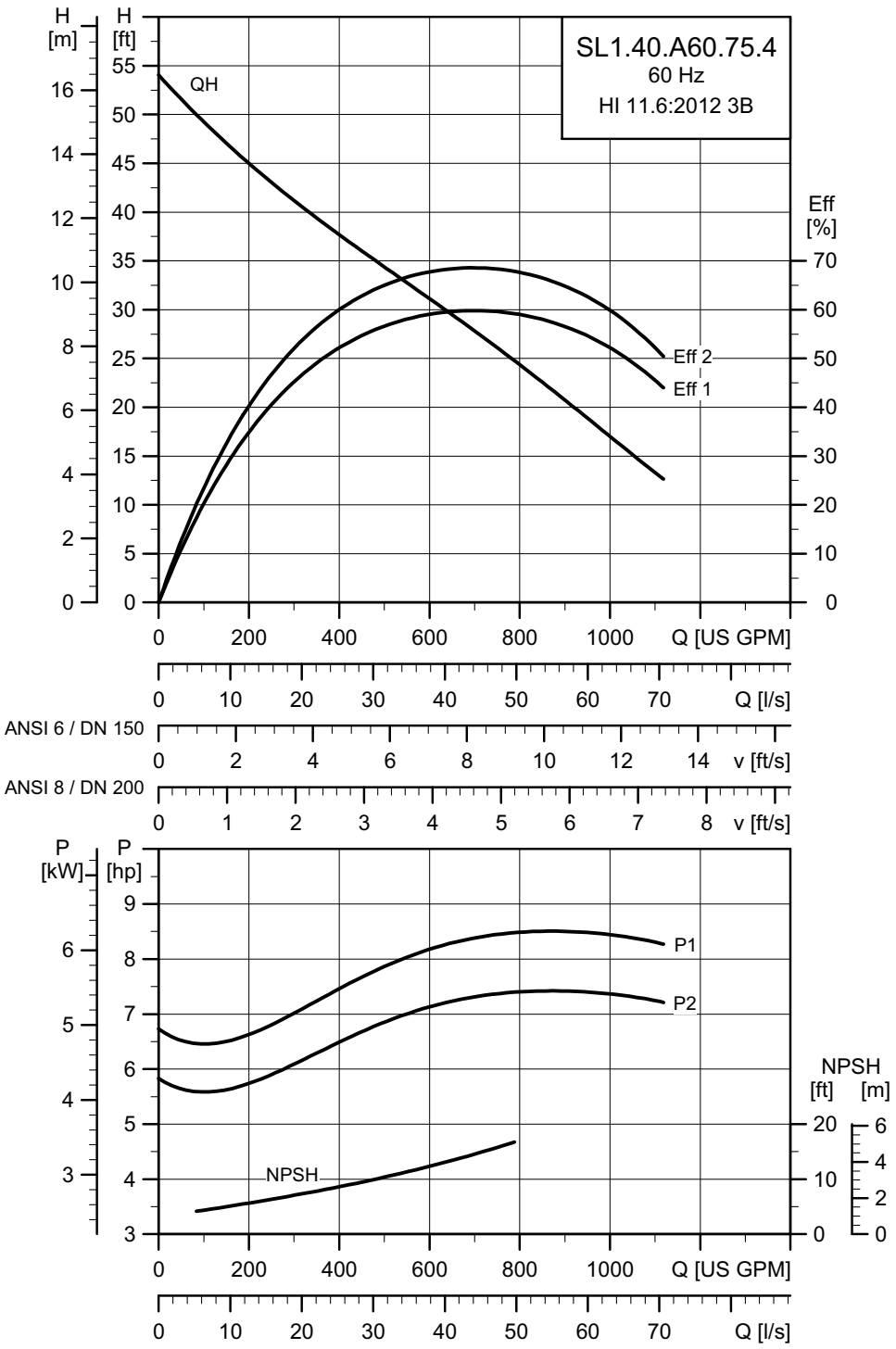
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.5 (4.8)	5.5 (4.0)	4	1767	DOL	17.3 - 19.0	133	85.3	87.4	88.2	0.53	0.66	0.74	1.15	1.692 (0.0713)	61.2 (83)
61R	3 x 230 V D/ 460 V Y	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	16.2	120	86.2	87.8	87.8	0.59	0.70	0.78	1.15	1.692 (0.0713)	48.7 (66)
61L	3 x 575 V D Y/D	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	6.3	51	85.3	87.4	88.2	0.53	0.66	0.74	1.15	1.692 (0.0713)	61.2 (83)

Pump data

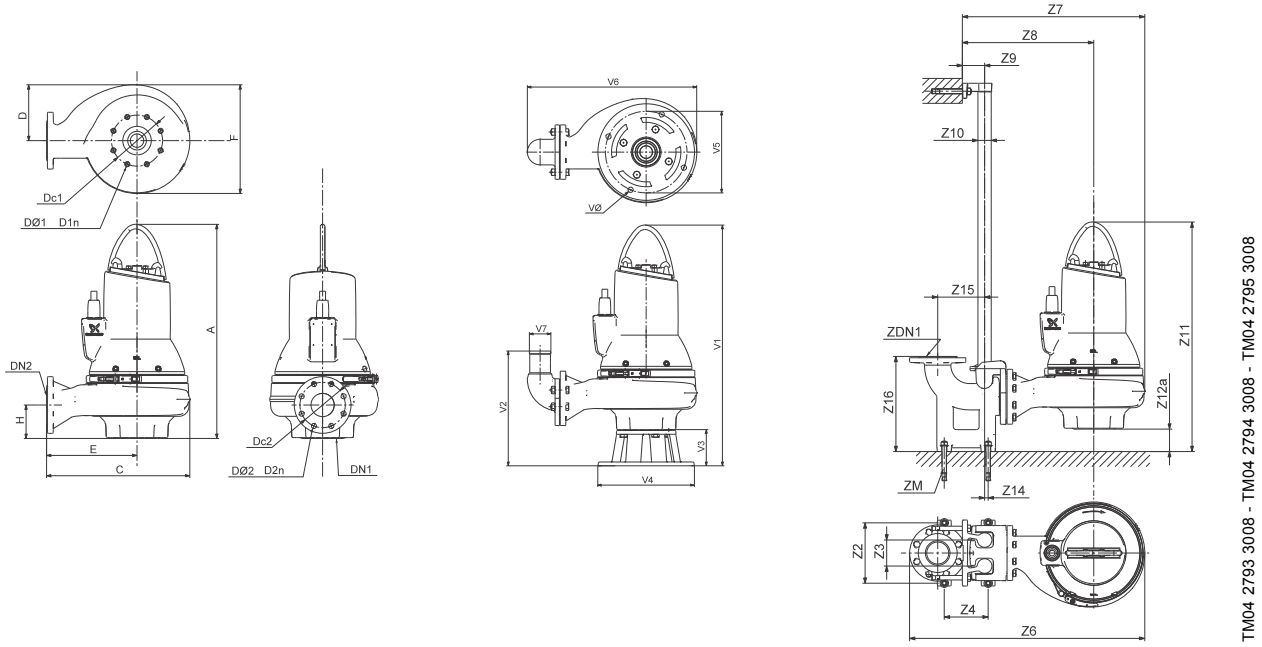
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	4 (100)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.40.A60.75.4.--.C



TM04 7855 1914

Dimensional sketches: SL1.40.A60.75.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	30.0	21.3	7.9	12.6	17.3	4.4	6.0	9.5	8 x M20	6.0	9.5	8 x 0.88	363.2 lb
[mm]	762	541	200	320	440	111	DN 150	242	8 x M20	DN 150	242	8 x 22.1	164.8 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	11.8	4.3	11.0	43.0	30.8	22.0	4.3	2.0	36.5	6.5	0	11.0	17.7	6.0	4 x M16
[mm]	300	110	280	1093	780	559	110	50	926	164	0	280	450	150	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	37.4	22.5	7.3	17.7	15.7	31.6	5.9	0.9
[mm]	948	570	186	450	400	803	150	22

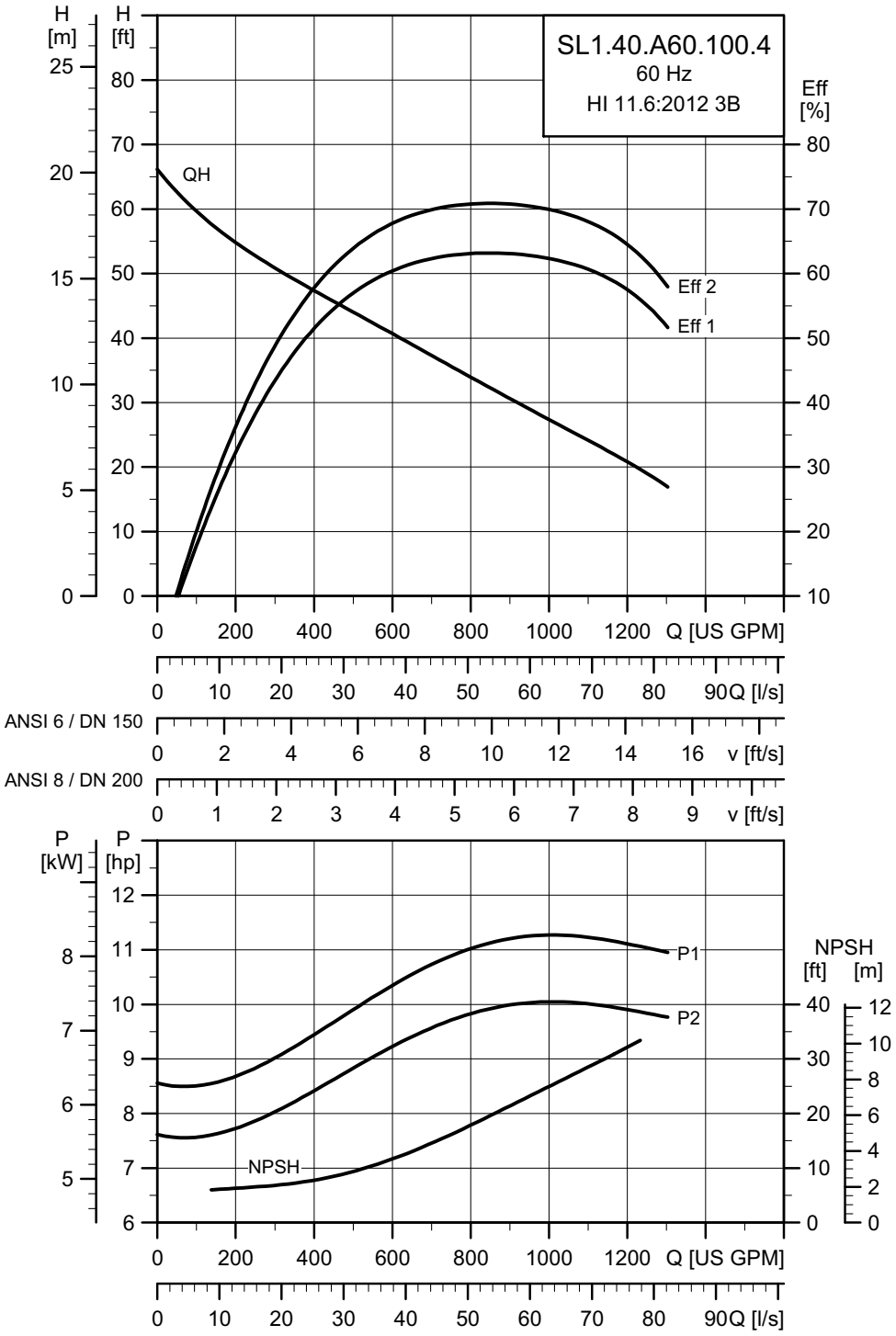
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	8.5 (6.3)	7.5 (5.5)	4	1765	DOL	20.2 - 19.7	149	88.9	90.0	89.6	0.73	0.81	0.86	1.15	1.692 (0.0713)	73 (99)
61R	3 x 230 V D/ 460 V Y	8.7 (6.4)	7.5 (5.5)	4	1765	Y/D	19.2	120	89.2	90.0	88.9	0.77	0.84	0.87	1.15	1.692 (0.0713)	60.5 (82)
61L	3 x 575 V D Y/D	8.7 (6.4)	7.5 (5.5)	4	1765	Y/D	7.3	57	88.9	90.0	89.6	0.73	0.81	0.86	1.15	1.692 (0.0713)	73 (99)

Pump data

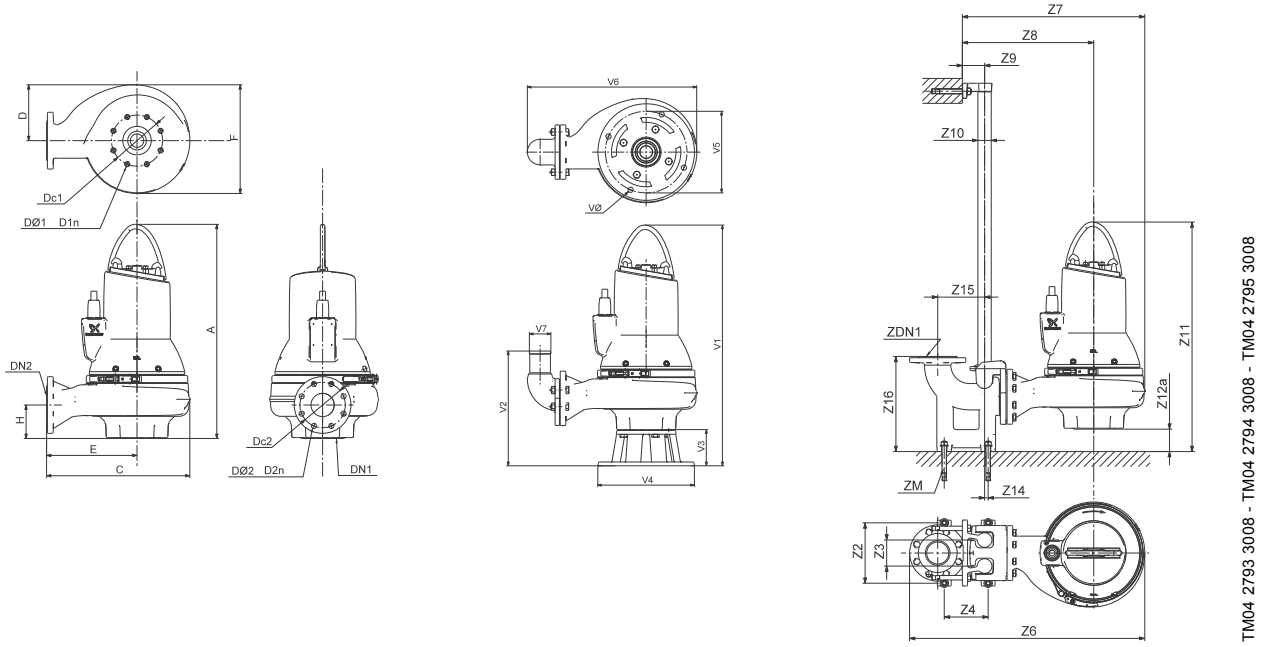
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
S-tube	4 (100)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SL1.40.A60.100.4.--.C



TM04 7856 1914

Dimensional sketches: SL1.40.A60.100.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	32.6	21.3	8.5	12.0	18.6	4.4	6.0	9.5	8 x M20	6.0	9.5	8 x 0.88	426.3 lb
[mm]	827	541	217	306	472	111	DN 150	242	8 x M20	DN 150	242	8 x 22.1	193.4 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	11.8	4.3	11.0	43.0	30.8	21.5	4.3	2.0	39.1	6.5	0	11.0	17.7	6.0	4 x M16
[mm]	300	110	280	1093	780	545	110	50	991	164	0	280	450	150	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	39.9	22.5	7.3	17.7	15.7	31.6	5.9	0.9
[mm]	1.013	570	186	450	400	803	150	22

Electrical data

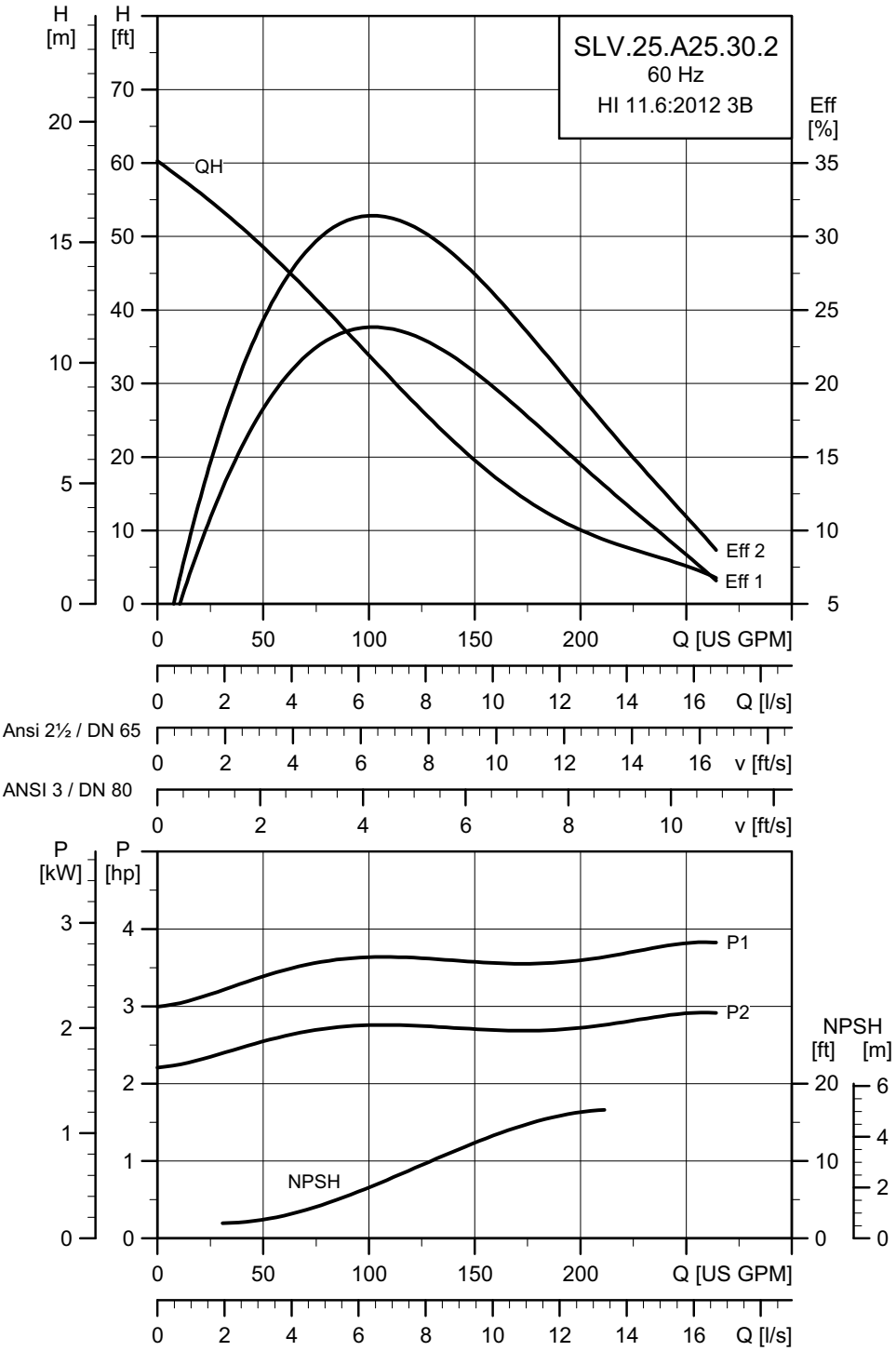
Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	11.4 (8.4)	10.0 (7.5)	4	1766	DOL	27.0 - 27.5	205	91.0	91.4	91.0	0.71	0.81	0.85	1.15	2.143 (0.0903)	118 (160)
61R	3 x 230 V D/ 460 V Y	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	26.0	160	90.9	91.1	90.3	0.75	0.84	0.87	1.15	2.143 (0.0903)	81.1 (110)
61L	3 x 575 V D Y/D	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	9.8	79	91.0	91.4	91.0	0.71	0.81	0.85	1.15	2.143 (0.0903)	118 (160)

Pump data

Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
S-tube	4 (100)	10	20	IP68	H	A	104 (40)	4-14

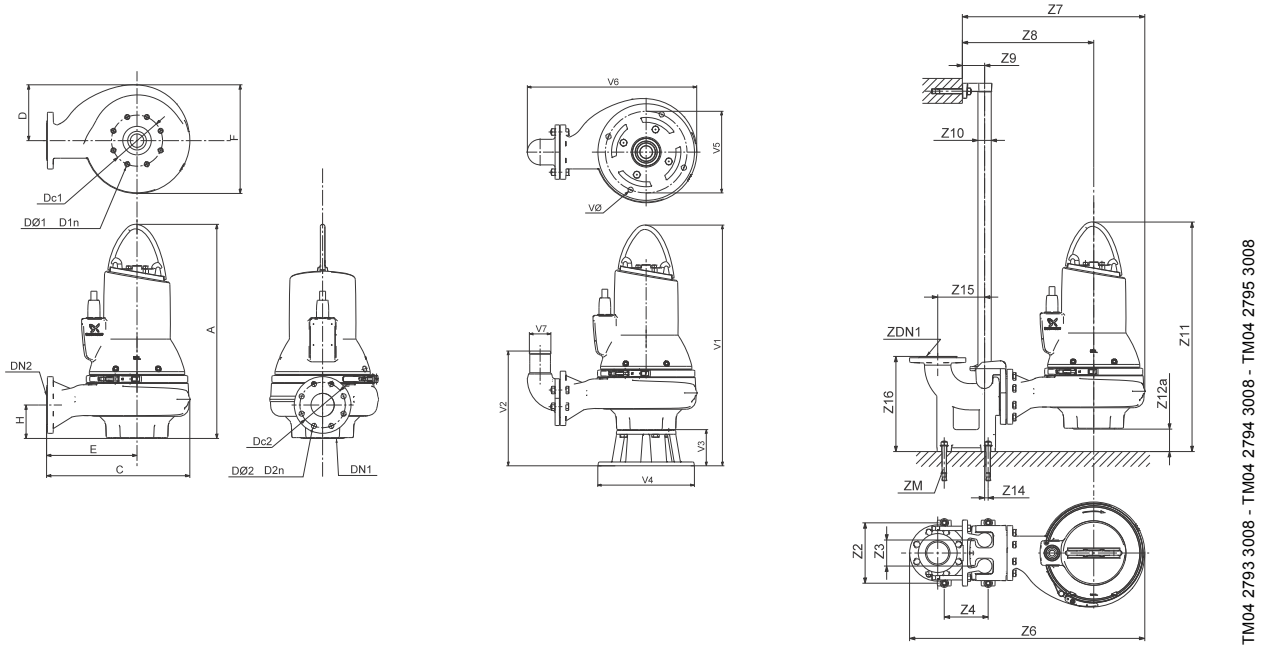
SLV.25.A25

Performance curves: SLV.25.A25.30.2.--.C



TM04 7249 1914

Dimensional sketches: SLV.25.A25.30.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	26.9	15.6	6.7	9.7	12.6	4.0	3.0	6.0	8 x M16	2.5	5.5	4 x 0.75	143.7 lb
[mm]	684	396	171	246	321	102	DN 80	153	8 x M16	DN 65	140	4 x 19.1	65.2 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.3	3.7	5.5	28.7	21.5	15.5	3.2	1.5	29.5	2.5	0.1	6.9	10.5	2.5	4 x M16
[mm]	210	95	140	730	544	394	81	40	748	64	1	175	266	65	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	32.0	15.4	5.0	13.0	11.0	20.0	2.6	0.7
[mm]	812	389	128	330	280	509	65	18

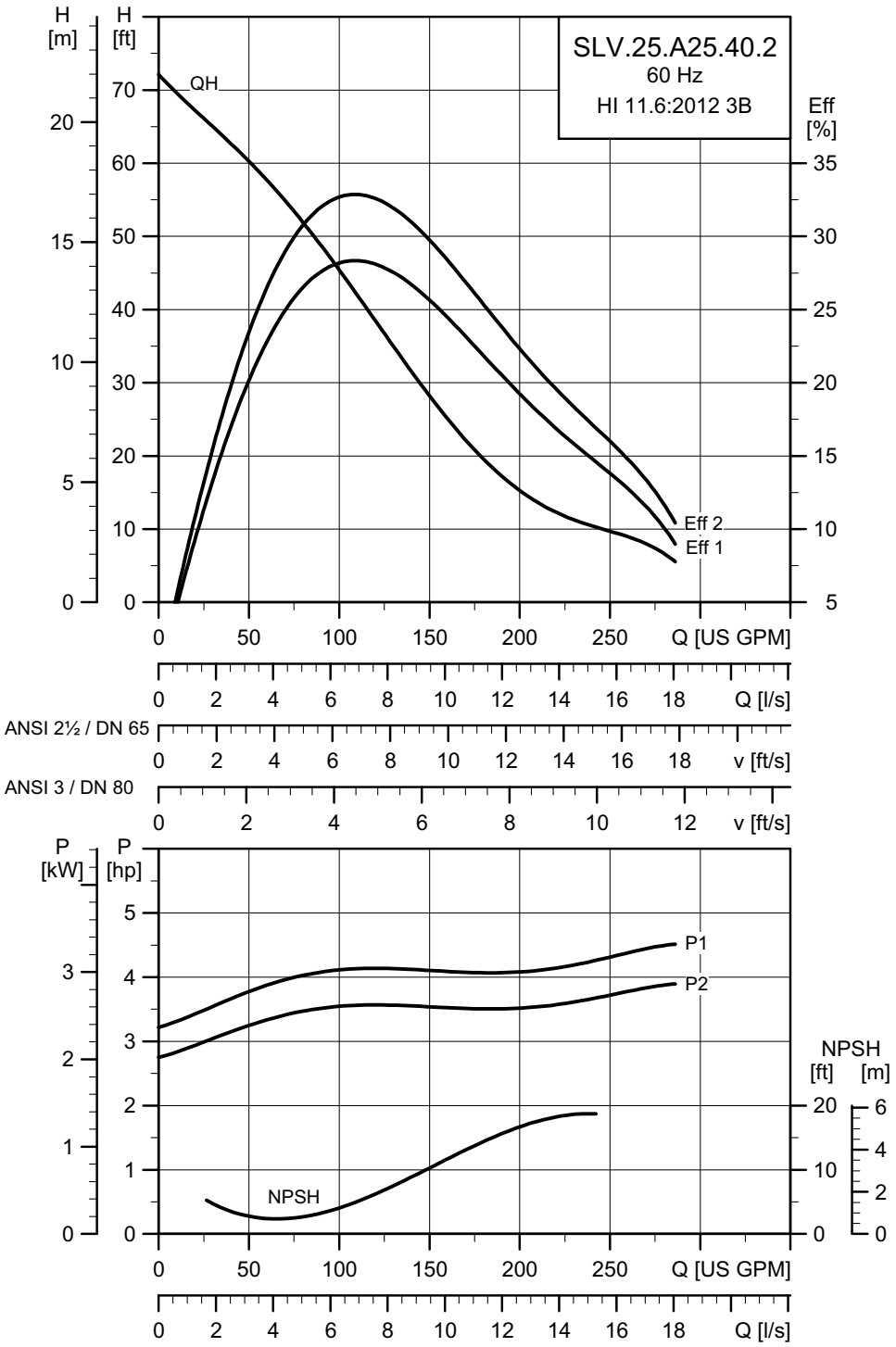
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	4.0 (3.0)	3.0 (2.2)	2	3503	DOL	9.5 - 8.9	68	83.8	85.8	85.0	0.78	0.85	0.89	1.15	0.135 (0.0057)	15.5 (21)
61R	3 x 230 V D/ 460 V Y	4.0 (3.0)	3.0 (2.2)	2	3503	Y/D	8.55	50	84.0	85.2	83.8	0.81	0.87	0.90	1.15	0.135 (0.0057)	12.5 (17
61L	3 x 575 V D Y/D	4.0 (3.0)	3.0 (2.2)	2	3503	Y/D	3.5	26	83.8	85.8	85.0	0.78	0.85	0.89	1.15	0.135 (0.0057)	15.5 (21)

Pump data

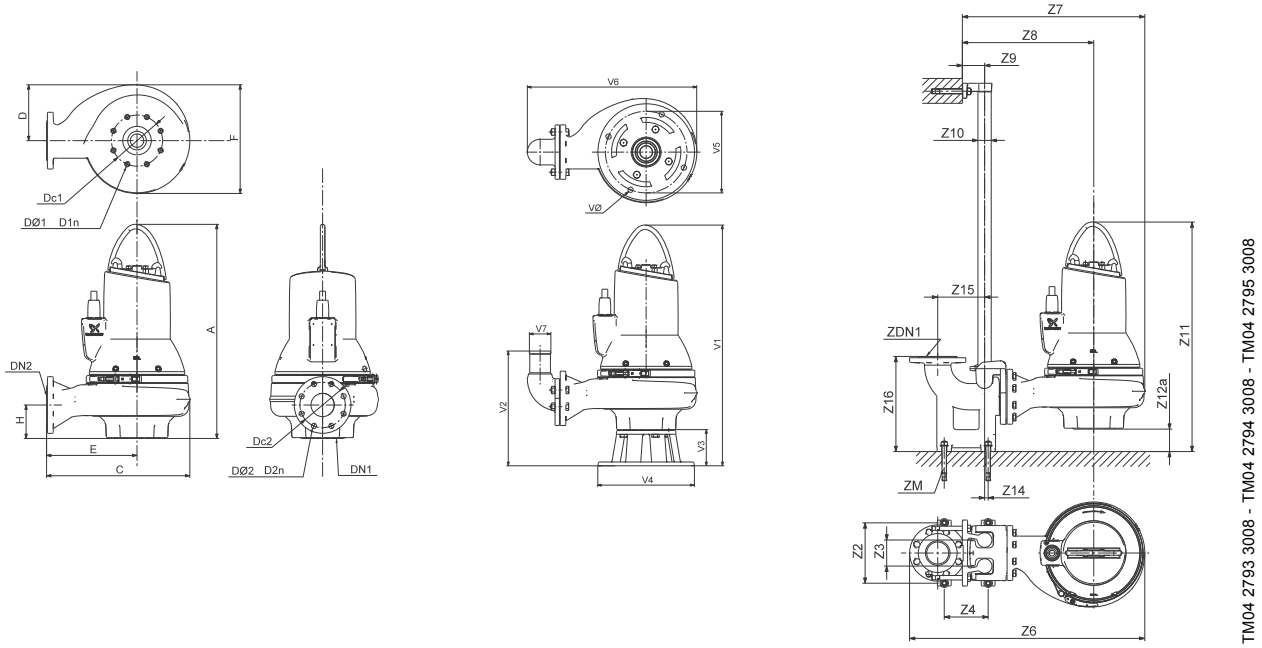
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	2.5 (65)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.25.A25.40.2.--.C



TM04 7250 1914

Dimensional sketches: SLV.25.A25.40.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	26.9	15.6	6.7	9.7	12.6	4.0	3.0	6.0	8 x M16	2.5	5.5	4 x 0.75	206.5 lb
[mm]	684	396	171	246	321	102	DN 80	153	8 x M16	DN 65	140	4 x 19.1	93.7 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.3	3.7	5.5	28.7	21.5	15.5	3.2	1.5	29.5	2.5	0.1	6.9	10.5	2.5	4 x M16
[mm]	210	95	140	730	544	394	81	40	748	64	1	175	266	65	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	32.0	15.4	5.0	13.0	11.0	20.0	2.6	0.7
[mm]	812	389	128	330	280	509	65	18

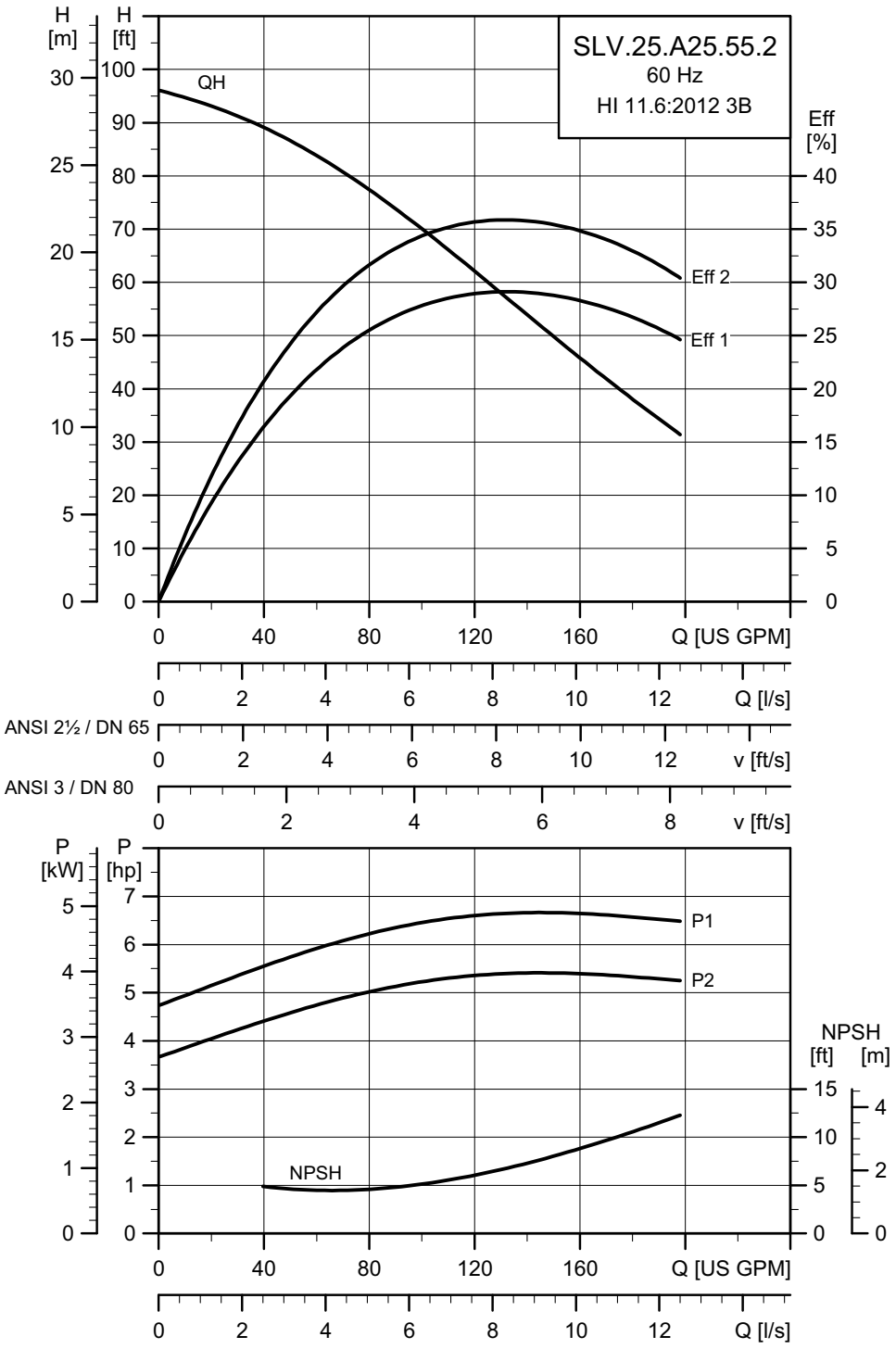
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	5.1 (3.8)	4.0 (3.0)	2	3515	DOL	12.4 - 12.3	98	84.8	86.5	86.5	0.74	0.83	0.87	1.15	0.135 (0.0057)	40.6 (55)
61R	3 x 230 V D/ 460 V Y	5.1 (3.8)	4.0 (3.0)	2	3515	Y/D	11.4	80	85.3	85.9	85.5	0.80	0.86	0.89	1.15	0.135 (0.0057)	20.7 (28)
61L	3 x 575 V D Y/D	5.1 (3.8)	4.0 (3.0)	2	3515	Y/D	4.5	37	84.8	86.5	86.5	0.74	0.83	0.87	1.15	0.135 (0.0057)	40.6 (55)

Pump data

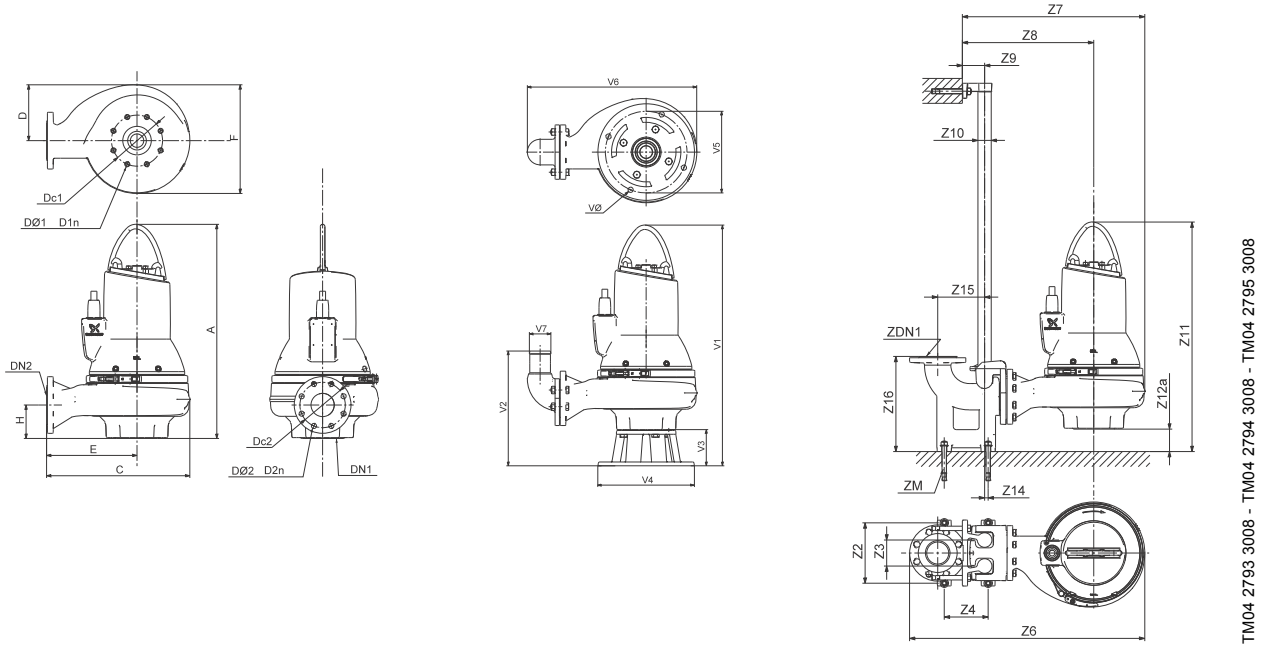
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	2.5 (65)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.25.A25.55.2.--.C



TM04 7251 1914

Dimensional sketches: SLV.25.A25.55.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.3	18.0	7.9	10.9	15.0	4.2	3.0	6.0	8 x M16	2.5	5.5	4 x 0.75	257.9 lb
[mm]	718	456	200	276	380	106	DN 80	153	8 x M16	DN 65	140	4 x 19.1	117 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.3	3.7	5.5	31.1	23.8	16.7	3.2	1.5	30.7	2.4	0.1	6.9	10.5	2.5	4 x M16
[mm]	210	95	140	790	604	424	81	40	778	60	1	175	266	65	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.4	15.5	5.0	13.0	11.0	22.4	2.6	0.7
[mm]	846	393	128	330	280	569	65	18

Electrical data

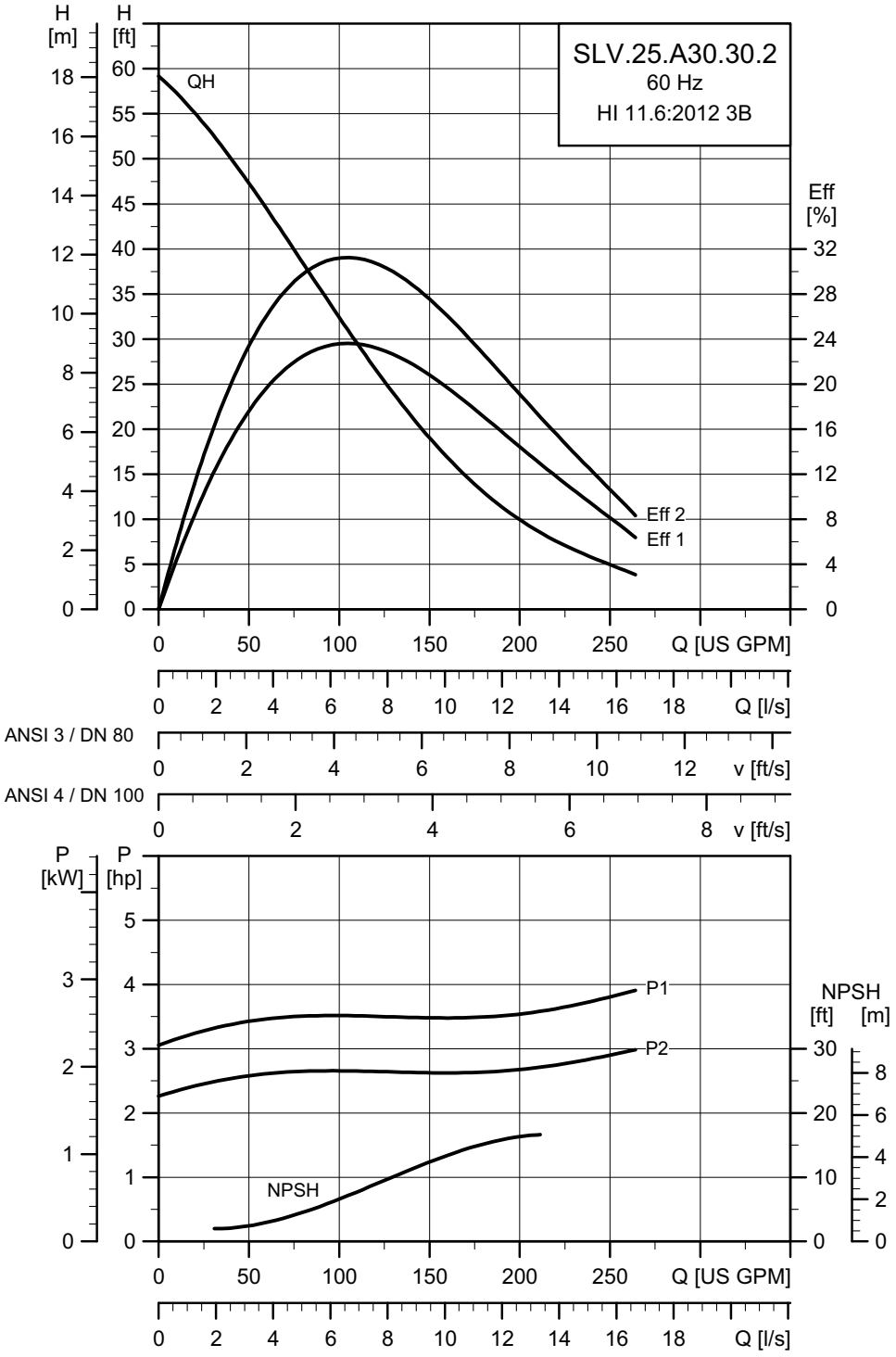
Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.7 (5.0)	5.5 (4.0)	2	3535	DOL	15.2 - 14.7	166	82.0	85.0	86.0	0.76	0.84	0.88	1.15	0.342 (0.0144)	41.3 (56)
61R	3 x 230 V D/ 460 V Y	6.7 (5.0)	5.5 (4.0)	2	3535	Y/D	14.4	120	82.7	85.4	861	0.80	0.87	0.90	1.15	0.342 (0.0144)	28.8 (39)
61L	3 x 575 V D Y/D	6.8 (5.0)	5.5 (4.0)	2	3535	Y/D	5.5	64	82.0	85.0	86.0	0.76	0.84	0.88	1.15	0.342 (0.0144)	41.3 (56)

Pump data

Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	2.5 (65)	10	20	IP68	H	A	104 (40)	4-14

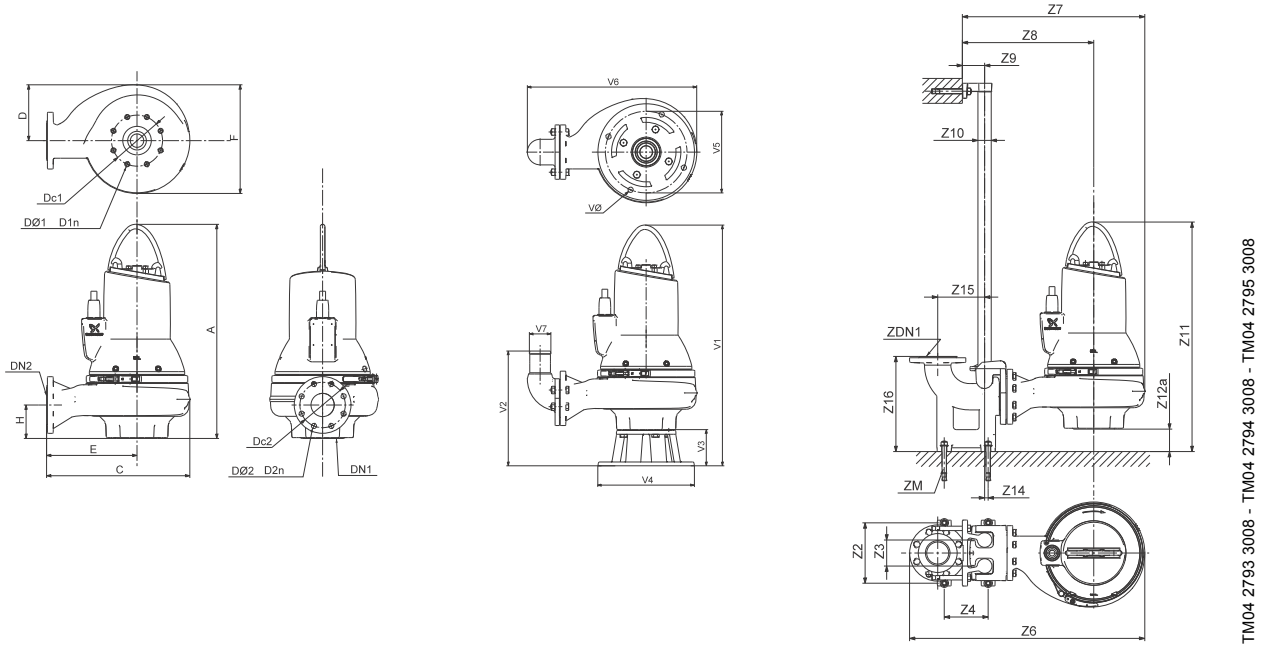
SLV.25.A30

Performance curves: SLV.25.A30.30.2.--.C



TM04 7252 1914

Dimensional sketches: SLV.25.A30.30.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	27.0	15.6	6.7	9.7	12.6	4.1	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	146.1 lb
[mm]	685	397	171	247	321	103	DN 80	153	8 x M16	DN 80	153	8 x 19.1	66.3 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	29.5	22.0	16.0	3.2	1.5	30.8	3.8	0.51	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	750	557	407	81	40	782	97	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	32.1	16.0	5.0	13.0	11.0	20.2	3.2	0.7
[mm]	813	405	128	330	280	513	80	18

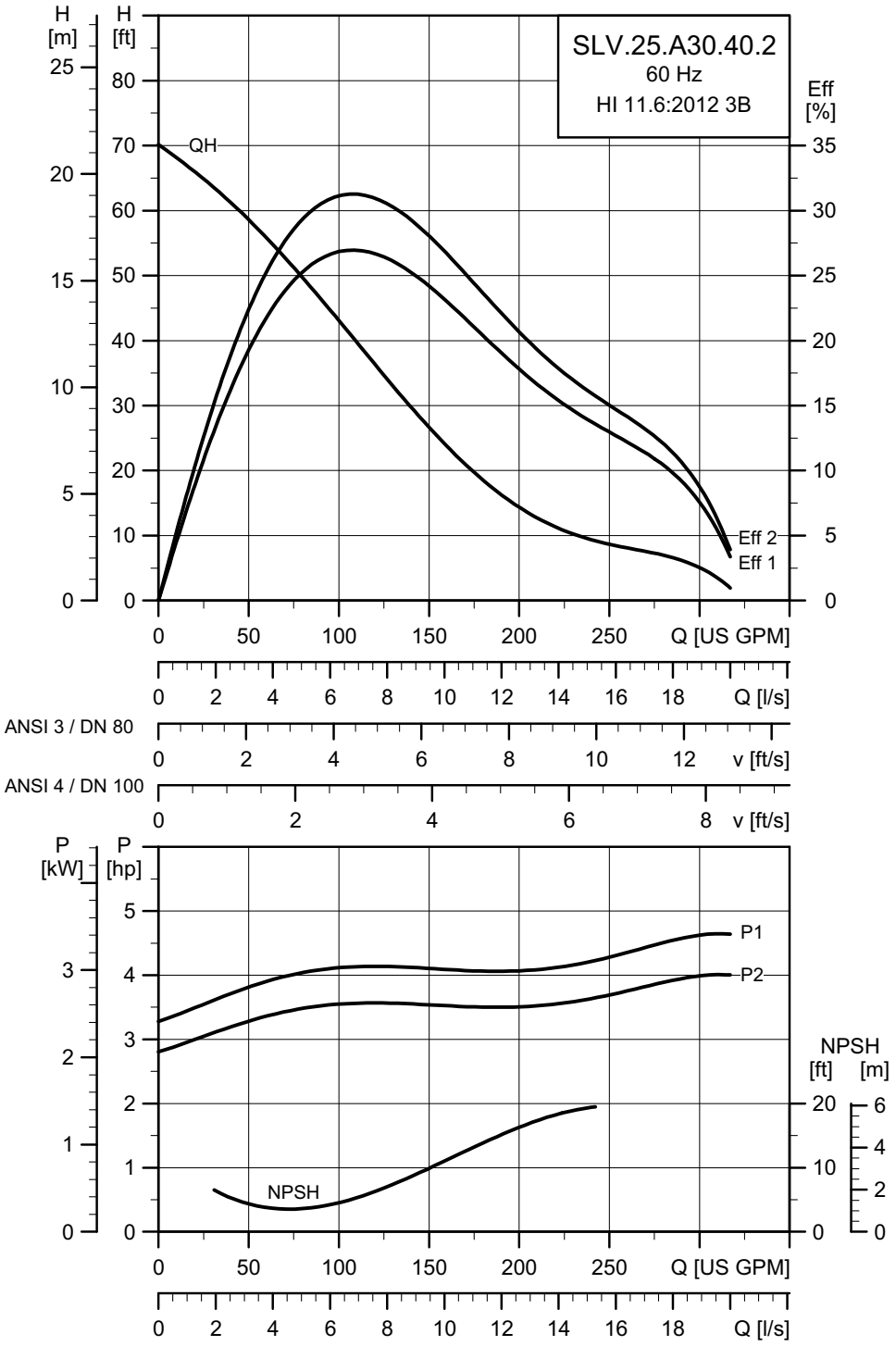
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	4.0 (3.0)	3.0 (2.2)	2	3503	DOL	9.5 - 8.9	68	83.8	85.8	85.0	0.78	0.85	0.89	1.15	0.342 (0.0144)	15.5 (21)
61R	3 x 230 V D/ 460 V Y	4.0 (3.0)	3.0 (2.2)	2	3503	Y/D	8.55	50	84.0	85.2	83.8	0.81	0.87	0.90	1.15	0.342 (0.0144)	12.5 (17)
61L	3 x 575 V D Y/D	4.0 (3.0)	3.0 (2.2)	2	3503	Y/D	3.5	26	83.8	85.8	85.0	0.78	0.85	0.89	1.15	0.342 (0.0144)	15.5 (21)

Pump data

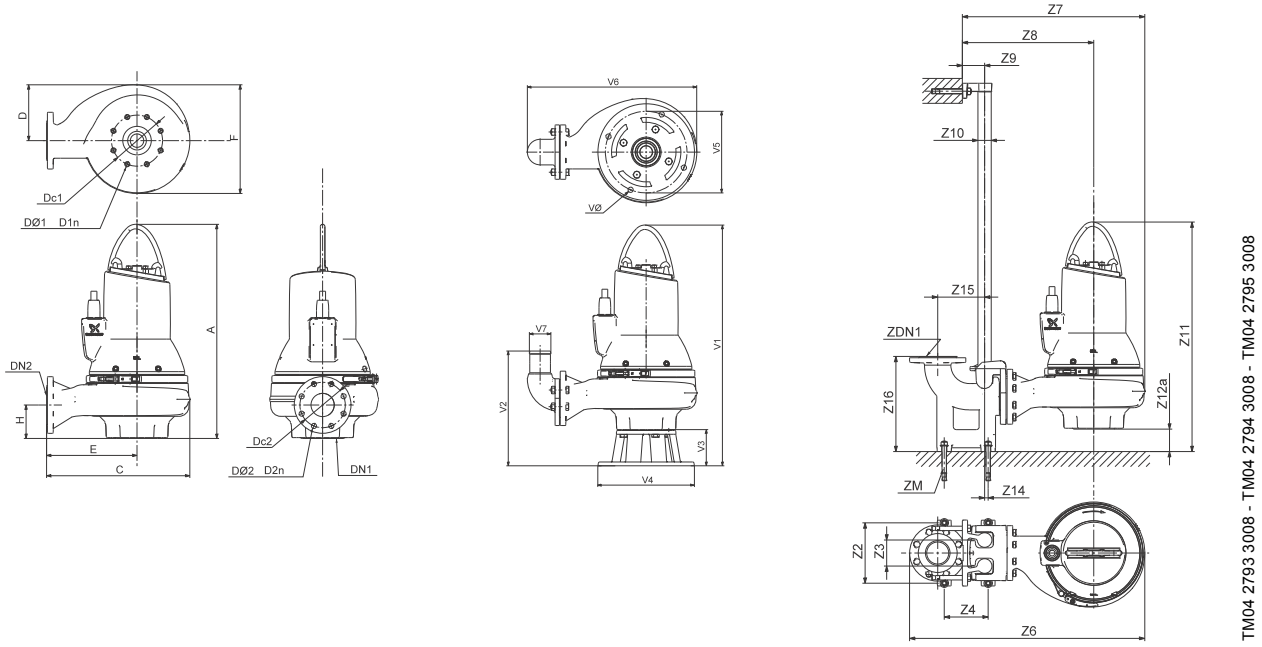
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	2.5 (65)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.25.A30.40.2.--.C



TM04 7253 1914

Dimensional sketches: SLV.25.A30.40.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	27.0	15.6	6.7	9.7	12.6	4.1	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	208.9 lb
[mm]	685	397	171	247	321	103	DN 80	153	8 x M16	DN 80	153	8 x 19.1	94.8 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	29.5	22.0	16.0	3.2	1.5	30.8	3.8	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	750	557	407	81	40	782	97	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	32.1	16.0	5.0	13.0	11.0	20.2	3.2	0.7
[mm]	813	405	128	330	280	513	80	18

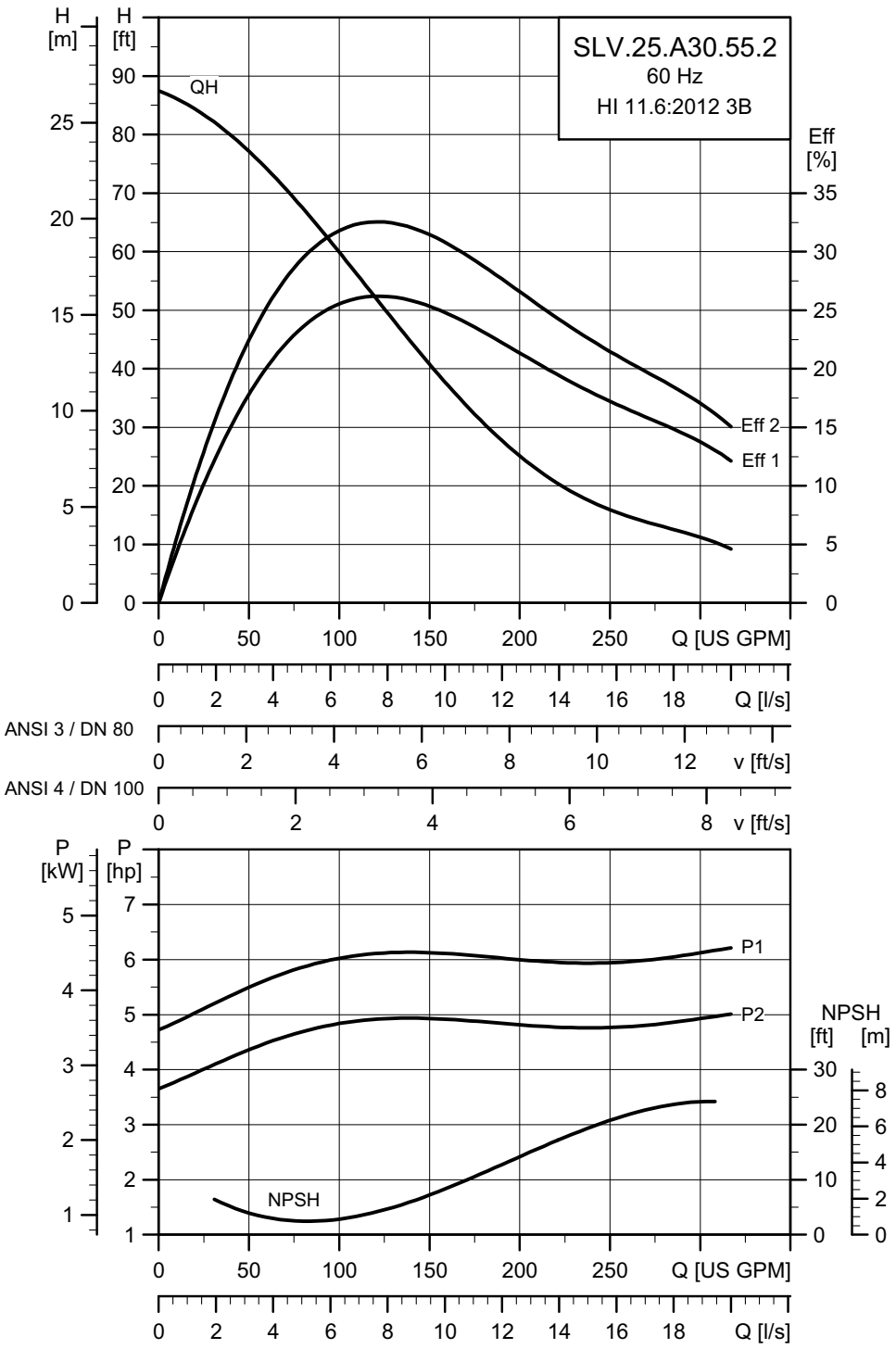
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	5.1 (3.8)	4.0 (3.0)	2	3515	DOL	12.4 - 12.3	98	84.8	86.5	86.5	0.74	0.83	0.87	1.15	0.342 (0.0144)	40.6 (55)
61R	3 x 230 V D/ 460 V Y	5.1 (3.8)	4.0 (3.0)	2	3515	Y/D	11.4	80	85.3	85.9	85.5	0.80	0.86	0.89	1.15	0.342 (0.0144)	20.7 (28)
61L	3 x 575 V D Y/D	5.1 (3.8)	4.0 (3.0)	2	3515	Y/D	4.5	37	84.8	86.5	86.5	0.74	0.83	0.87	1.15	0.342 (0.0144)	40.6 (55)

Pump data

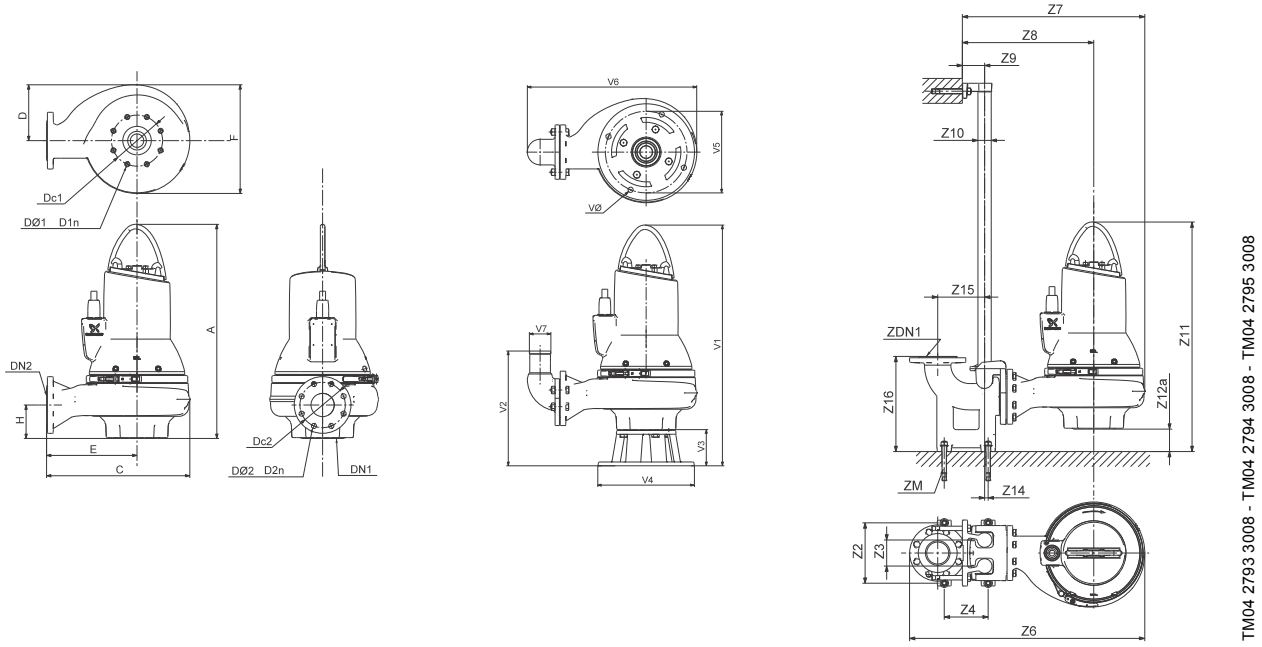
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	2.5 (65)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.25.A30.55.2.--.C



TM04 7254 1914

Dimensional sketches: SLV.25.A30.55.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.3	17.9	7.9	10.9	14.9	4.2	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	259 lb
[mm]	718	455	200	276	379	106	DN 80	153	8 x M16	DN 80	153	8 x 19.1	117.5 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	31.8	24.3	17.2	3.2	1.5	32.0	3.7	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	808	615	436	81	40	812	94	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.4	16.1	5.0	13.0	11.0	22.5	3.2	0.7
[mm]	846	408	128	330	280	571	80	18

Electrical data

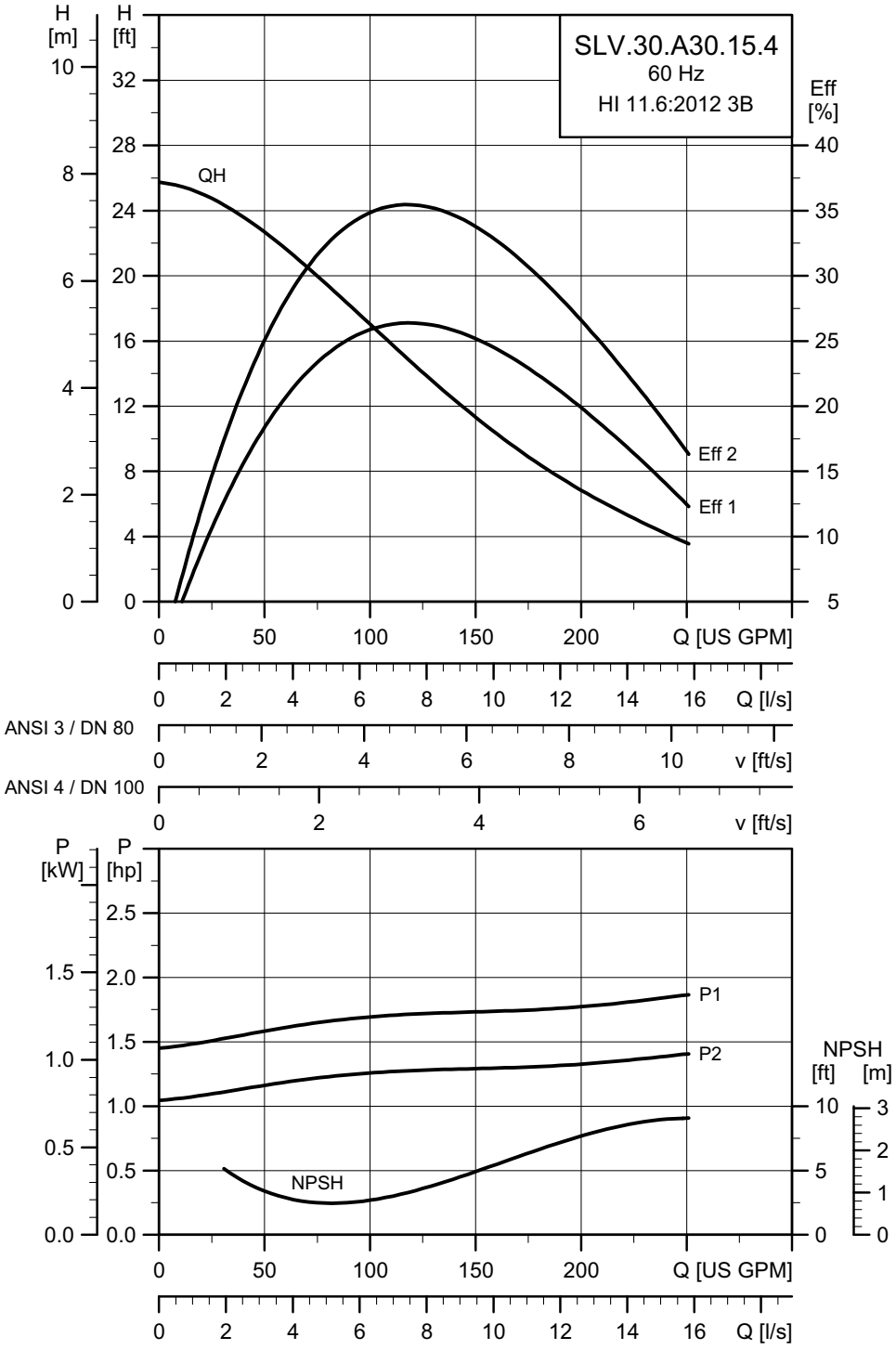
Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.7 (5.0)	5.5 (4.0)	2	3535	DOL	15.2 - 14.7	166	82.0	85.0	86.0	0.76	0.84	0.88	1.15	0.318 (0.0134)	41.3 (56)
61R	3 x 230 V D/ 460 V Y	6.7 (5.0)	5.5 (4.0)	2	3535	Y/D	14.4	120	82.7	85.4	86.1	0.80	0.87	0.90	1.15	0.318 (0.0134)	28.8 (39)
61L	3 x 575 V D Y/D	6.8 (5.0)	5.5 (4.0)	2	3535	Y/D	5.5	64	82.0	85.0	86.0	0.76	0.84	0.88	1.15	0.318 (0.0134)	41.3 (56)

Pump data

Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	2.5 (65)	10	20	IP68	H	A	104 (40)	4-14

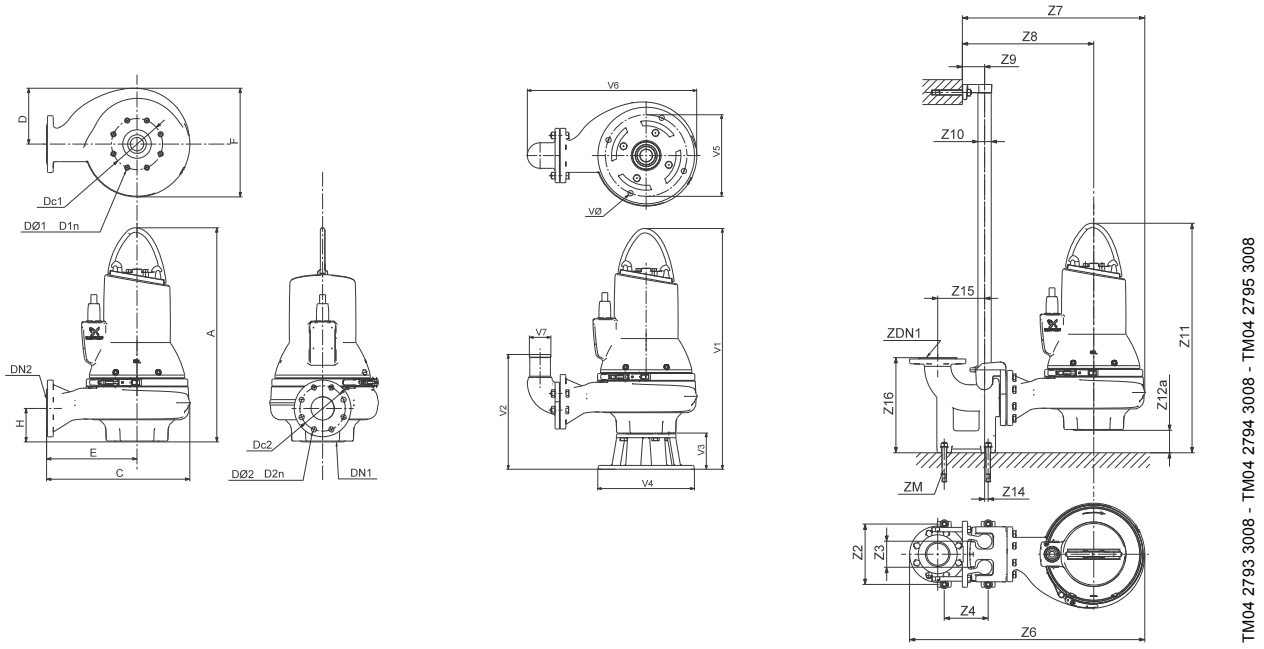
SLV.30.A30

Performance curves: SLV.30.A30.15.4.--.C



TM04 7255 1914

Dimensional sketches: SLV.30.A30.15.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.0	16.1	6.7	9.5	13.4	4.3	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	203.6 lb
[mm]	711	409	171	241	339	109	DN 80	153	8 x M16	DN 80	153	8 x 19.1	92.4 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	30	22.4	15.8	3.2	1.5	31.6	3.6	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	762	569	401	81	40	802	91	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.1	16.2	5.0	13.0	11.0	20.7	3.2	0.7
[mm]	839	411	128	330	280	525	80	18

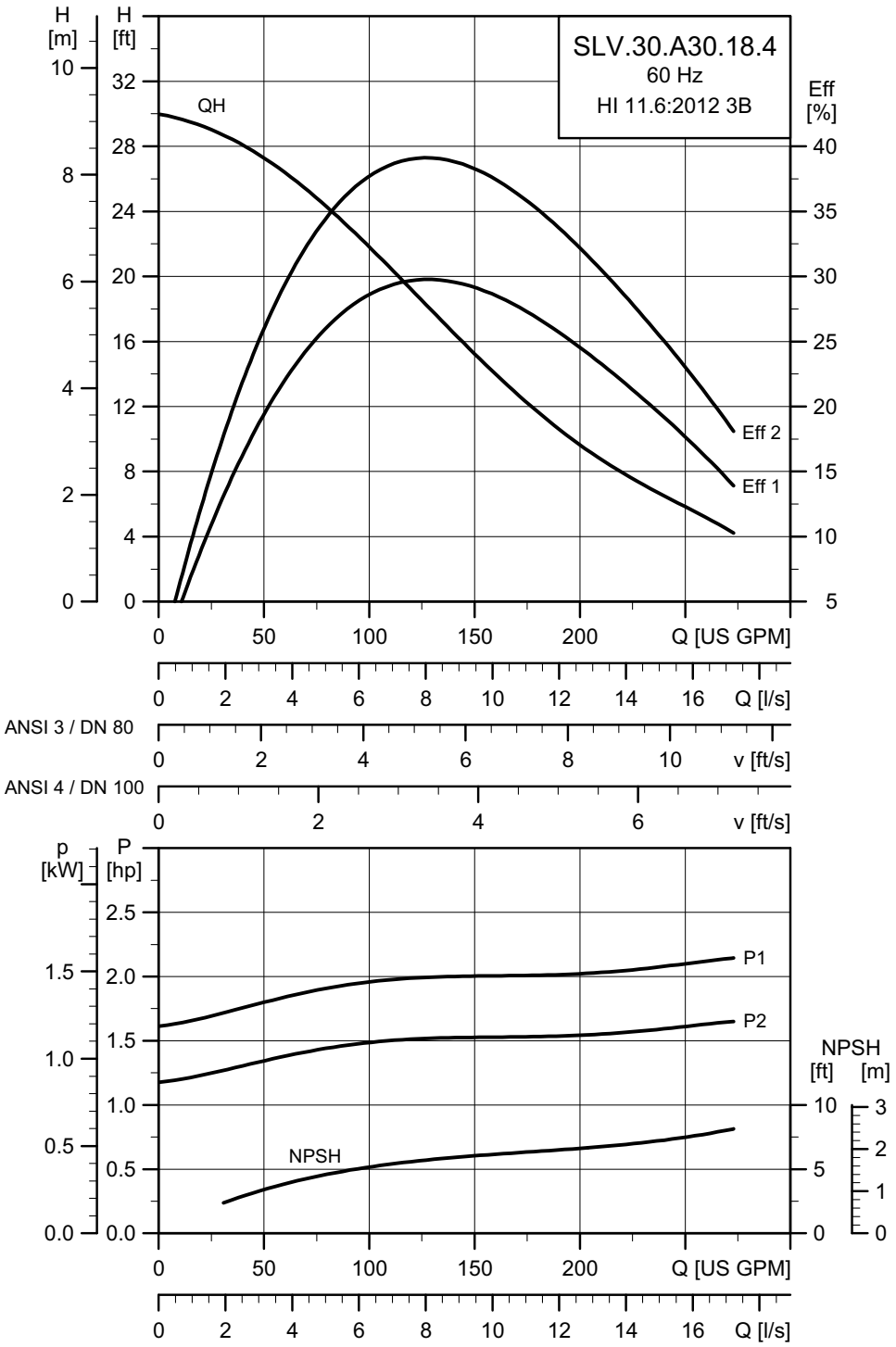
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D DOL	2.0 (1.5)	1.5 (1.1)	4	1754	DOL	5.4 - 5.9	33	81.0	84.2	84.6	0.52	0.65	0.72	1.15	2.143 (0.0903)	17.7 (24)
61R	3 x 230 V D/ 460 V Y	2.0 (1.5)	1.5 (1.1)	4	1754	Y/D	5.1	28	82.2	84.3	84.0	0.57	0.70	0.76	1.15	2.143 (0.0903)	217.7 (24)
60L	3 x 575 V D DOL	2.0 (1.5)	1.5 (1.1)	4	1754	DOL	2.0	13	81.0	84.2	84.6	0.52	0.65	0.72	1.15	2.143 (0.0903)	17.7 (24)
61L	3 x 575 V D Y/D	2.0 (1.5)	1.5 (1.1)	4	1754	Y/D	2.0	13	81.0	84.2	84.6	0.52	0.65	0.72	1.15	2.143 (0.0903)	17.7 (24)

Pump data

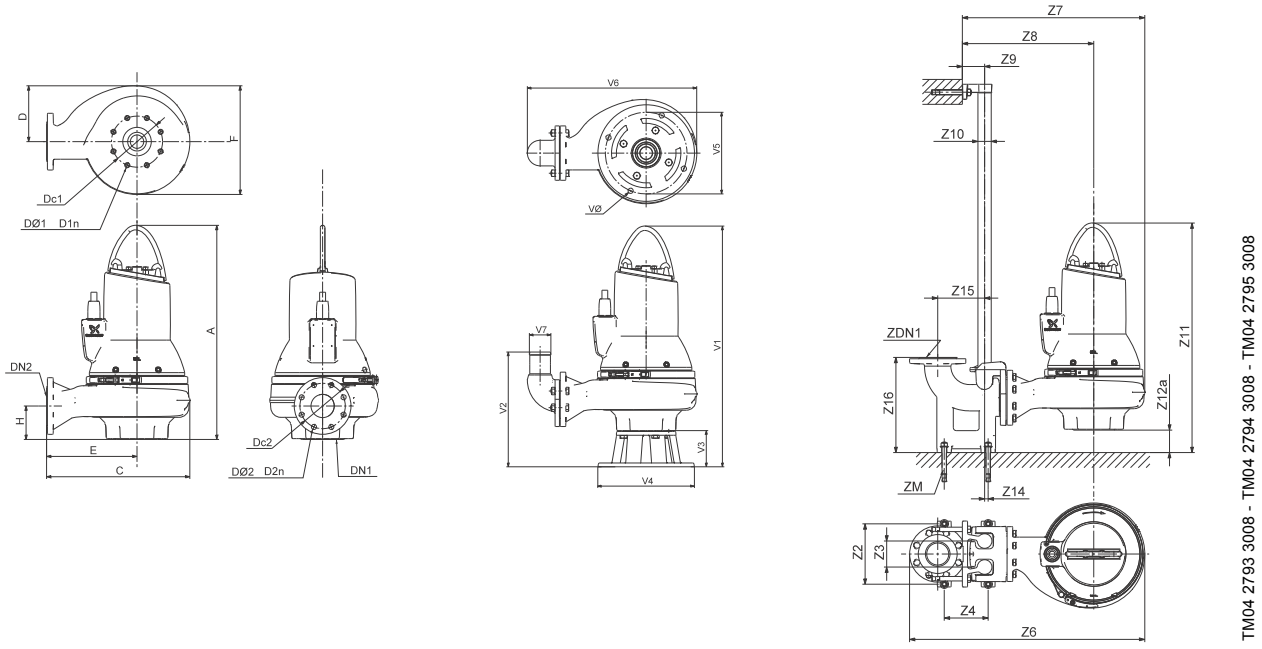
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A30.18.4.--.C



TM04 7256 1914

Dimensional sketches: SLV.30.A30.18.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.0	16.1	6.7	9.5	13.4	4.3	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	211.1 lb
[mm]	711	409	171	241	339	109	DN 80	153	8 x M16	DN 80	153	8 x 19.1	95.8 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	30	22.4	15.8	3.2	1.5	31.6	3.6	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	762	569	401	81	40	802	91	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.1	16.2	5.0	13.0	11.0	20.7	3.2	0.7
[mm]	839	411	128	330	280	525	80	18

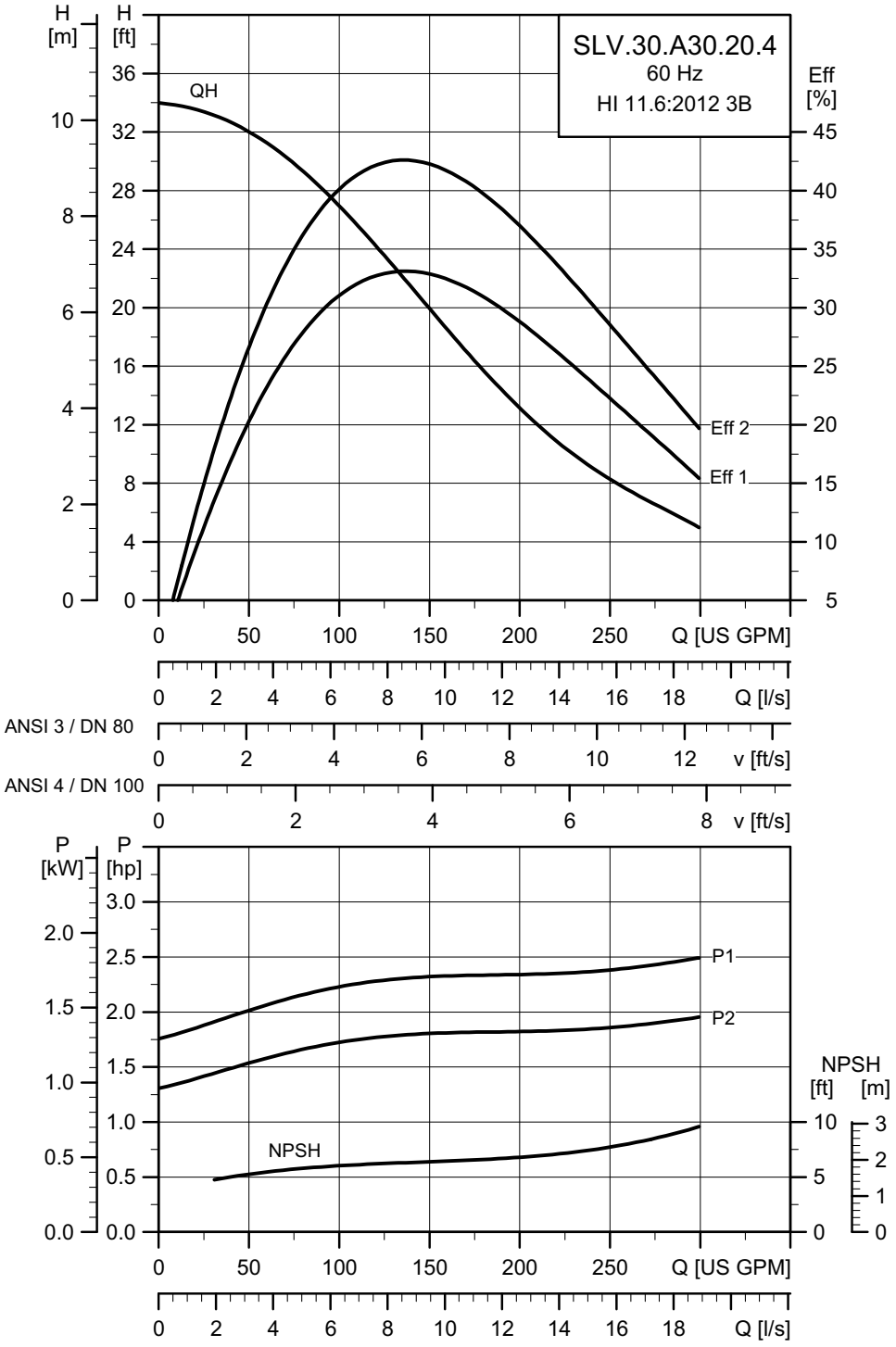
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D DOL	2.4 (1.8)	1.8 (1.3)	4	1753	DOL	7.0 - 7.7	53	82.0	85.2	86.0	0.30	0.39	0.46	1.15	1.241 (0.0523)	22.1 (30)
61R	3 x 230 V D/ 460 V Y	2.4 (1.8)	1.8 (1.3)	4	1753	Y/D	6.0	40	82.8	85.3	85.8	0.52	0.65	0.72	1.15	1.241 (0.0523)	18.4 (25)
60L	3 x 575 V D DOL	2.4 (1.8)	1.8 (1.3)	4	1753	DOL	2.5	20	82.0	85.2	86.0	0.30	0.39	0.46	1.15	1.241 (0.0523)	22.1 (30)
61L	3 x 575 V D Y/D	2.4 (1.8)	1.8 (1.3)	4	1753	Y/D	2.5	20	82.0	85.2	86.0	0.30	0.39	0.46	1.15	1.241 (0.0523)	22.1 (30)

Pump data

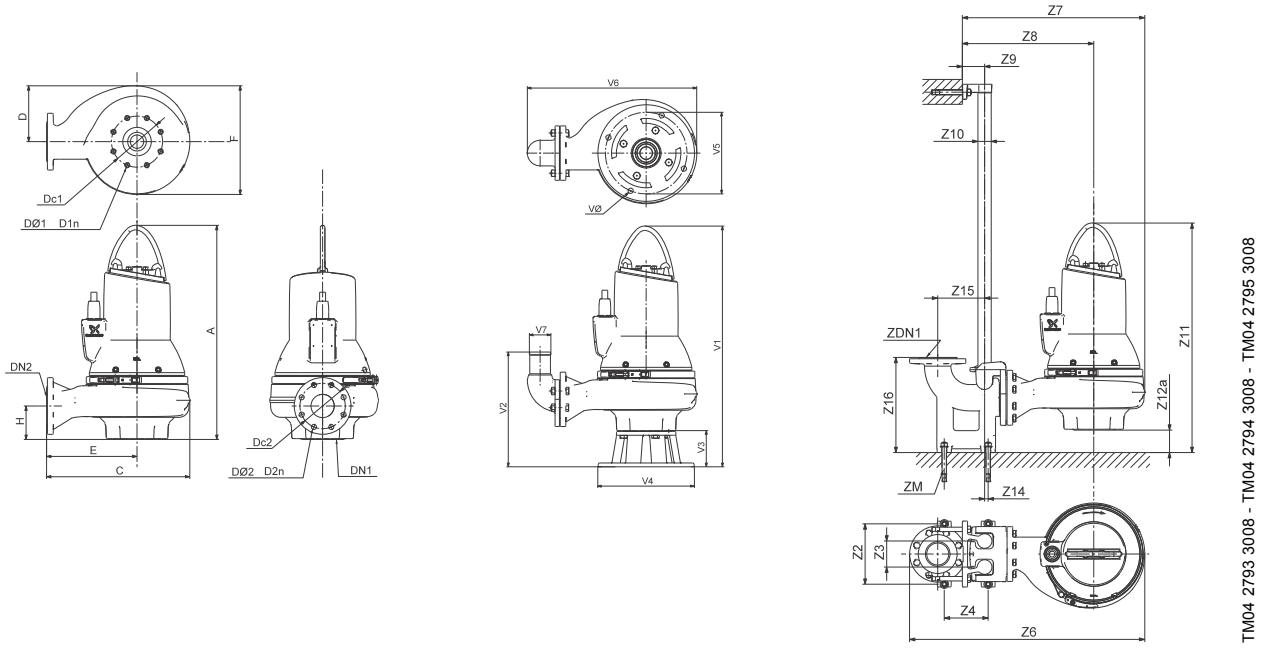
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A30.20.4.--.C



TM04 7257 1914

Dimensional sketches: SLV.30.A30.20.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.0	16.1	6.7	9.5	13.4	4.3	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	211.6 lb
[mm]	711	409	171	241	339	109	DN 80	153	8 x M16	DN 80	153	8 x 19.1	96 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	30	22.4	15.8	3.2	1.5	31.6	3.6	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	762	569	401	81	40	802	91	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.1	16.2	5.0	13.0	11.0	20.7	3.2	0.7
[mm]	839	411	128	330	280	525	80	18

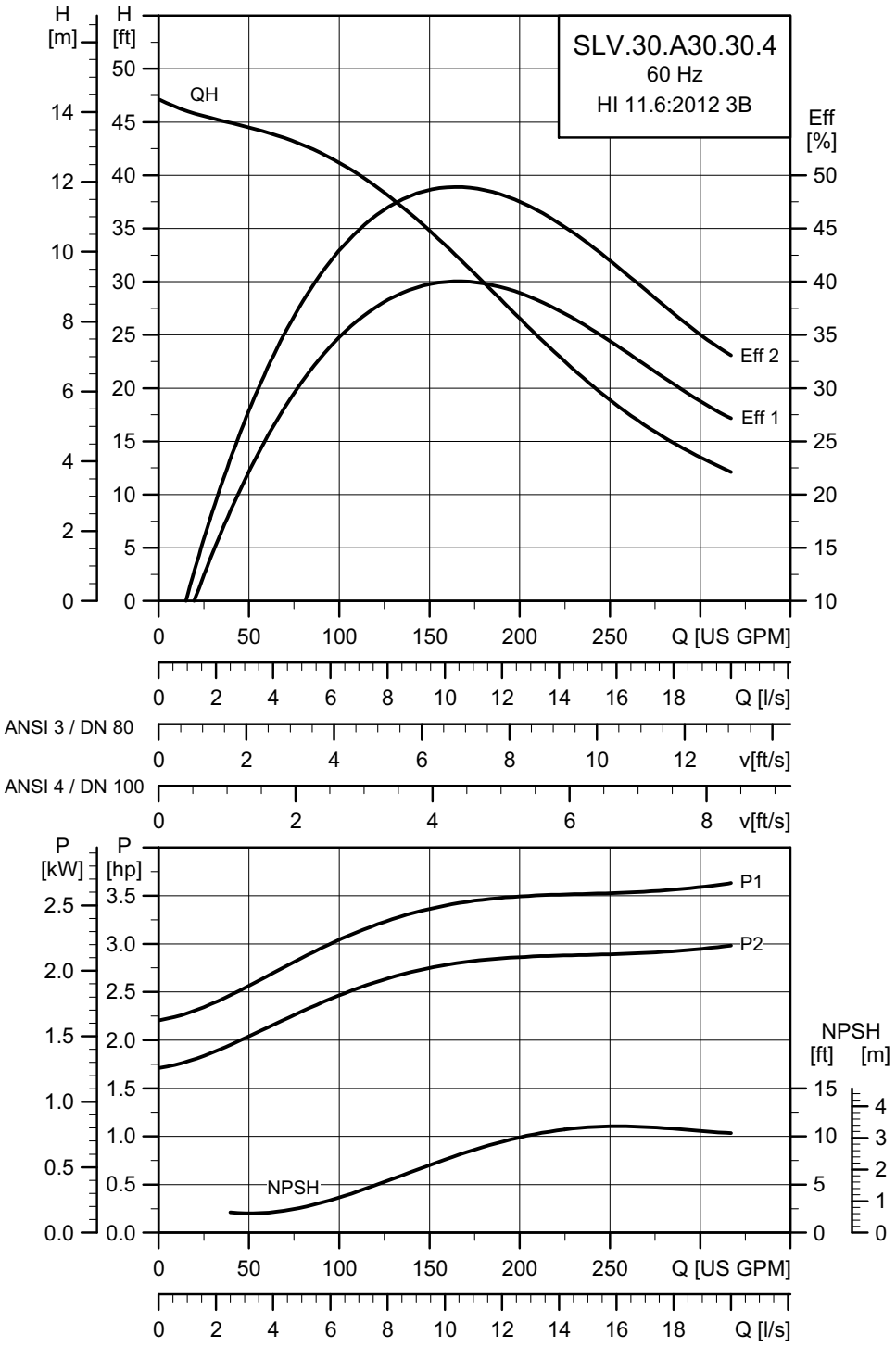
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D DOL	2.6 (1.9)	2.0 (1.5)	4	1753	DOL	7.1 - 7.9	53	83.3	85.7	86.0	0.51	0.63	0.72	1.15	1.217 (0.0513)	22.1 (30)
61R	3 x 230 V D/ 460 V Y	2.6 (1.9)	2.0 (1.5)	4	1753	Y/D	6.5	40	84.2	85.7	85.4	0.56	0.69	0.76	1.15	1.217 (0.0513)	18.4 (25)
60L	3 x 575 V D DOL	2.6 (1.9)	2.0 (1.5)	4	1753	DOL	2.6	20	83.3	85.7	86.0	0.51	0.63	0.72	1.15	1.217 (0.0513)	22.1 (30)
61L	3 x 575 V D Y/D	2.6 (1.9)	2.0 (1.5)	4	1753	Y/D	2.6	20	83.3	85.7	86.0	0.51	0.63	0.72	1.15	1.217 (0.0513)	22.1 (30)

Pump data

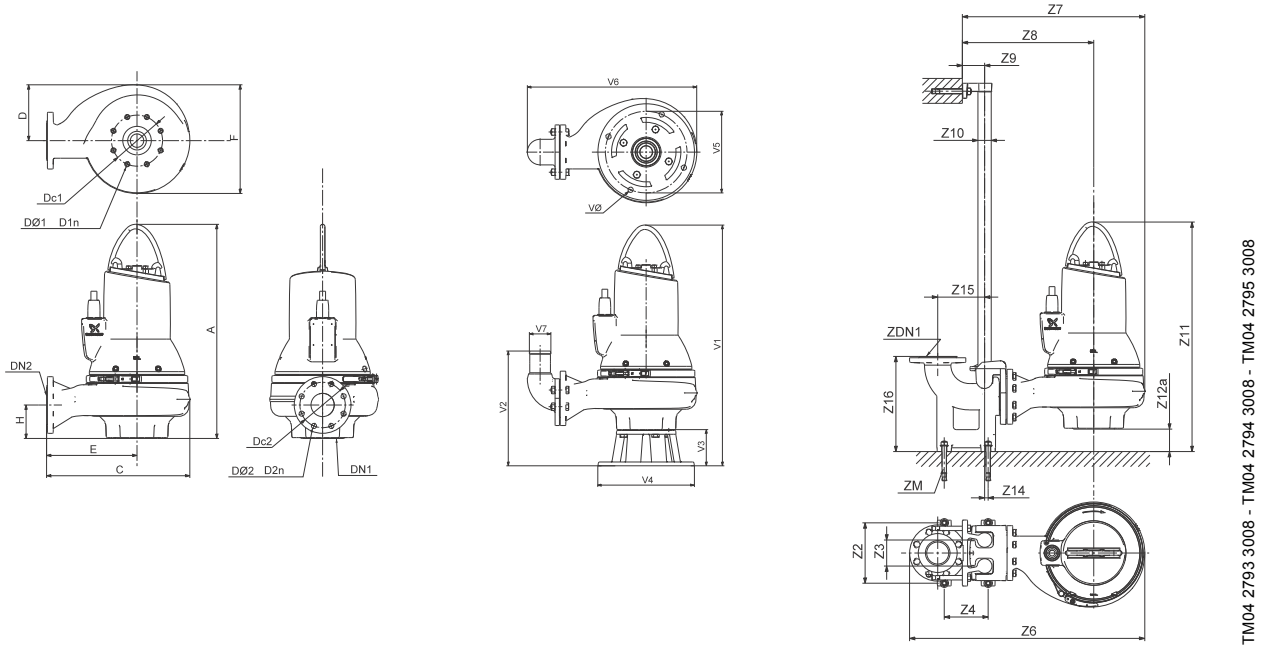
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A30.30.4.--.C



TM04 7258 1914

Dimensional sketches: SLV.30.A30.30.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.0	16.1	6.7	9.5	13.4	4.3	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	227.9 lb
[mm]	711	409	171	241	339	109	DN 80	153	8 x M16	DN 80	153	8 x 19.1	103.4 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	30.0	22.4	15.8	3.2	1.5	31.6	3.6	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	762	569	401	81	40	802	91	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.1	16.2	5.0	13.0	11.0	20.7	3.2	0.7
[mm]	839	411	128	330	280	525	80	18

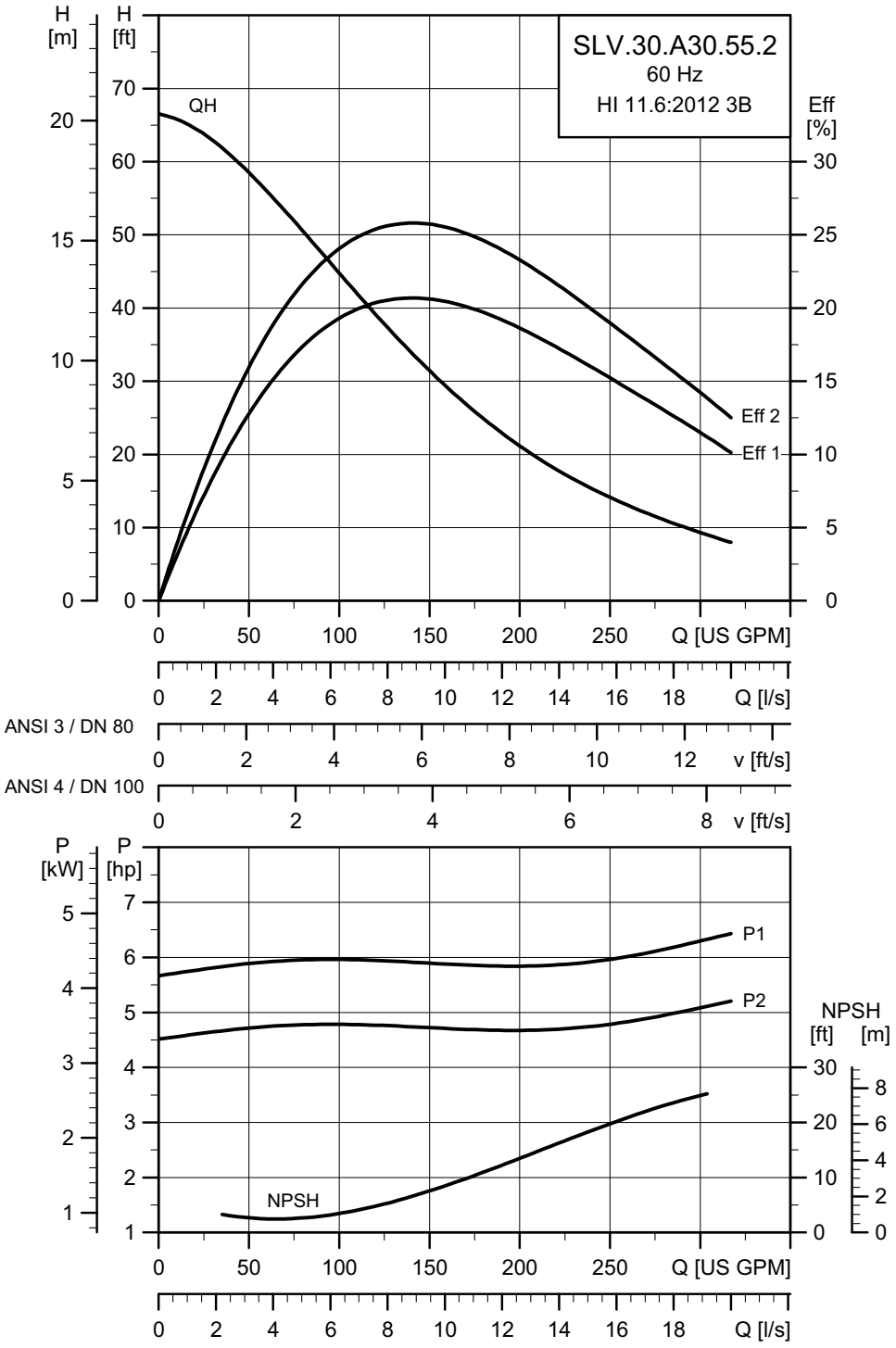
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	3.7 (2.7)	3.0 (2.2)	4	1763	DOL	9.8 - 10.6	70	84.7	86.6	87.0	0.59	0.70	0.76	1.15	1.265 (0.0533)	26.6 (36)
61R	3 x 230 V D/ 460 V Y	3.7 (2.7)	3.0 (2.2)	4	1763	Y/D	8.95	40	85.5	86.6	86.3	0.65	0.75	0.80	1.15	1.265 (0.0533)	26.6 (36)
61L	3 x 575 V D Y/D	3.7 (2.7)	3.0 (2.2)	4	1763	Y/D	3.5	27	84.7	86.6	87.0	0.59	0.70	0.76	1.15	1.265 (0.0533)	26.6 (36)

Pump data

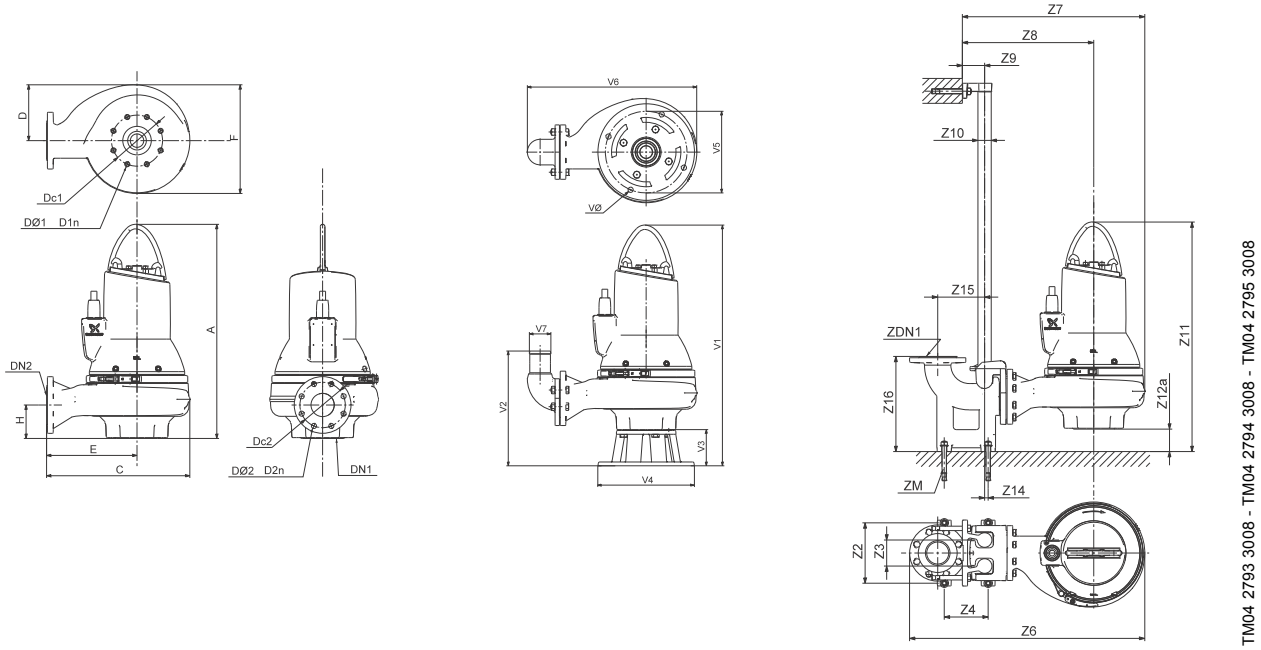
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A30.55.2.--.C



TM04 7259 1914

Dimensional sketches: SLV.30.A30.55.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.3	18.0	7.9	10.9	15.0	4.1	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	268.2 lb
[mm]	744	456	200	276	380	104	DN 80	153	8 x M16	DN 80	153	8 x 19.1	121.7 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	31.9	24.3	17.2	3.2	1.5	33.1	3.8	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	809	616	436	81	40	840	96	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.4	16.0	5.0	13.0	11.0	22.5	3.2	0.7
[mm]	872	406	128	330	280	572	80	18

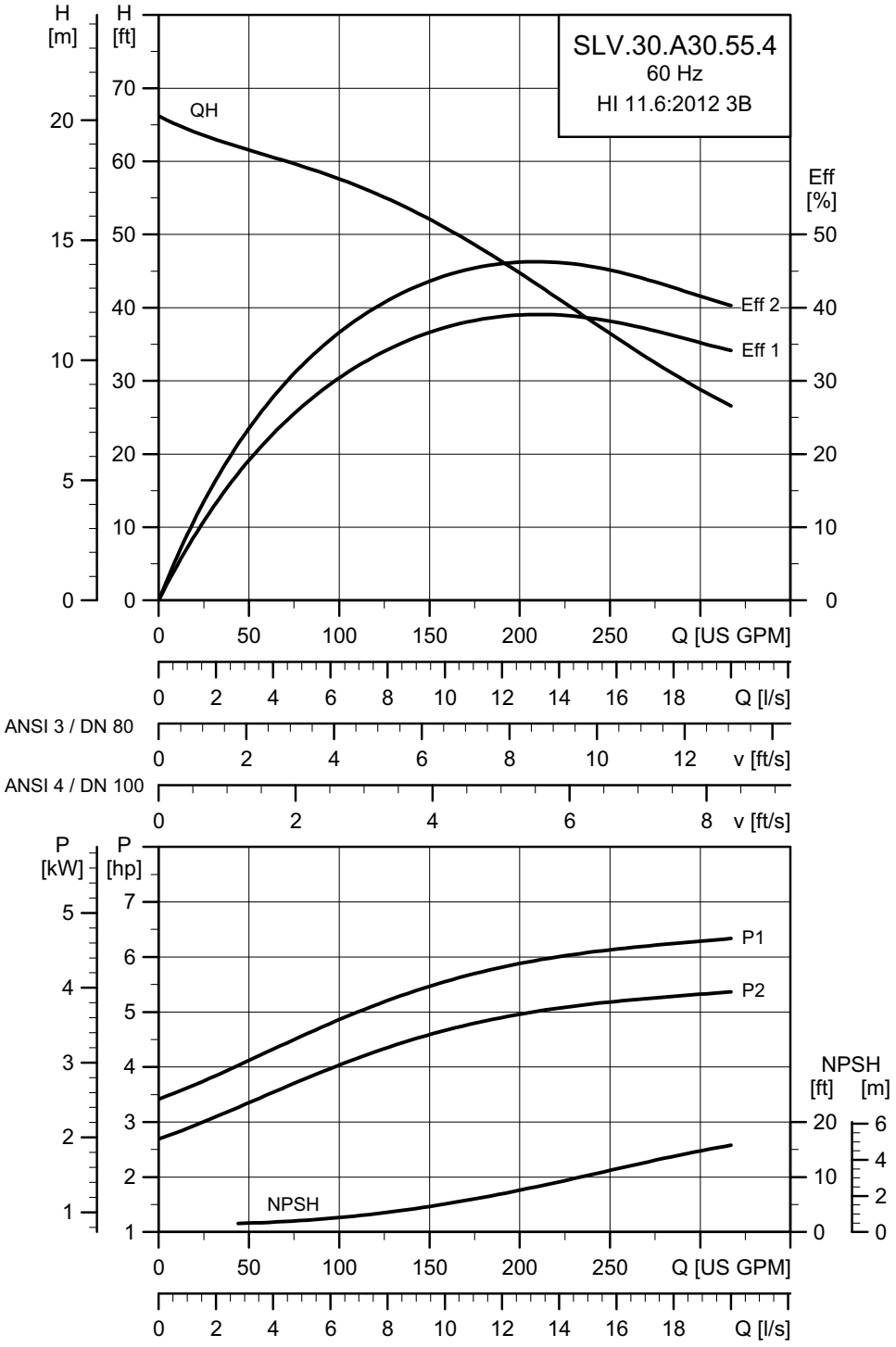
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
61J	3 x 208-230 V D	6.7 (5.0)	5.5 (4.0)	2	1767	Y/D	17.3 - 19.0	133	85.3	87.4	88.2	0.53	0.66	0.74	1.15	2.176 (0.0917)	61.2 (83)
61R	3 x 230 V D/ 460 V Y	6.7 (5.0)	5.5 (4.0)	2	1767	Y/D	16.2	120	86.2	86.2	87.8	0.59	0.70	0.78	1.15	2.176 (0.0917)	48.7 (66)
61L	3 x 575 V D Y/D	6.8 (5.0)	5.5 (4.0)	2	1767	Y/D	6.3	51	85.3	87.4	88.2	0.53	0.66	0.74	1.15	2.176 (0.0917)	61.2 (83)

Pump data

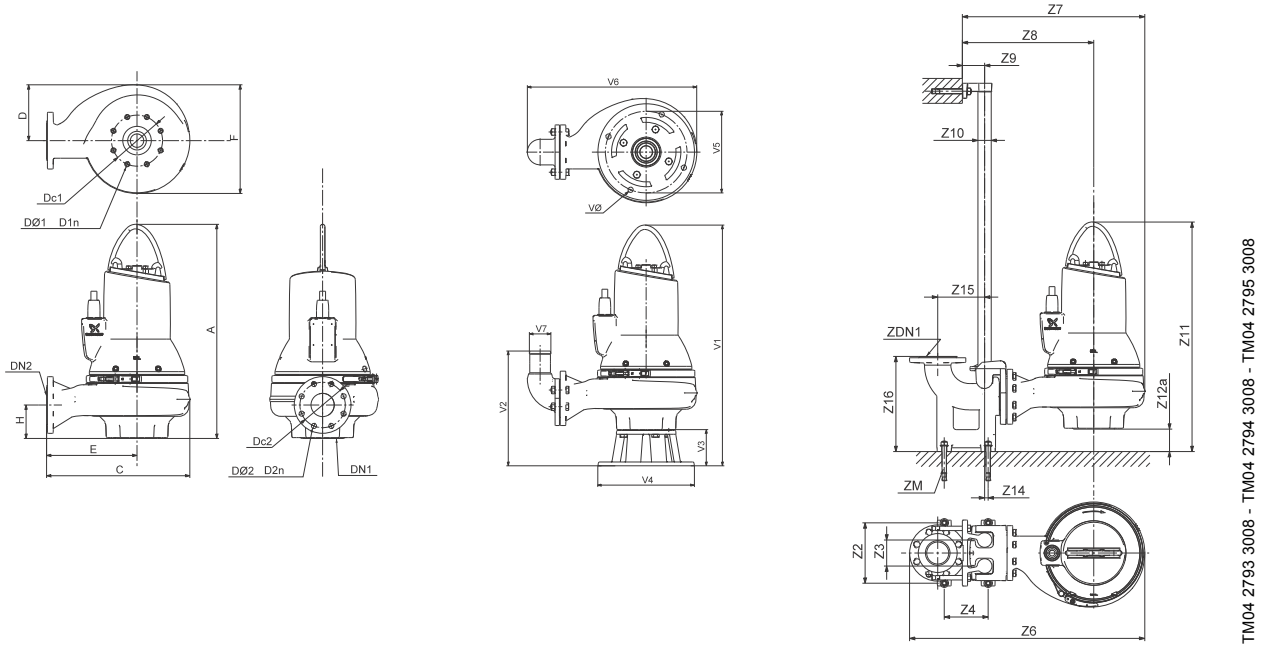
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A30.55.4.--.C



TM04 7260 1914

Dimensional sketches: SLV.30.A30.55.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.5	18.1	7.9	10.5	15.5	4.3	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	293.6 lb
[mm]	748	460	200	267	393	109	DN 80	153	8 x M16	DN 80	153	8 x 19.1	133.2 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	32.0	24.5	16.8	3.2	1.5	33.1	3.6	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	813	620	427	81	40	839	91	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.5	16.2	5.0	13.0	11.0	22.7	3.2	0.7
[mm]	876	411	128	330	280	576	80	18

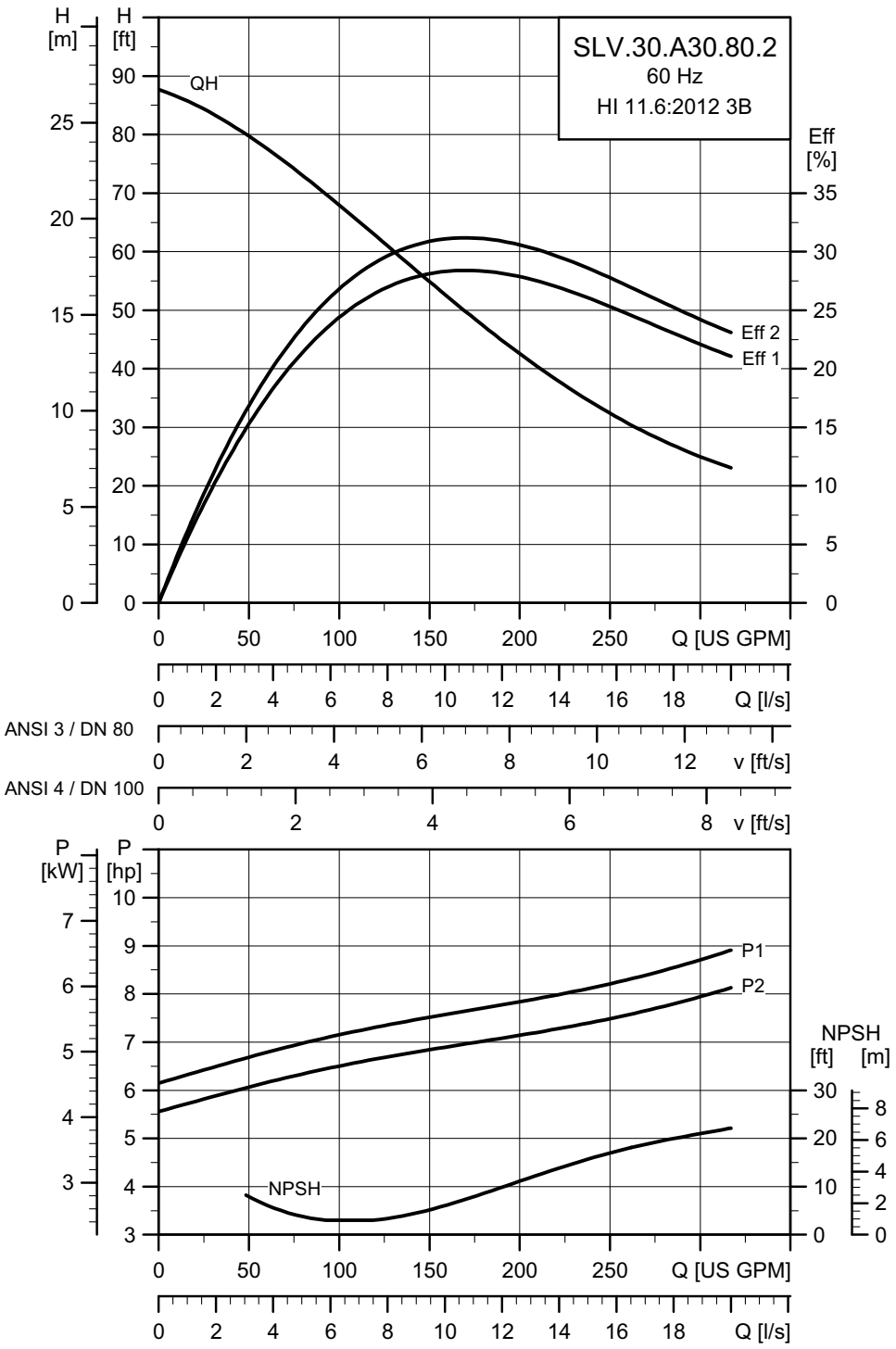
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N [A]	I_{start} [A]	η_{motor} [%] 1/2	3/4	1/1	Cos φ 1/2	3/4	1/1	SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
61J	3 x 208-230 V D	6.5 (4.8)	5.5 (4.0)	4	3535	Y/D	17.3 - 19.0	133	85.3	87.4	88.2	0.53	0.66	0.74	1.15	0.318 (0.0134)	83
	460 V Y						7.8	64	85.3	87.4	88.2	0.53	0.66	0.74			
61L	3 x 575 V D Y/D	6.5 (4.8)	5.5 (4.0)	4	3535	Y/D	6.3	51	85.3	87.4	88.2	0.53	0.66	0.74	1.15	0.318 (0.0134)	83

Pump data

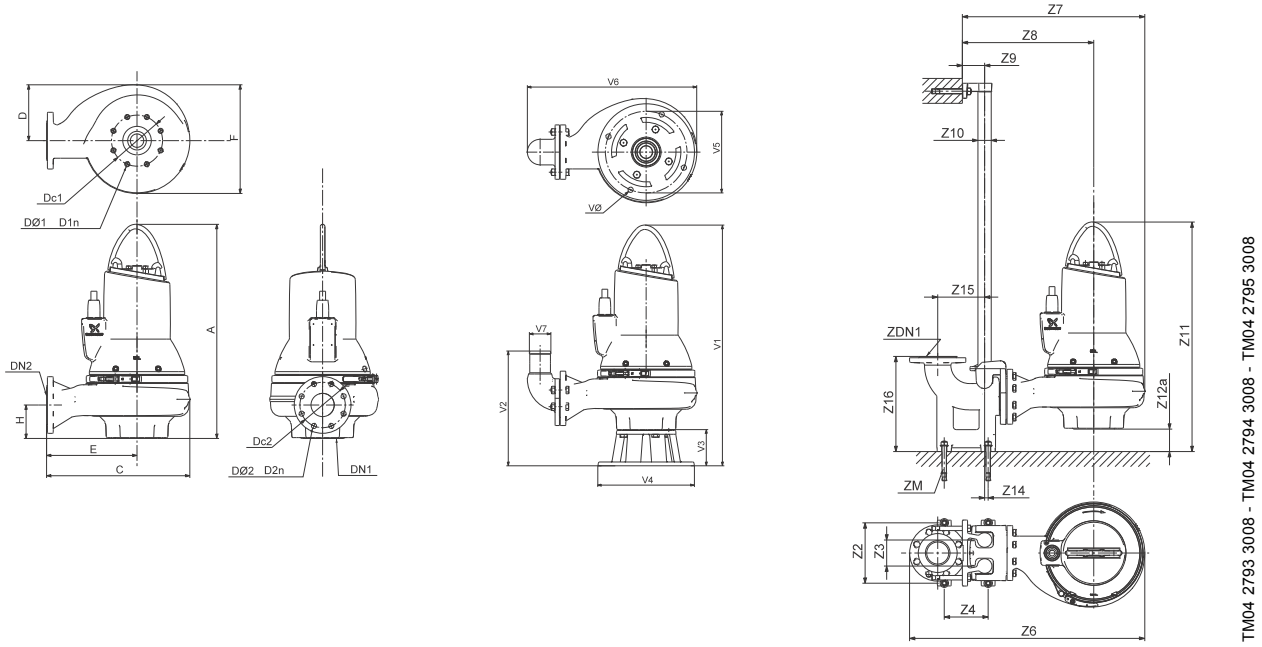
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A30.80.2.--.C



TM04 7261 1914

Dimensional sketches: SLV.30.A30.80.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.6	18.0	7.9	10.9	15.0	4.1	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	301.5 lb
[mm]	751	456	200	276	380	104	DN 80	153	8 x M16	DN 80	153	8 x 19.1	136.8 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	31.9	24.3	17.2	3.2	1.5	33.4	3.8	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	809	616	436	81	40	847	96	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.7	16.0	5.0	13.0	11.0	22.5	3.2	0.7
[mm]	879	406	128	330	280	572	80	18

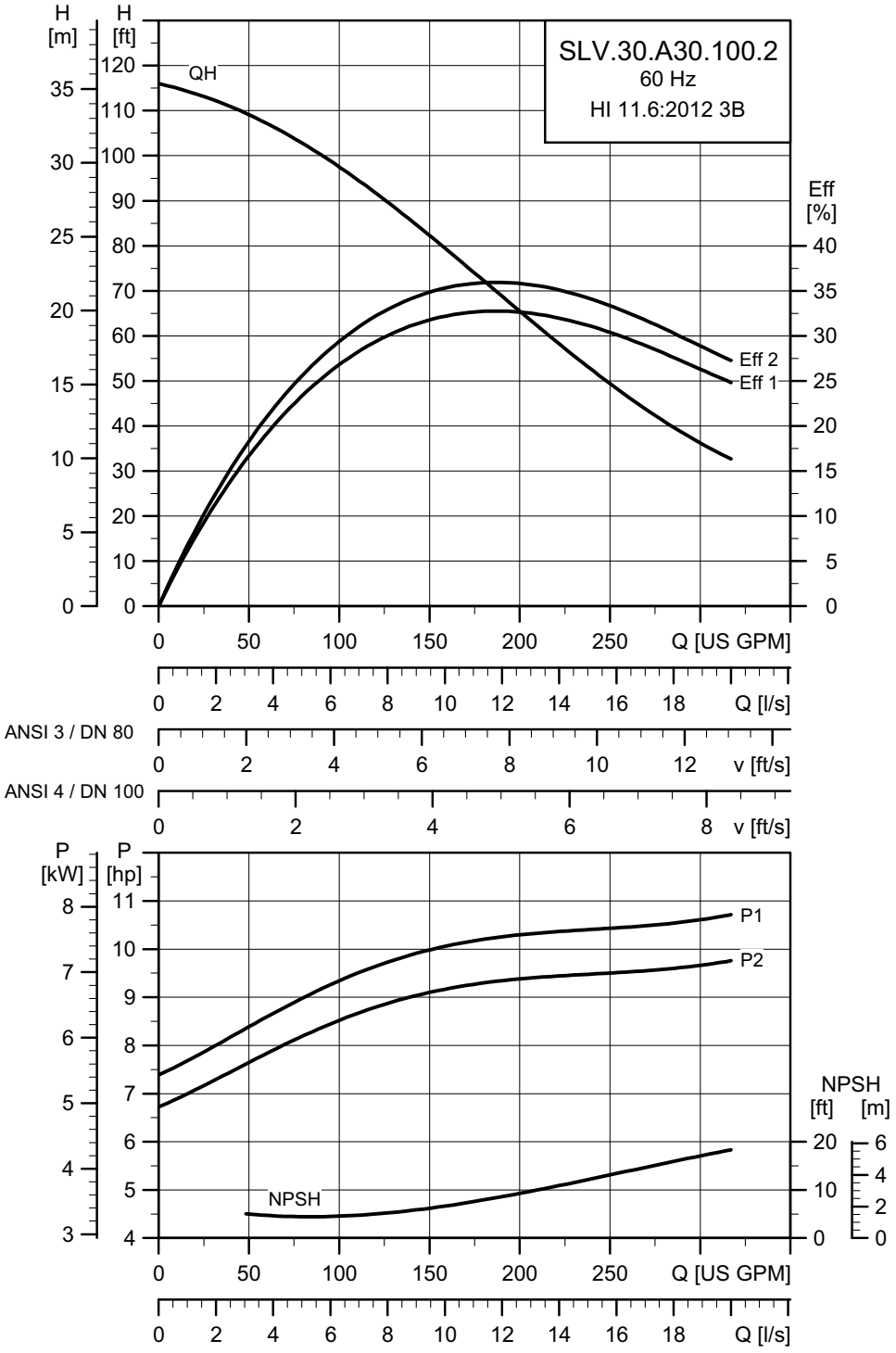
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	9.8 (7.2)	8.0 (6.0)	2	3549	DOL	22.9 - 21.9	215	89.5	89.7	90.2	0.70	0.79	0.83	1.15	0.318 (0.0134)	62.7 (85)
61R	3 x 230 V D/ 460 V Y	9.8 (7.2)	8.0 (6.0)	2	3549	Y/D	21.4	170	89.8	90.8	90.7	0.75	0.84	0.837	1.15	0.318 (0.0134)	36.9 (50)
61L	3 x 575 V D Y/D	9.8 (7.2)	8.0 (6.0)	2	3549	Y/D	8.3	82	89.5	89.7	90.2	0.70	0.79	0.83	1.15	0.318 (0.0134)	62.7 (85)

Pump data

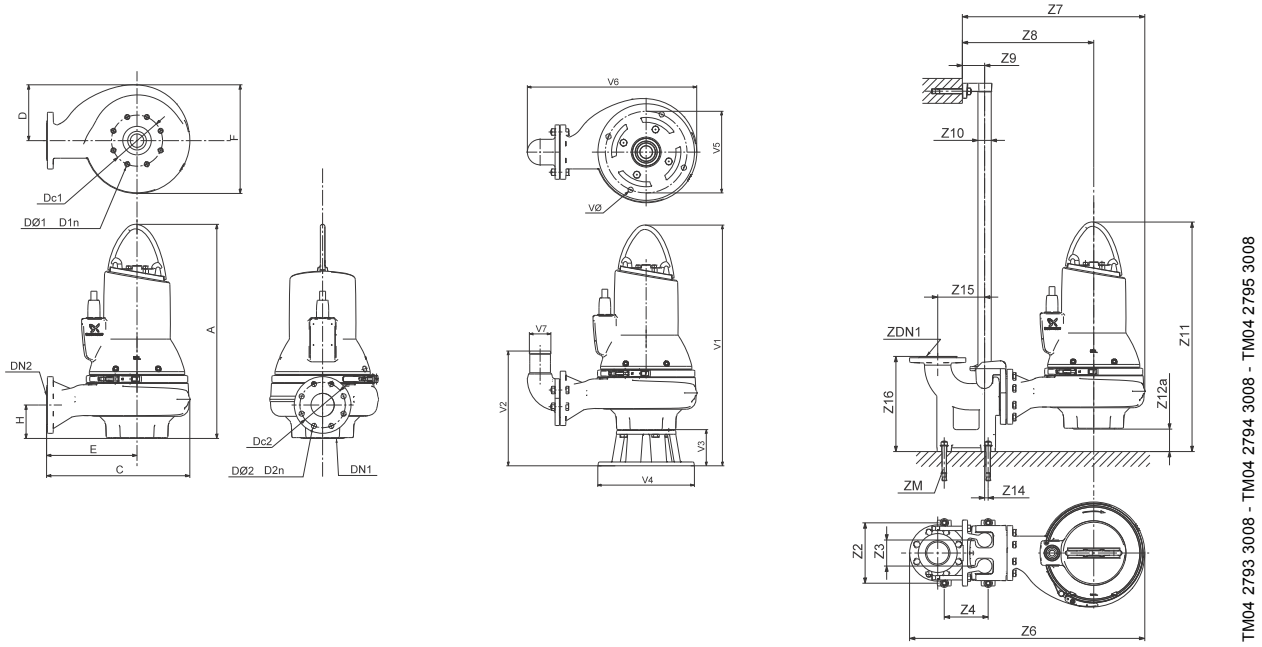
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A30.100.2.--.C



TM04 7262 1914

Dimensional sketches: SLV.30.A30.100.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.6	18.0	7.9	10.9	15.0	4.1	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	302.6 lb
[mm]	751	456	200	276	380	104	DN 80	153	8 x M16	DN 80	153	8 x 19.1	137.3 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	31.9	24.3	17.2	3.2	1.5	33.4	3.8	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	809	616	436	81	40	847	96	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.7	16.0	5.0	13.0	11.0	22.5	3.2	0.7
[mm]	879	406	128	330	280	572	80	18

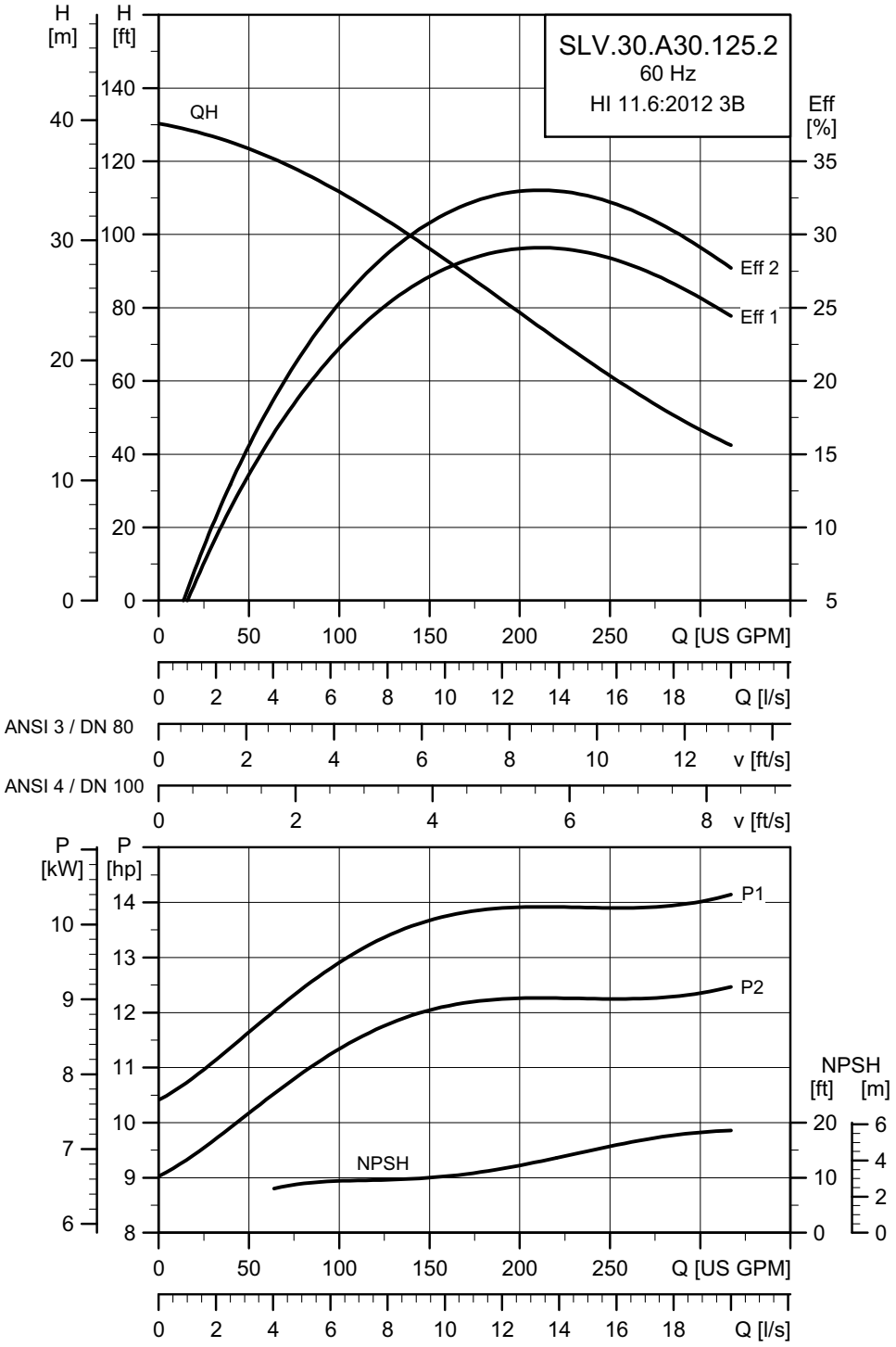
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	11.8 (8.7)	10.0 (7.5)	2	3533	DOL	27.6 - 26.3	215	90.3	90.8	90.1	0.74	0.82	0.86	1.15	0.346 (0.0146)	62.7 (85)
61R	3 x 230 V D/ 460 V Y	12.0 (8.8)	10.0 (7.5)	2	3533	Y/D	26.5	170	90.4	90.6	89.6	0.80	0.86	0.89	1.15	0.346 (0.0146)	36.9 (50)
61L	3 x 575 V D Y/D	12.0 (8.8)	10.0 (7.5)	2	3533	Y/D	10.0	82	90.3	90.8	90.1	0.74	0.82	0.86	1.15	0.346 (0.0146)	62.7 (85)

Pump data

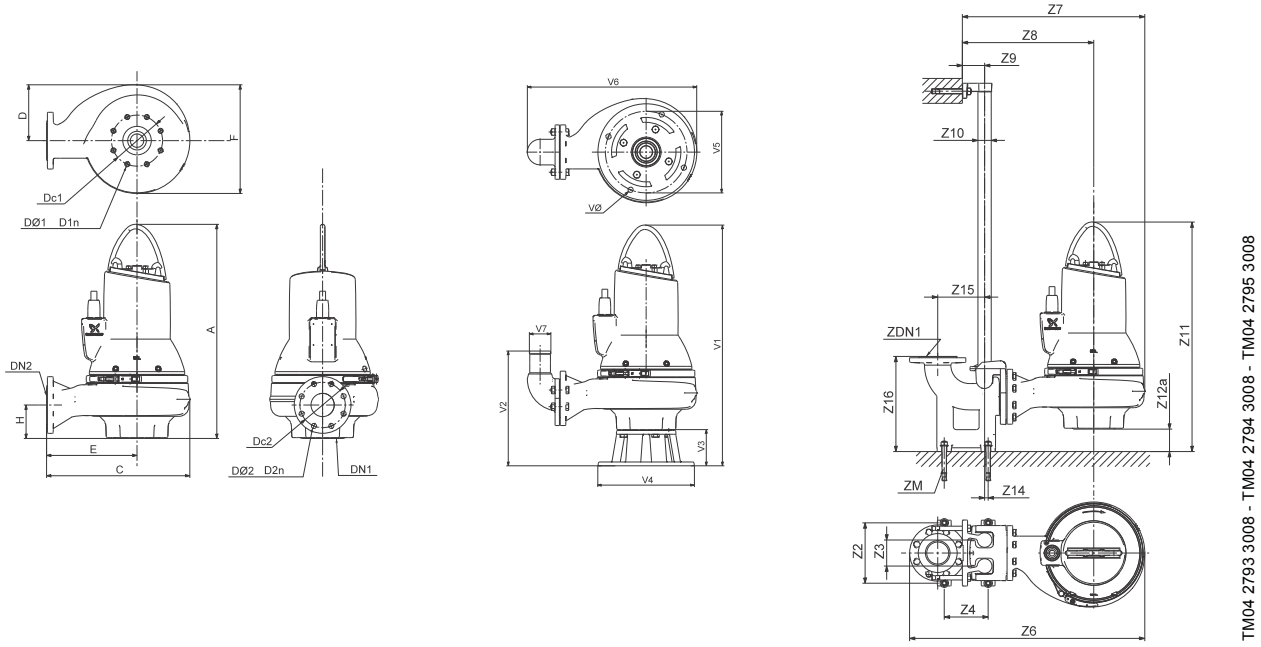
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A30.125.2.--.C



TM04 7263 1914

Dimensional sketches: SLV.30.A30.125.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	30.8	19.3	8.5	11.5	16.3	4.8	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	387.9 lb
[mm]	782	489	217	293	413	123	DN 80	153	8 x M16	DN 80	153	8 x 19.1	176 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	33.2	25.6	17.8	3.2	1.5	33.9	3.0	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	842	649	453	81	40	859	77	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	35.9	16.8	5.0	13.0	11.0	23.8	3.2	0.7
[mm]	910	425	128	330	280	605	80	18

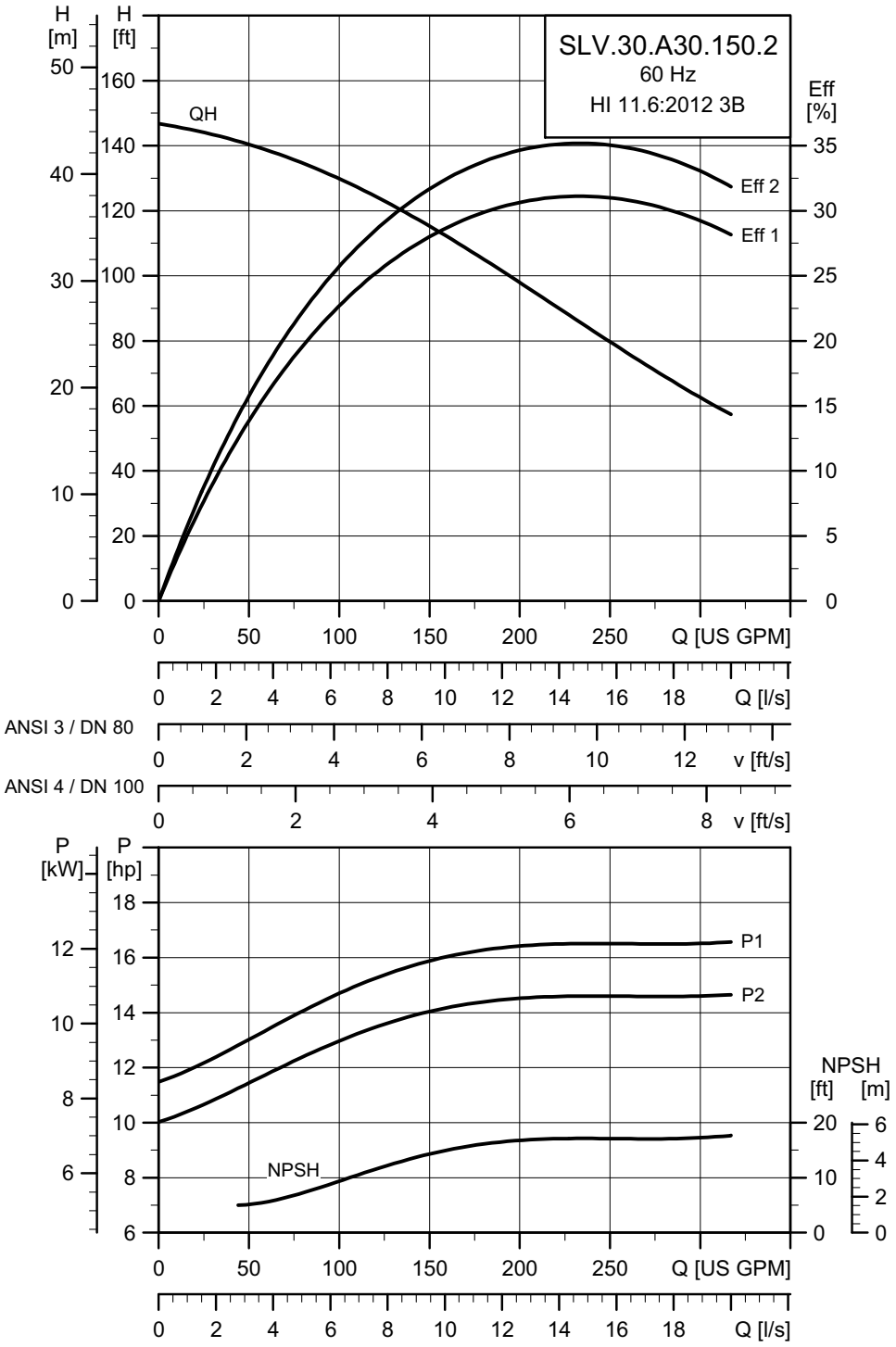
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	14.4 (10.6)	12.5 (9.2)	2	3551	DOL	31.7 - 31.7	308	91.6	91.6	91.7	0.65	0.78	0.82	1.15	0.323 (0.0136)	81.1 (110)
61R	3 x 230 V D/ 460 V Y	14.4 (10.6)	12.5 (9.2)	2	3551	Y/D	32.0	240	89.5	90.8	90.6	0.78	0.87	0.85	1.15	0.323 (0.0136)	81.1 (110)
61L	3 x 575 V D Y/D	14.4 (10.6)	12.5 (9.2)	2	3551	Y/D	11.5	118	91.6	91.6	91.7	0.65	0.78	0.82	1.15	0.323 (0.0136)	81.1 (110)

Pump data

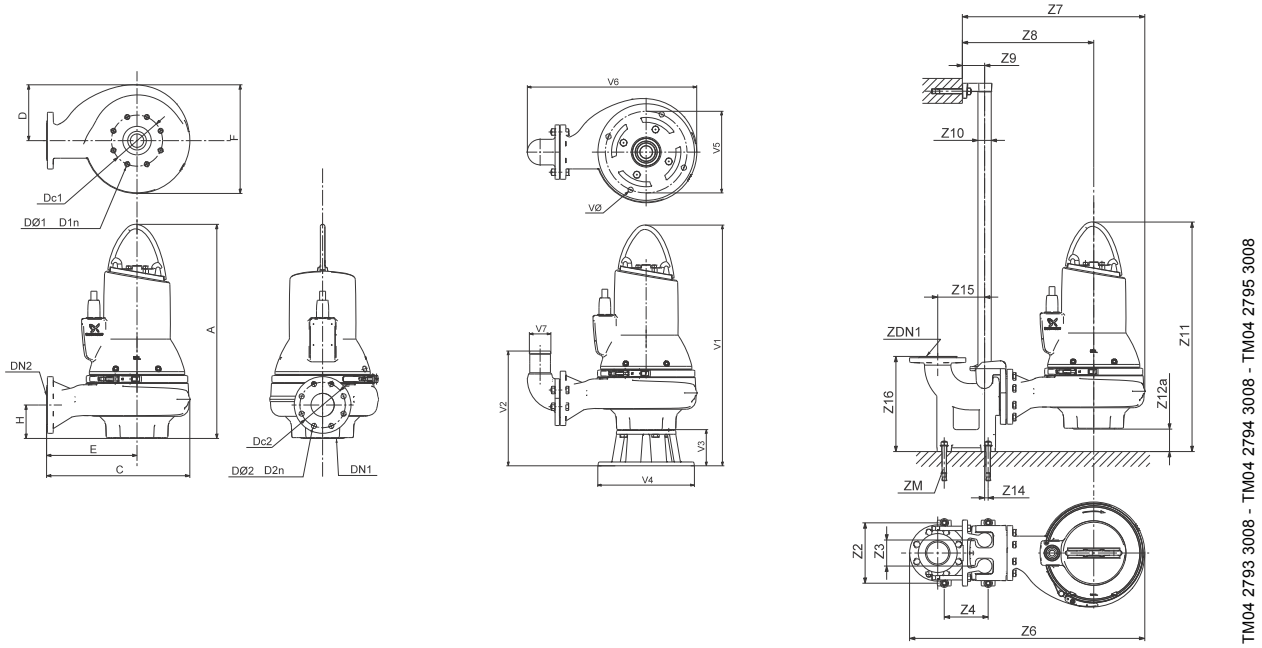
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A30.150.2.--.C



TM04 7264 1914

Dimensional sketches: SLV.30.A30.150.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	30.8	19.3	8.5	11.5	16.3	4.8	3.0	6.0	8 x M16	3.0	6.0	8 x 0.75	387.2 lb
[mm]	782	489	217	293	413	123	DN 80	153	8 x M16	DN 80	153	8 x 19.1	175.7 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	8.7	3.7	6.3	33.2	25.6	17.8	3.2	1.5	33.9	3.0	0.6	6.7	13.6	3.0	4 x M16
[mm]	220	95	160	842	649	453	81	40	859	77	13	171	345	80	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	35.9	16.8	5.0	13.0	11.0	23.8	3.2	0.7
[mm]	910	425	128	330	280	605	80	18

Electrical data

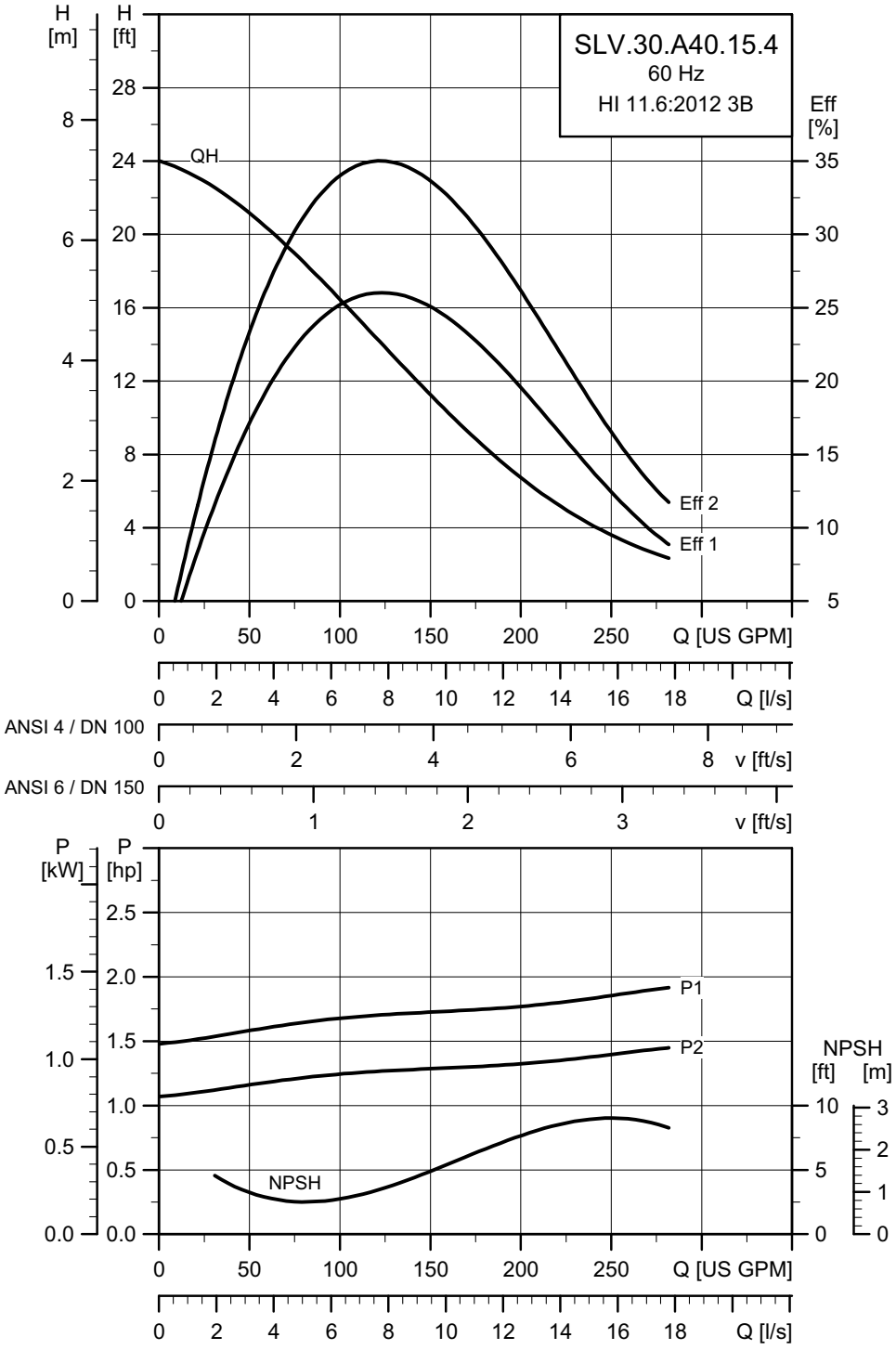
Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	17.0 (12.5)	15.0 (11.0)	2	3551	DOL	40.3 - 38.7	308	91.6	91.8	91.6	0.73	0.82	0.86	1.15	0.418 (0.0176)	81.1 (110)
61R	3 x 230 V D/ 460 V Y	17.1 (12.6	15.0 (11.0)	2	3551	Y/D	22.0	240	91.2	91.2	90.7	0.77	0.84	0.87	1.15	0.418 (0.0176)	45.7 (62)
61L	3 x 575 V D Y/D	17.1 (12.6)	15.0 (11.0)	2	3551	Y/D	14.6	118	91.6	91.8	91.6	0.73	0.82	0.86	1.15	0.418 (0.0176)	81.1 (110)

Pump data

Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

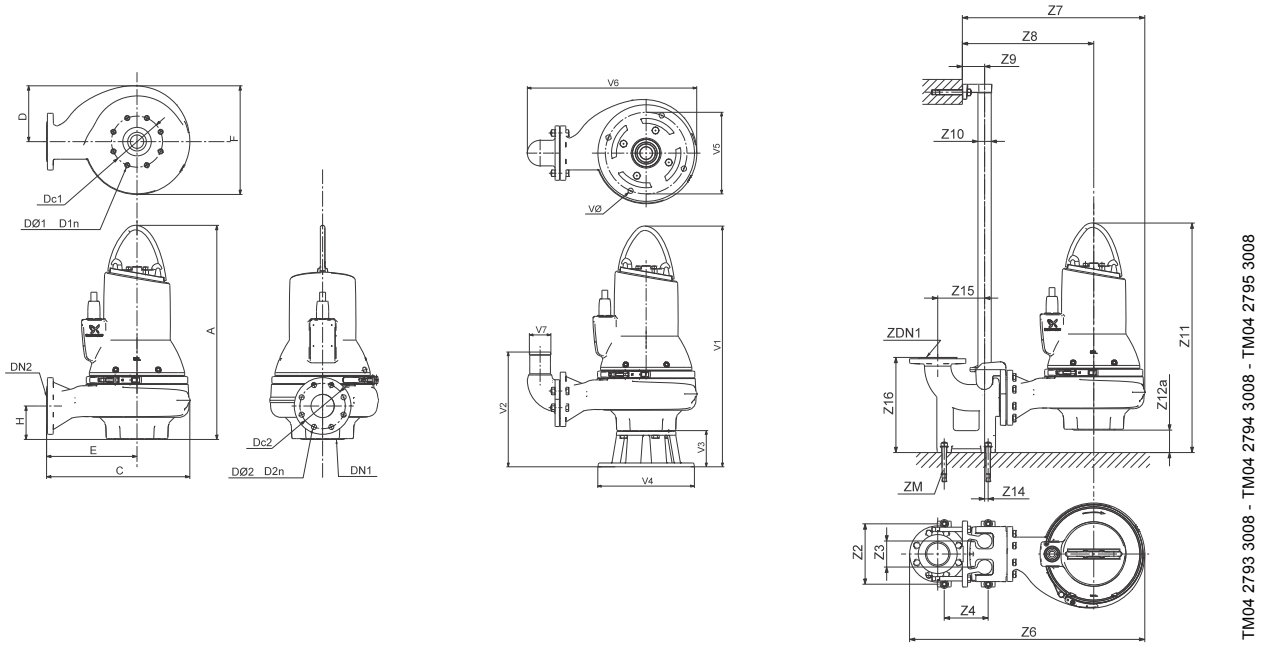
SLV.30.A40

Performance curves: SLV.30.A40.15.4.--.C



TM04 7260 1914

Dimensional sketches: SLV.30.A40.15.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.0	16.0	6.7	9.5	13.3	4.3	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	199.7 lb
[mm]	711	407	171	241	337	109	DN 80	153	8 x M16	DN 100	191	8 x 19.1	90.6 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	33.5	24.6	18.0	4.3	2.0	33.2	5.2	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	850	624	458	110	50	842	131	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.1	15.0	5.0	13.0	11.0	22.4	3.9	0.7
[mm]	839	381	128	330	280	570	100	18

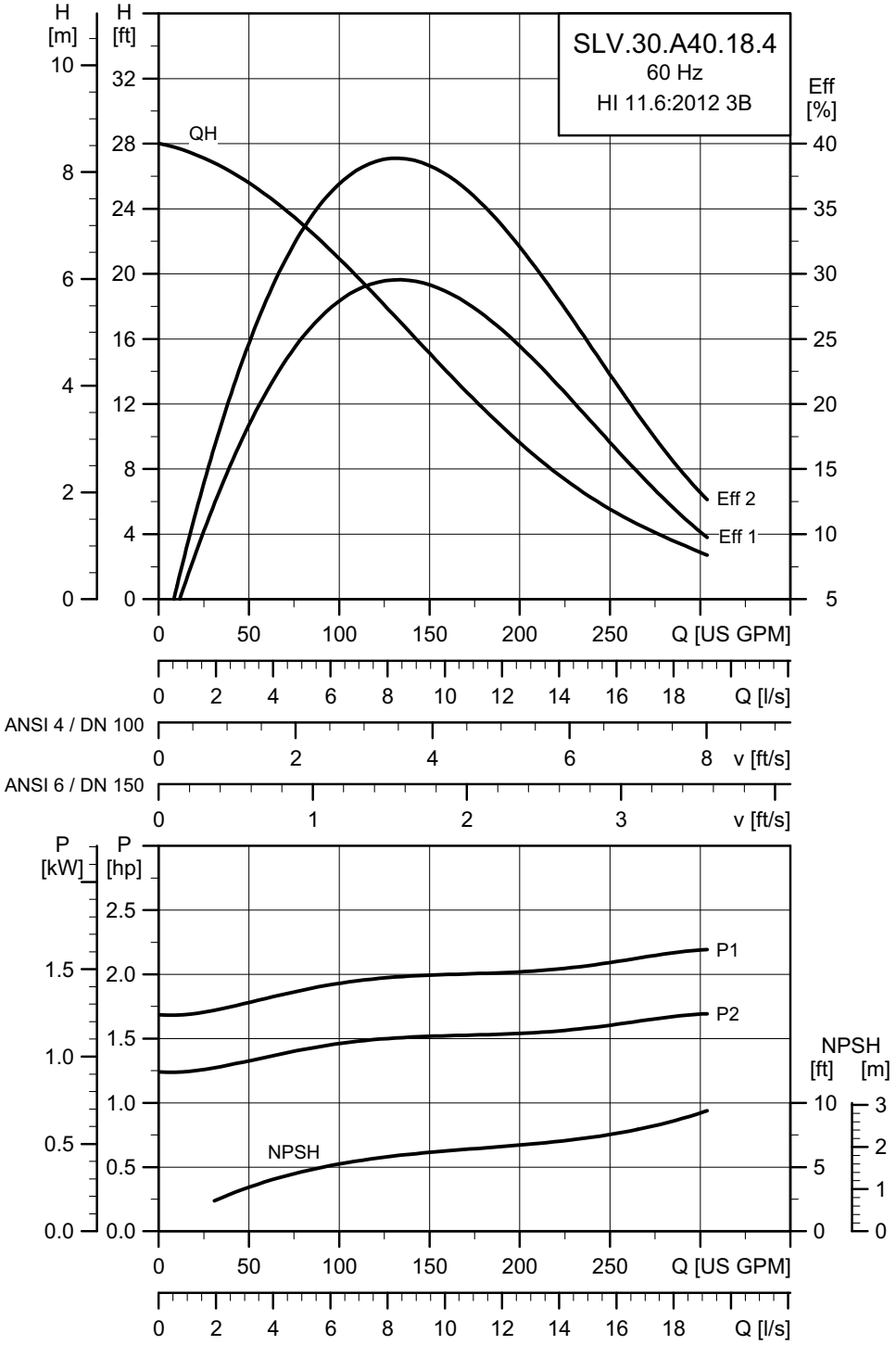
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D DOL	2.0 (1.5)	1.5 (1.1)	4	1754	DOL	5.4 - 5.9	33	81.0	84.2	84.6	0.52	0.65	0.72	1.15	2.176 (0.0917)	17.7 (24)
61R	3 x 230 V D/ 460 V Y	2.0 (1.5)	1.5 (1.1)	4	1754	Y/D	5.1	28	82.2	84.3	84.0	0.57	0.70	0.76	1.15	2.176 (0.0917)	14.8 (20
60L	3 x 575 V D DOL	2.0 (1.5)	1.5 (1.1)	4	1754	DOL	2.0	13	81.0	84.2	84.6	0.52	0.65	0.72	1.15	2.176 (0.0917)	17.7 (24)
61L	3 x 575 V D Y/D	2.0 (1.5)	1.5 (1.1)	4	1754	Y/D	2.0	13	81.0	84.2	84.6	0.52	0.65	0.72	1.15	2.176 (0.0917)	17.7 (24)

Pump data

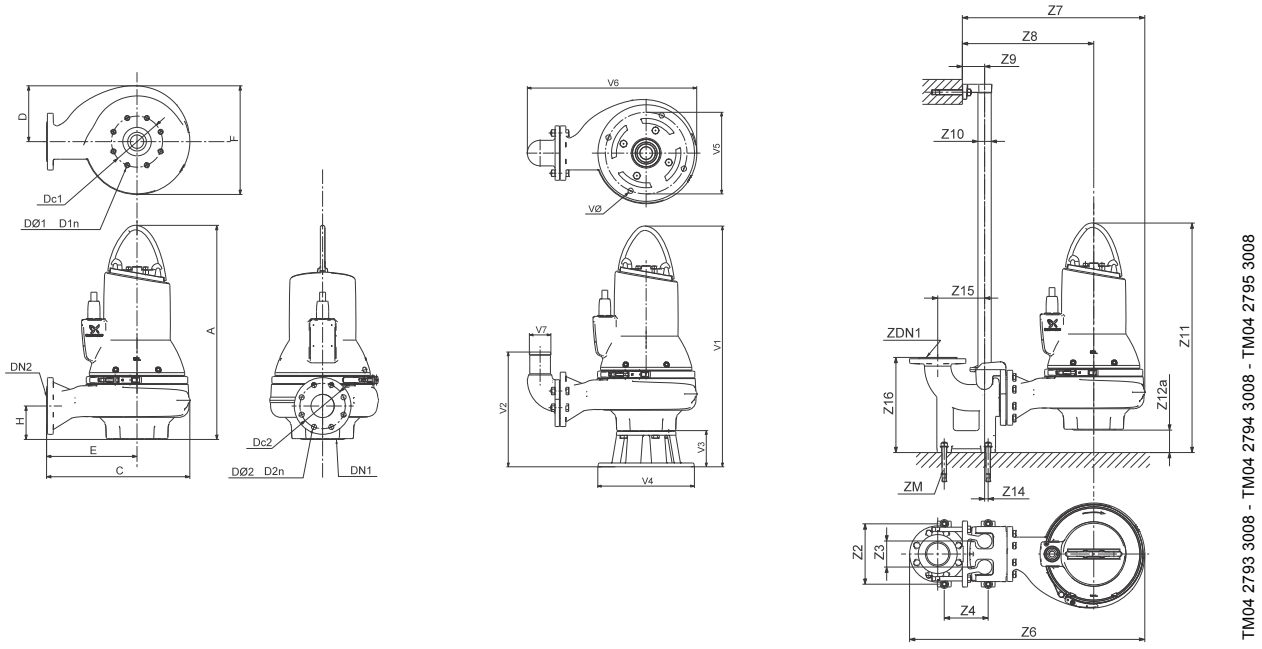
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A40.18.4.--.C



TM04 7266 1914

Dimensional sketches: SLV.30.A40.18.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.0	16.0	6.7	9.5	13.3	4.3	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	207.2 lb
[mm]	711	407	171	241	337	109	DN 80	153	8 x M16	DN 100	191	8 x 19.1	94 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	33.5	24.6	18.0	4.3	2.0	33.2	5.2	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	850	624	458	110	50	842	131	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.1	15.0	5.0	13.0	11.0	22.4	3.9	0.7
[mm]	839	381	128	330	280	570	100	18

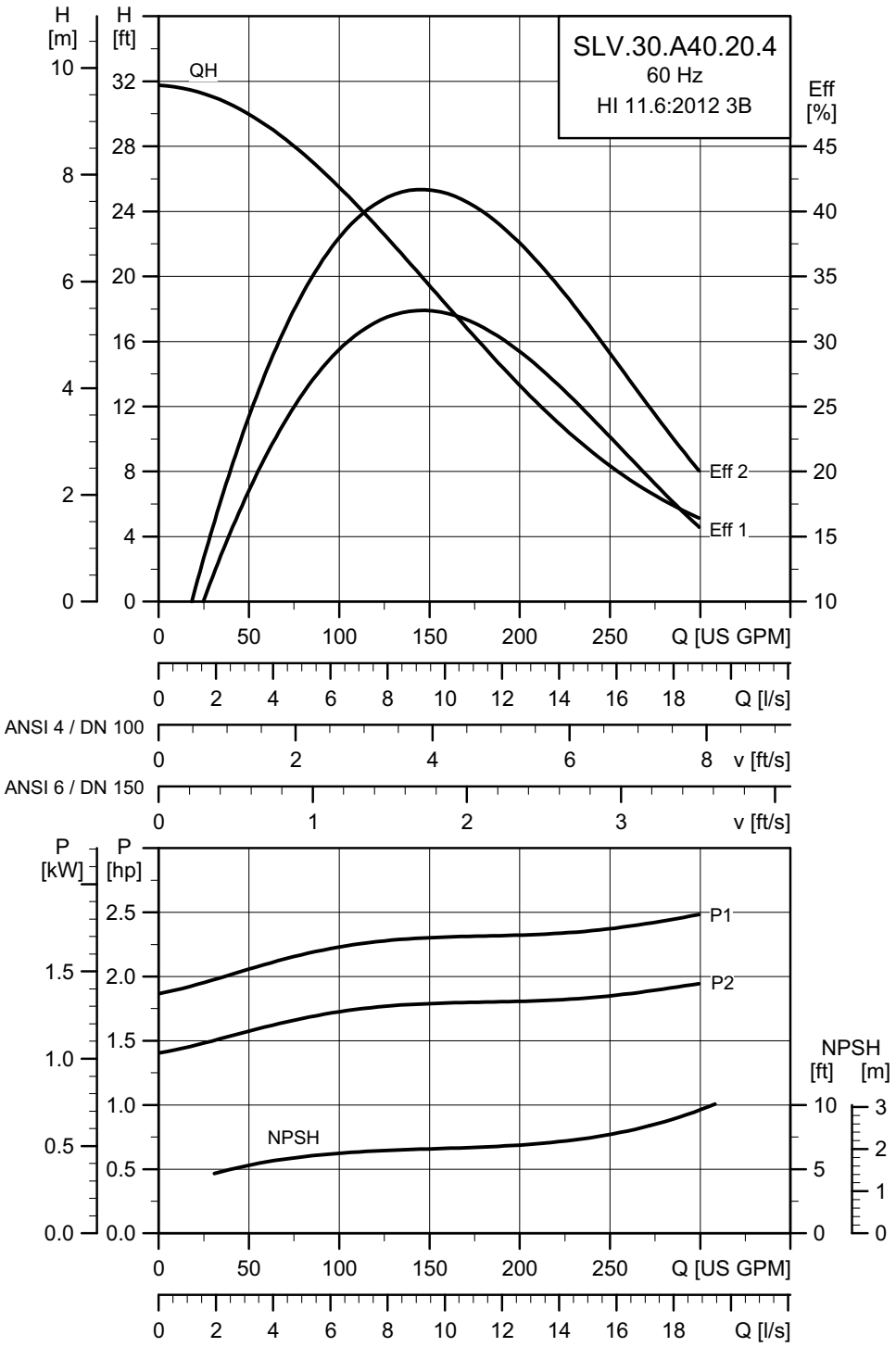
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D DOL	2.4 (1.8)	1.8 (1.3)	4	1753	DOL	7.0 - 7.7	53	82.0	85.2	86.0	0.30	0.39	0.46	1.15	2.485 (0.1047)	22.1 (30)
61R	3 x 230 V D/ 460 V Y	2.4 (1.8)	1.8 (1.3)	4	1753	Y/D	6.0	40	82.8	85.3	85.8	0.52	0.65	0.72	1.15	2.485 (0.1047)	18.4 (25)
60L	3 x 575 V D DOL	2.4 (1.8)	1.8 (1.3)	4	1753	DOL	2.5	20	82.0	85.2	86.0	0.30	0.39	0.46	1.15	2.485 (0.1047)	22.1 (30)
61L	3 x 575 V D Y/D	2.4 (1.8)	1.8 (1.3)	4	1753	Y/D	2.5	20	82.0	85.2	86.0	0.30	0.39	0.46	1.15	2.485 (0.1047)	22.1 (30)

Pump data

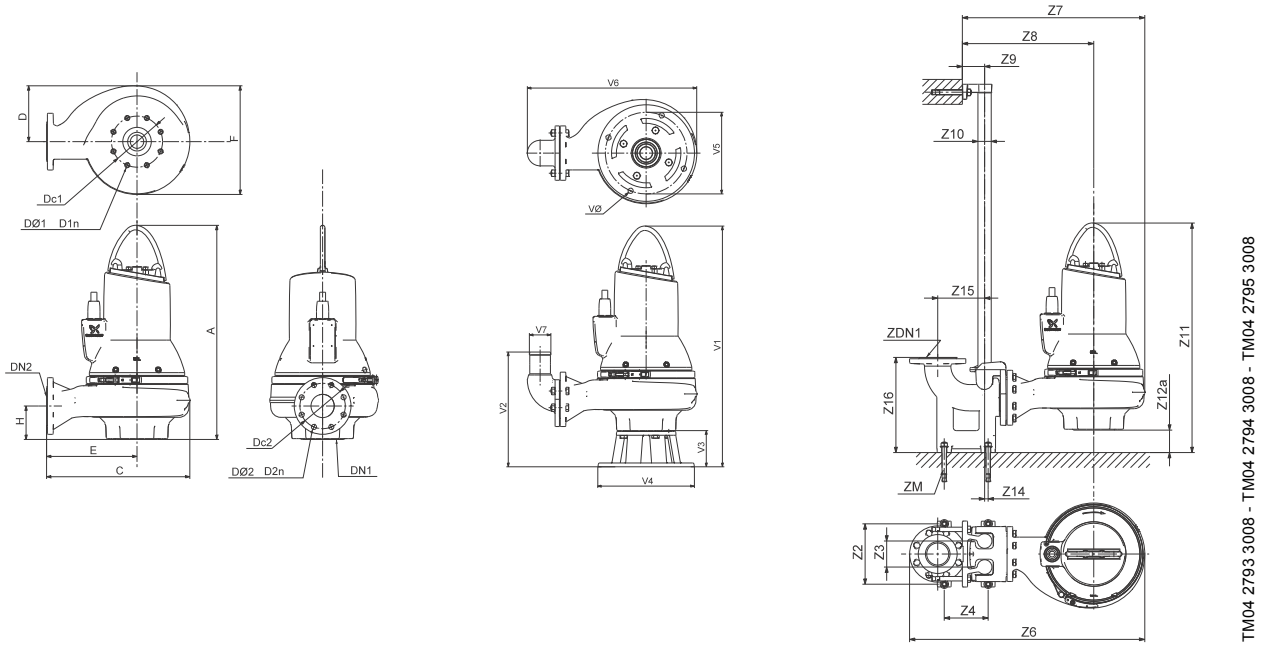
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A40.20.4.--.C



TM04 7267 1914

Dimensional sketches: SLV.30.A40.20.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.0	16.0	6.7	9.5	13.3	4.3	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	207.6 lb
[mm]	711	407	171	241	337	109	DN 80	153	8 x M16	DN 100	191	8 x 19.1	94.2 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	33.5	24.6	18.0	4.3	2.0	33.2	5.2	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	850	624	458	110	50	842	131	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.1	15.00	5.0	13.0	11.0	22.4	3.9	0.7
[mm]	839	381	128	330	280	570	100	18

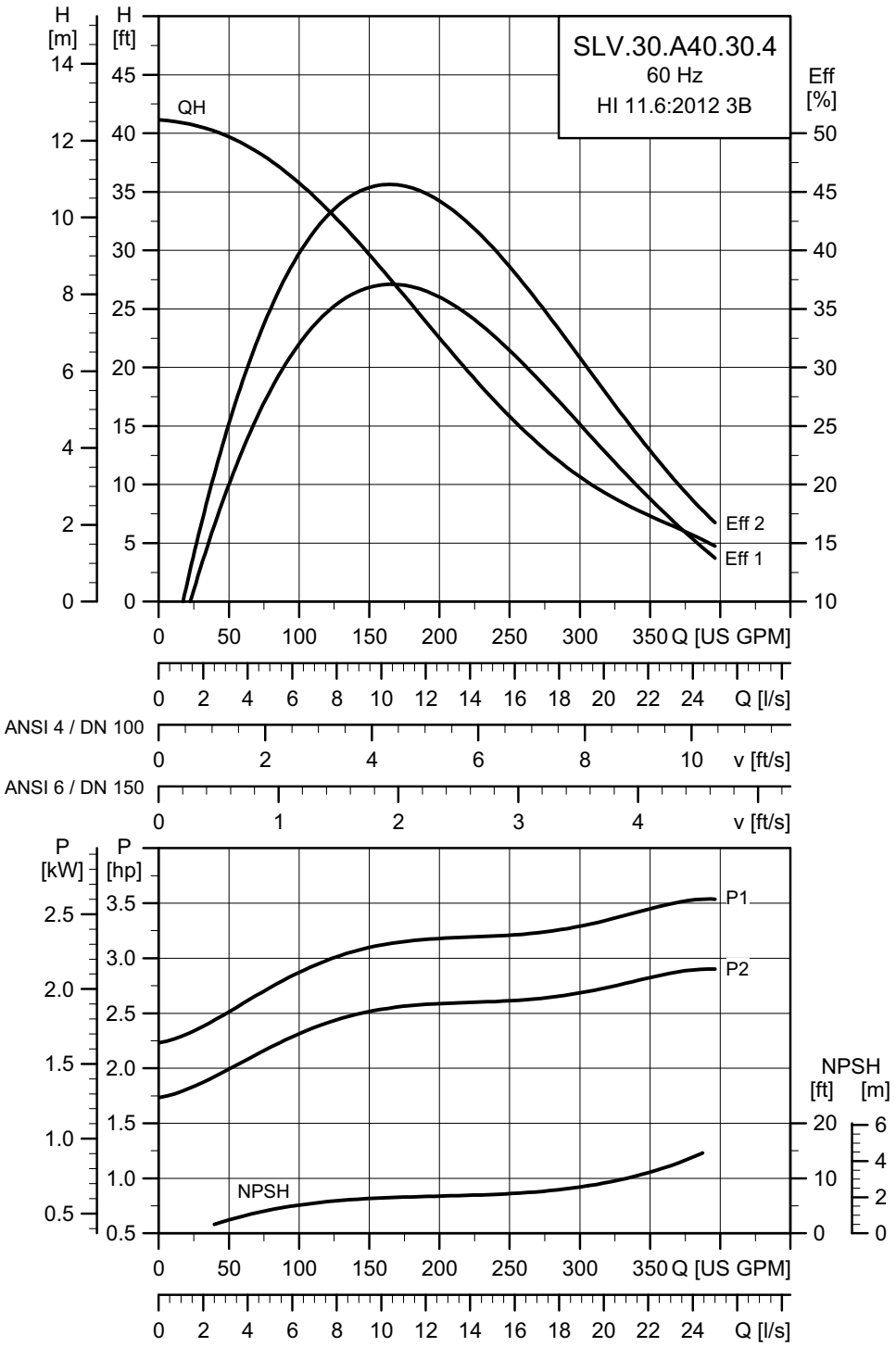
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D DOL	2.6 (1.9)	2.0 (1.5)	4	1753	DOL	7.1 - 7.9	53	83.3	85.7	86.0	0.51	0.63	0.72	1.15	2.485 (0.1047)	22.1 (30)
61R	3 x 230 V D/ 460 V Y	2.6 (1.9)	2.0 (1.5)	4	1753	Y/D	6.55	40	84.2	85.7	85.4	0.56	0.69	0.76	1.15	2.485 (0.1047)	18.4 (25)
60L	3 x 575 V D DOL	2.6 (1.9)	2.0 (1.5)	4	1753	DOL	2.6	20	83.3	85.7	86.0	0.51	0.63	0.72	1.15	2.485 (0.1047)	22.1 (30)
61L	3 x 575 V D Y/D	2.6 (1.9)	2.0 (1.5)	4	1753	Y/D	2.6	20	83.3	85.7	86.0	0.51	0.63	0.72	1.15	2.485 (0.1047)	22.1 (30)

Pump data

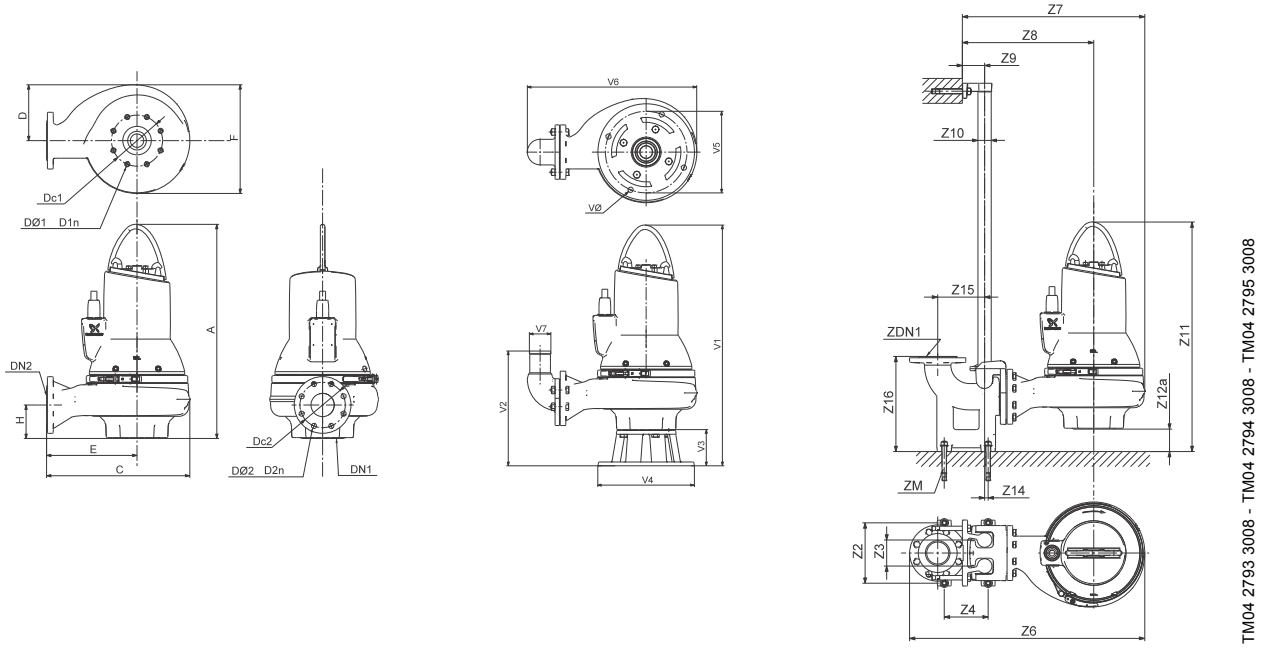
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A40.30.4.--.C



TM04 7268 1914

Dimensional sketches: SLV.30.A40.30.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	28.0	16.0	6.7	9.5	13.3	4.3	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	223.9 lb
[mm]	711	407	171	241	337	109	DN 80	153	8 x M16	DN 100	191	8 x 19.1	101.6 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	33.5	24.6	18.0	4.3	2.0	34	5.2	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	850	624	458	110	50	842	131	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	33.1	15.0	5.0	13.0	11.0	22.4	3.9	0.7
[mm]	839	381	128	330	280	570	100	18

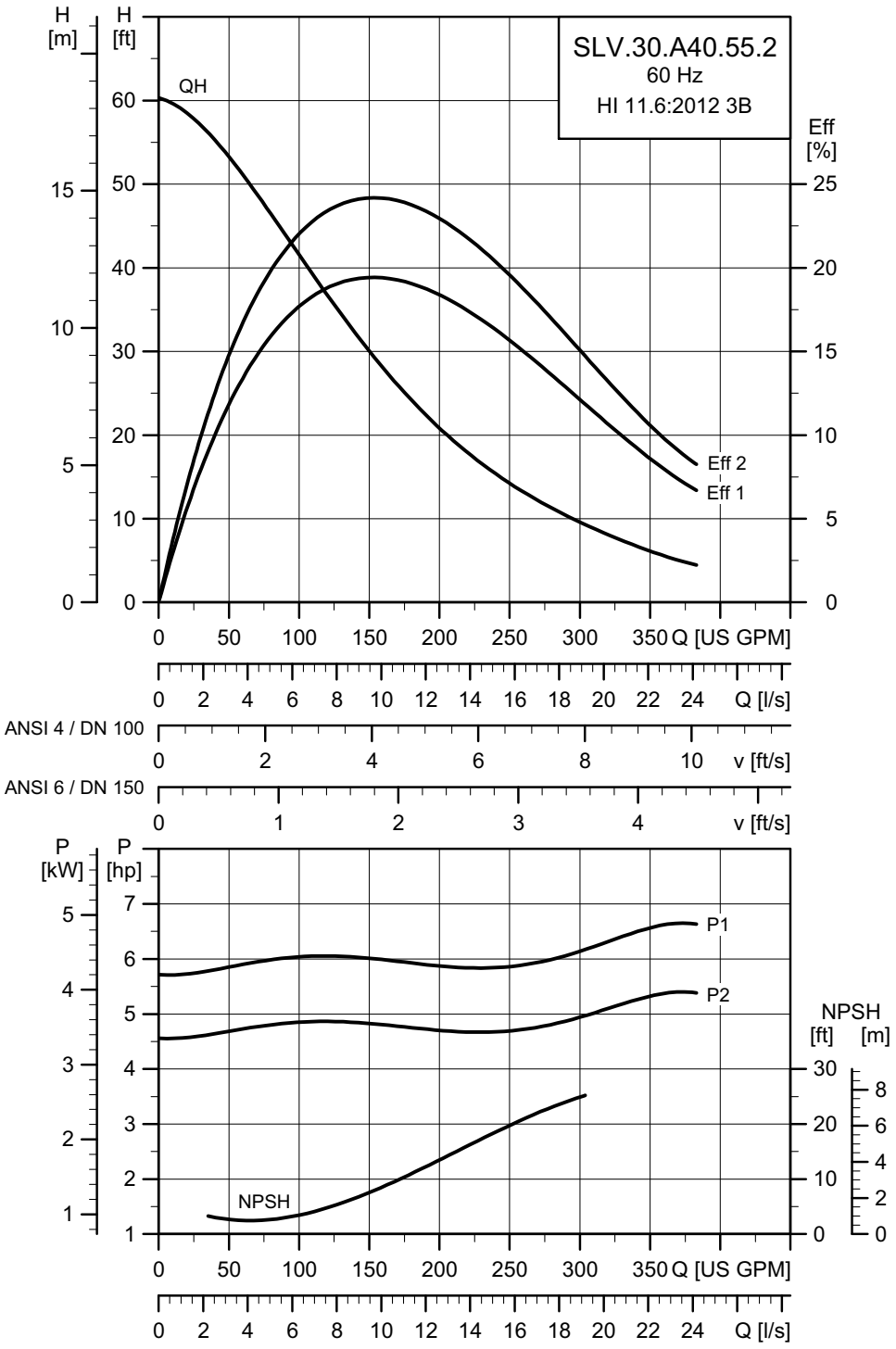
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	3.7 (2.7)	3.0 (2.2)	4	1763	DOL	9.8 - 10.6	70	84.7	86.6	87.0	0.59	0.70	0.76	1.15	1.369 (0.0577)	26.6 (36)
61R	3 x 230 V D/ 460 V Y	3.7 (2.7)	3.0 (2.2)	4	1763	Y/D	8.95	40	85.5	86.6	86.3	0.65	0.75	0.80	1.15	1.369 (0.0577)	26.6 (36)
61L	3 x 575 V D Y/D	3.7 (2.7)	3.0 (2.2)	4	1763	Y/D	3.5	27	84.7	86.6	87.0	0.59	0.70	0.76	1.15	1.369 (0.0577)	26.6 (36)

Pump data

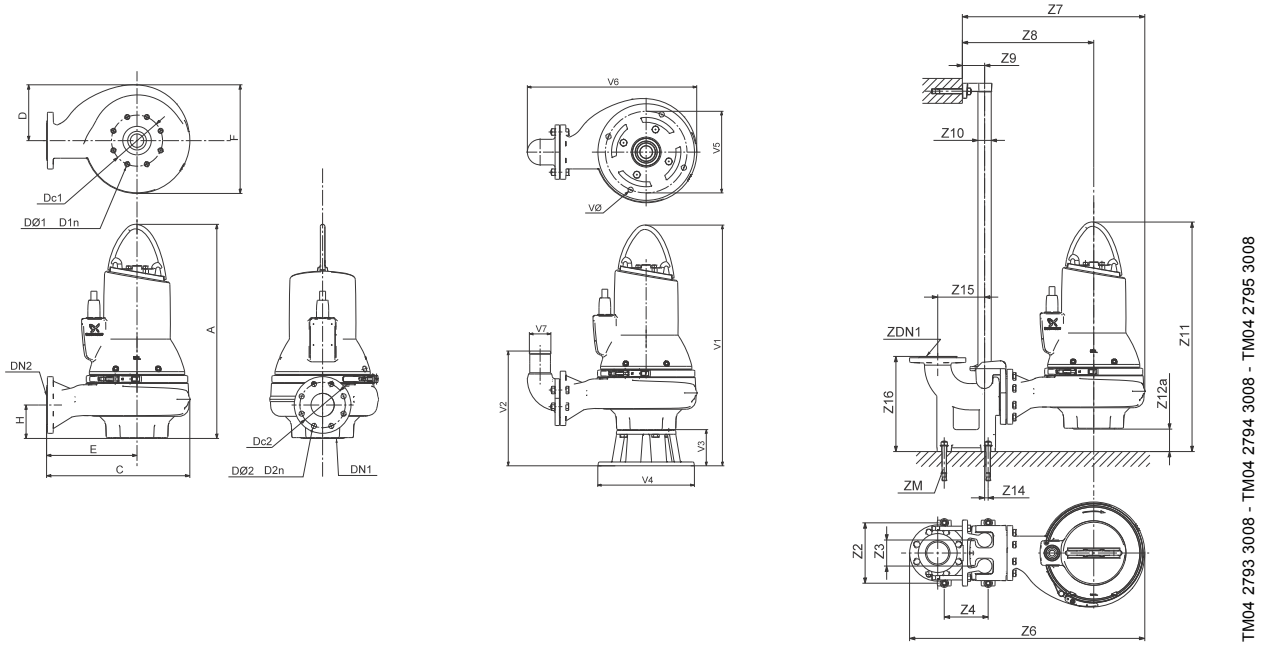
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A40.55.2.--.C



TM04 7269 1914

Dimensional sketches: SLV.30.A40.55.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.3	18.4	7.9	11.3	15.0	4.1	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	272.9 lb
[mm]	744	466	200	286	380	104	DN 80	153	8 x M16	DN 100	191	8 x 19.1	123.8 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	35.8	26.9	19.8	4.3	2.0	34.7	5.4	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	909	683	503	110	50	880	136	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.4	14.8	5.0	13.0	11.0	24.8	3.9	0.7
[mm]	872	376	128	330	280	629	100	18

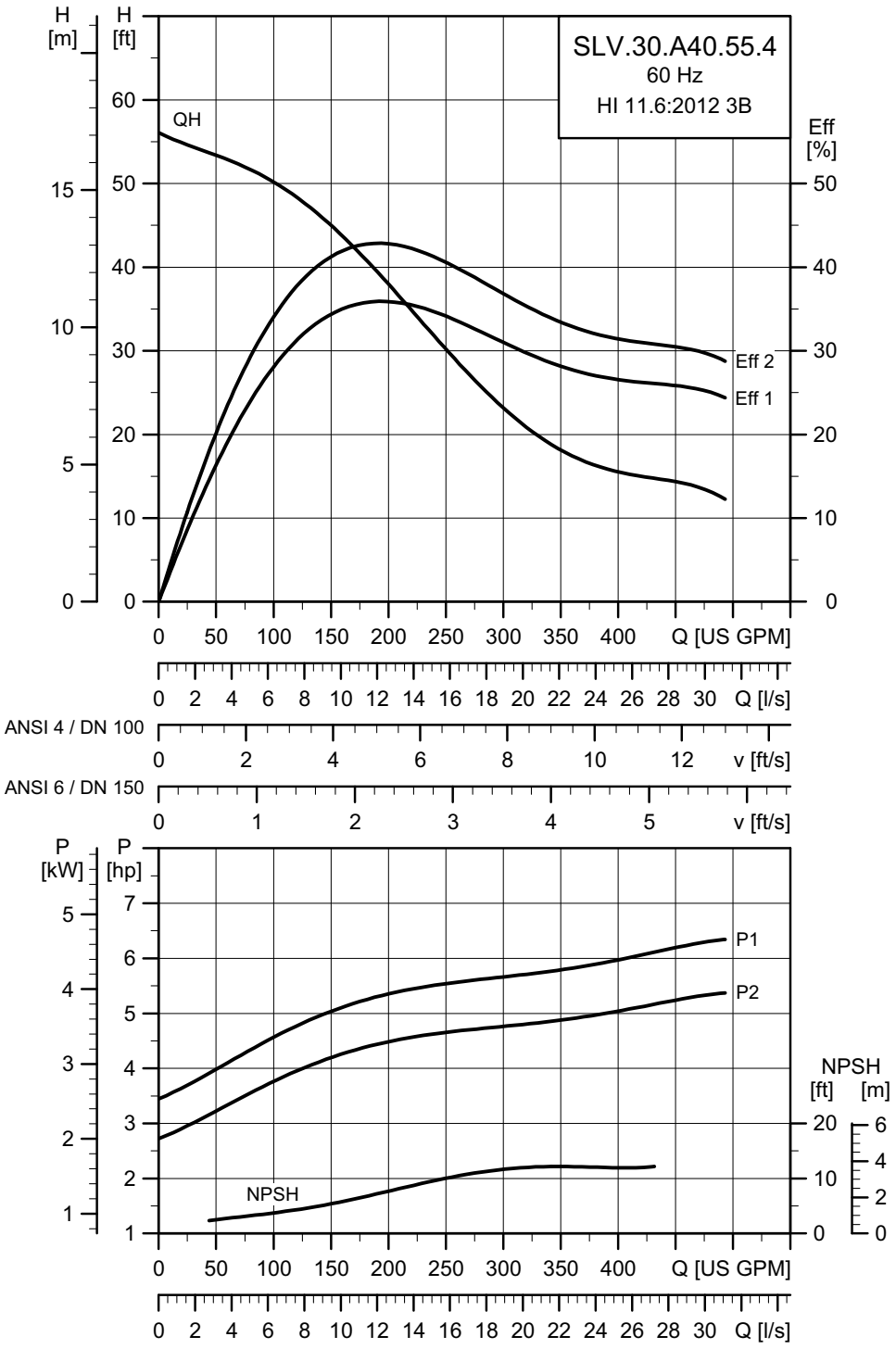
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N [A]	I_{start} [A]	η_{motor} [%] 1/2	3/4	1/1	Cos φ 1/2	3/4	1/1	SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
61J	3 x 208-230 V D	6.7 (5.0)	5.5 (4.0)	2	1767	Y/D	15.2 - 14.7	166	82.0	85.0	86.0	0.76	0.84	0.88	1.15	3.097 (0.1305)	56
	460 V Y						6.8	79	82.0	85.0	86.0	0.76	0.84	0.88			
61L	3 x 575 V D Y/D	6.8 (5.0)	5.5 (4.0)	2	1767	Y/D	5.5	64	82.0	85.0	86.0	0.76	0.84	0.88	1.15	3.097 (0.1305)	56

Pump data

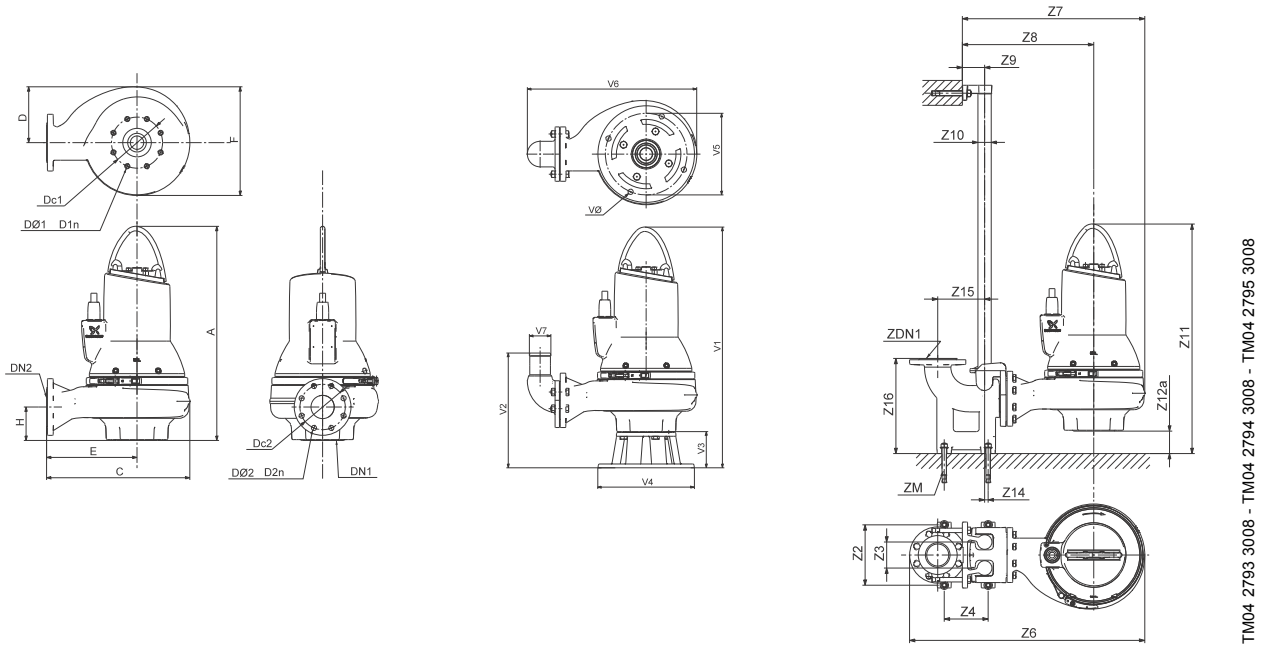
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A40.55.4.--.C



TM04 7270 1914

Dimensional sketches: SLV.30.A40.55.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.5	18.0	7.9	10.5	15.4	4.3	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	288.3
[mm]	748	458	200	267	391	109	DN 80	153	8 x M16	DN 100	191	8 x 19.1	130.8

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	35.5	26.6	19.1	4.3	2.0	34.7	5.2	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	901	675	484	110	50	879	131	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.5	145.0	5.0	13.0	11.0	24.4	3.9	0.7
[mm]	876	381	128	330	280	621	100	18

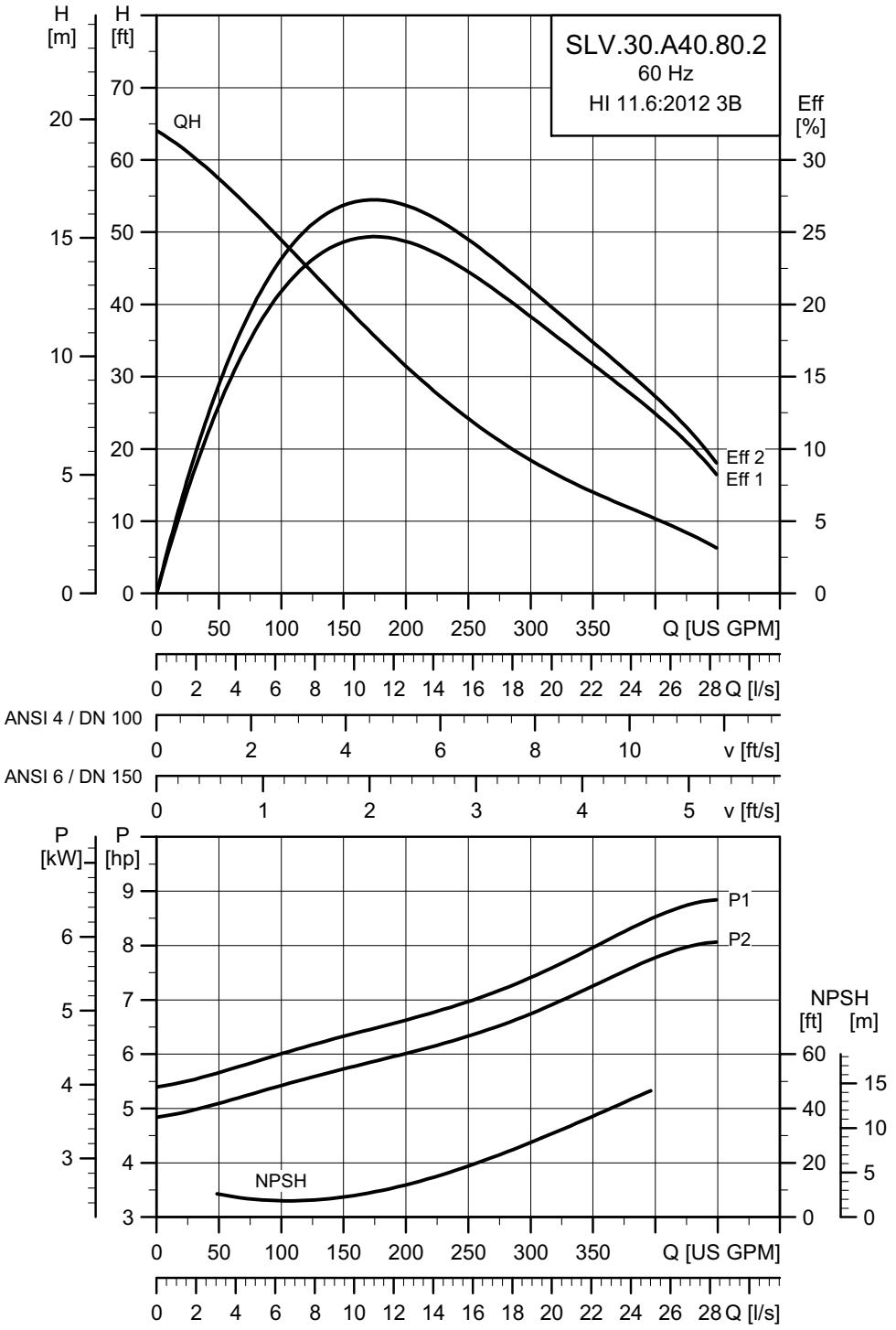
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.5 (4.8)	5.5 (4.0)	4	3535	DOL	17.3 - 19.0	133	85.3	87.4	88.2	0.53	0.66	0.74	1.15	0.346 (0.0146)	61.2 (83)
61R	3 x 230 V D/ 460 V Y	6.5 (4.8)	5.5 (4.0)	4	3535	Y/D	16.2	120	86.2	87.8	87.8	0.59	0.70	0.78	1.15	0.346 (0.0146)	48.7 (66)
61L	3 x 575 V D Y/D	6.5 (4.8)	5.5 (4.0)	4	3535	Y/D	6.3	51	85.3	87.4	88.2	0.53	0.66	0.74	1.15	0.346 (0.0146)	61.2 (83)

Pump data

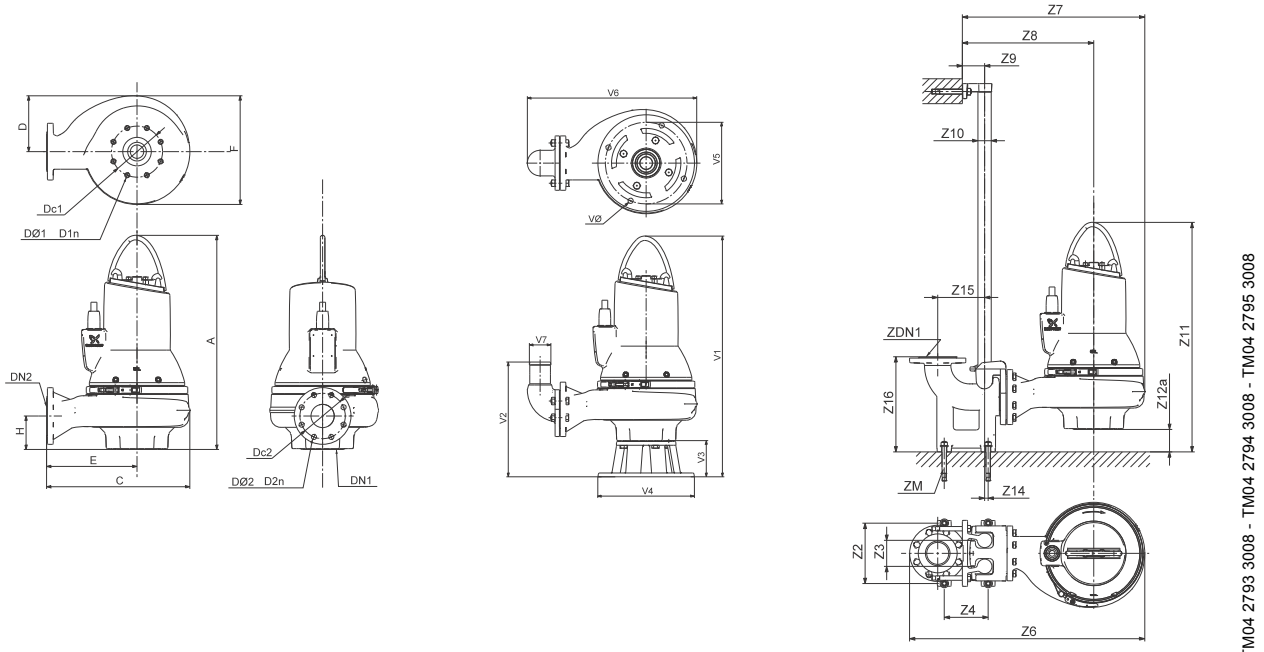
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A40.80.2.--.C



TM04 7271 1914

Dimensional sketches: SLV.30.A40.80.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.6	18.4	7.9	11.3	15.0	4.1	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	306.1 lb
[mm]	751	466	200	286	380	104	DN 80	153	8 x M16	DN 100	191	8 x 19.1	138.9 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	35.8	26.9	19.8	4.3	2.0	35.0	5.4	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	909	683	503	110	50	887	136	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.7	14.8	5.0	13.0	11.0	24.8	3.9	0.7
[mm]	879	376	128	330	280	629	100	18

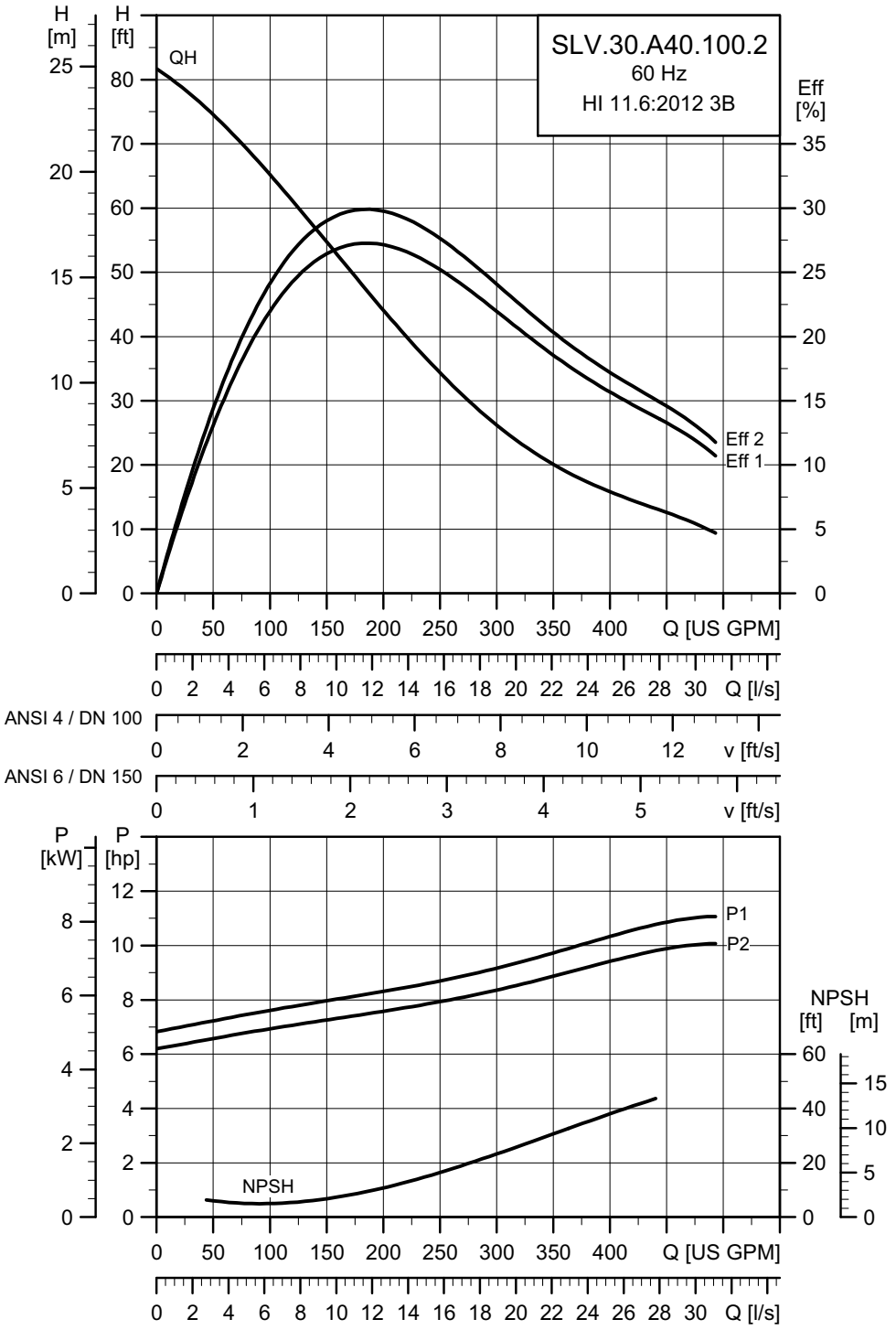
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	9.8 (7.2)	8.0 (6.0)	2	3549	DOL	22.9 - 21.9	215	89.5	89.7	90.2	0.70	0.79	0.83	1.15	0.638 (0.0269)	62.7 (85)
61R	3 x 230 V D/ 460 V Y	9.8 (7.2)	8.0 (6.0)	2	3549	Y/D	21.4	170	89.8	90.8	90.7	0.75	0.84	0.87	1.15	0.638 (0.0269)	36.9 (50)
61L	3 x 575 V D Y/D	9.8 (7.2)	8.0 (6.0)	2	3549	Y/D	8.3	82	89.5	89.7	90.2	0.70	0.79	0.83	1.15	0.638 (0.0269)	62.7 (85)

Pump data

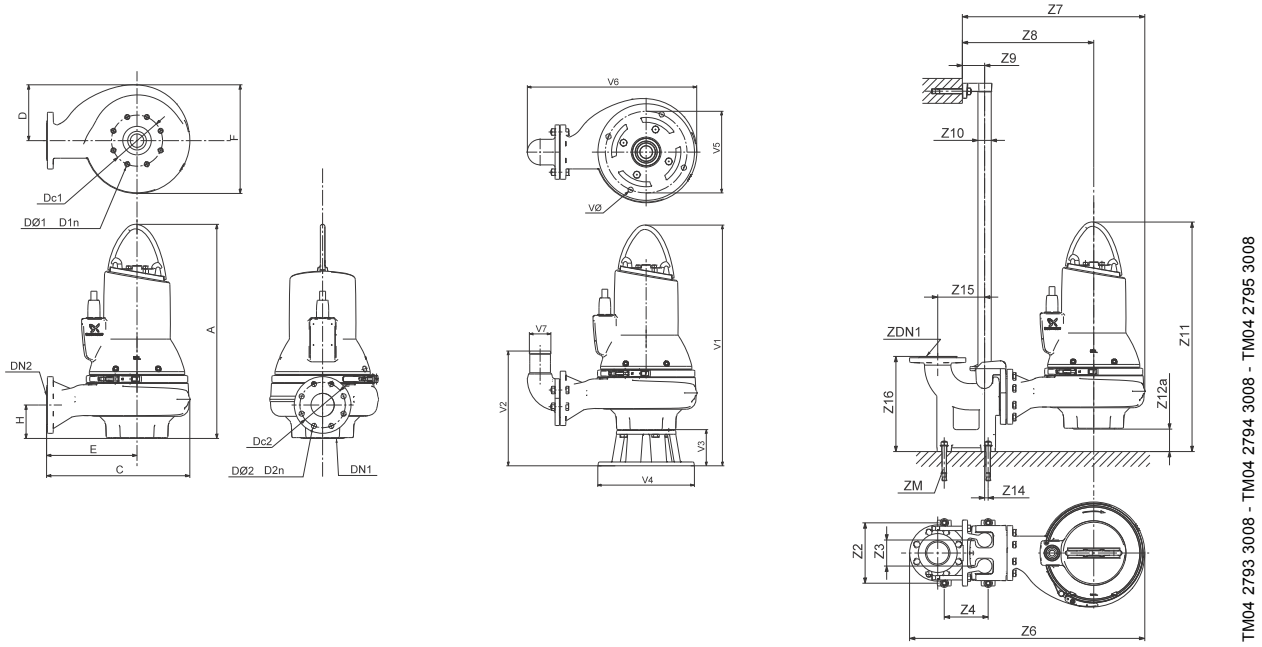
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A40.100.2.--.C



TM04 7272 1914

Dimensional sketches: SLV.30.A40.100.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.6	18.4	7.9	11.3	15.0	4.1	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	307.2 lb
[mm]	751	466	200	286	380	104	DN 80	153	8 x M16	DN 100	191	8 x 19.1	139.4 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	35.8	26.9	19.8	4.3	2.0	35.0	5.4	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	909	683	503	110	50	887	136	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.7	14.8	5.0	13.0	11.0	24.8	3.9	0.7
[mm]	879	376	128	330	280	629	100	18

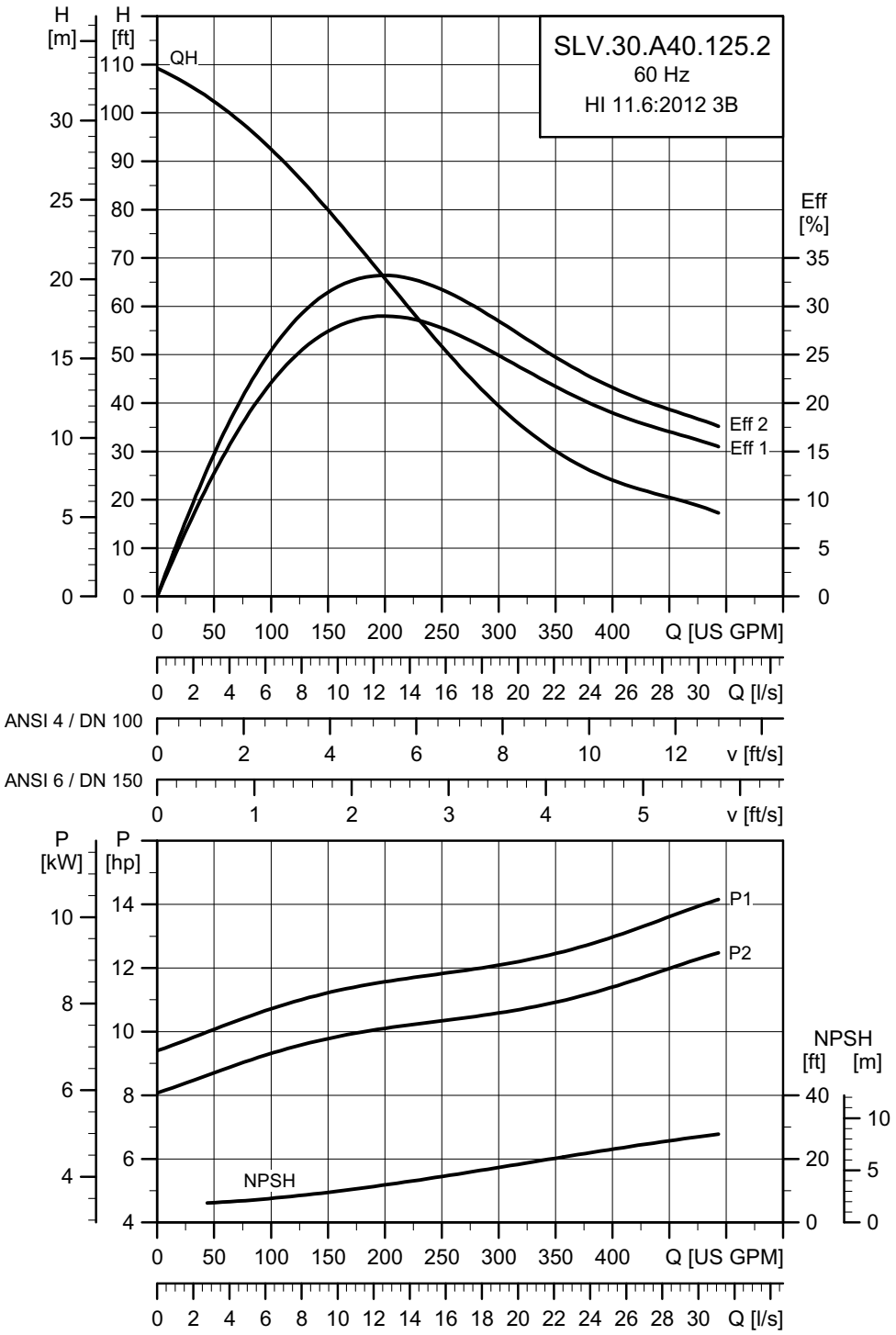
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	11.8 (8.7)	10.0 (7.5)	2	3533	DOL	27.6 - 26.3	215	90.3	90.8	90.1	0.74	0.82	0.86	1.15	0.589 (0.0248)	62.7 (85)
61R	3 x 230 V D/ 460 V Y	12.0 (8.8)	10.0 (7.5)	2	3533	Y/D	26.5	170	90.4	90.6	89.6	0.80	0.86	0.89	1.15	0.589 (0.0248)	36.9 (50
61L	3 x 575 V D Y/D	12.0 (8.8)	10.0 (7.5)	2	3533	Y/D	10.0	82	90.3	90.8	90.1	0.74	0.82	0.86	1.15	0.589 (0.0248)	62.7 (85)

Pump data

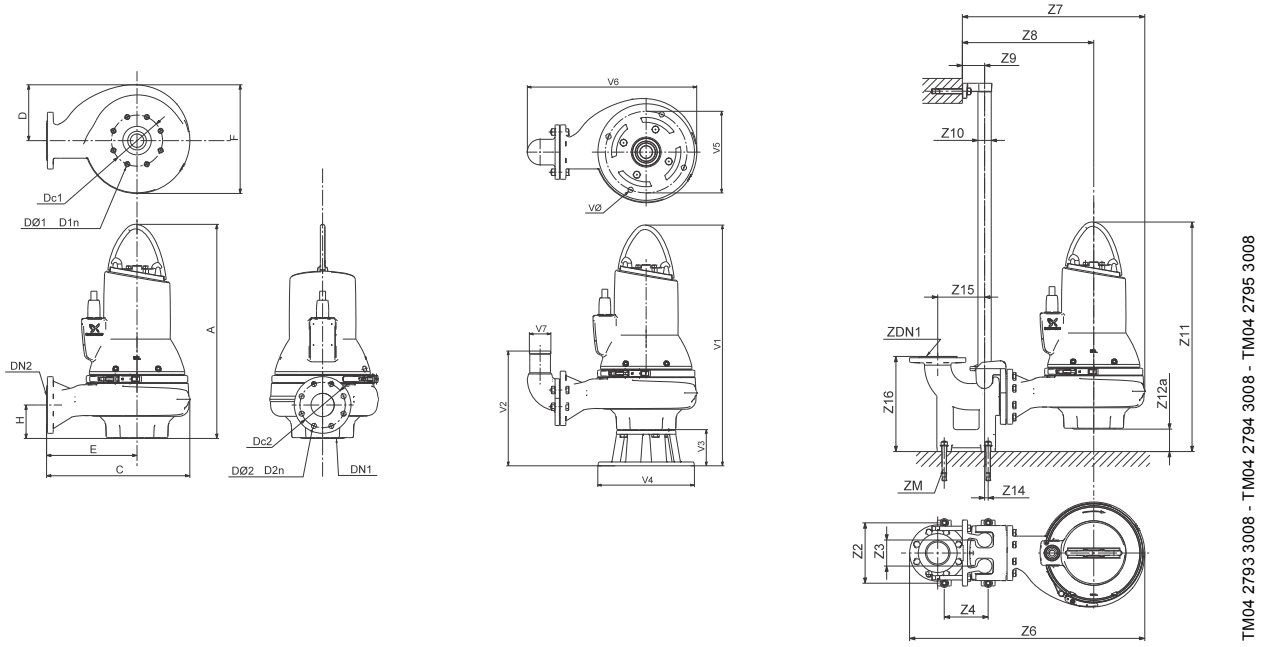
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A40.125.2.--.C



TM04 7273 1914

Dimensional sketches: SLV.30.A40.125.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	30.8	19.7	8.5	11.9	16.3	4.8	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	386.8 lb
[mm]	782	499	217	303	413	123	DN 80	153	8 x M16	DN 100	191	8 x 19.1	175.5 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	37.1	28.2	20.5	4.3	2.0	35.4	4.6	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	942	716	520	110	50	899	117	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	35.9	15.6	5.0	13.0	11.0	26.1	3.9	0.7
[mm]	910	395	128	330	280	662	100	18

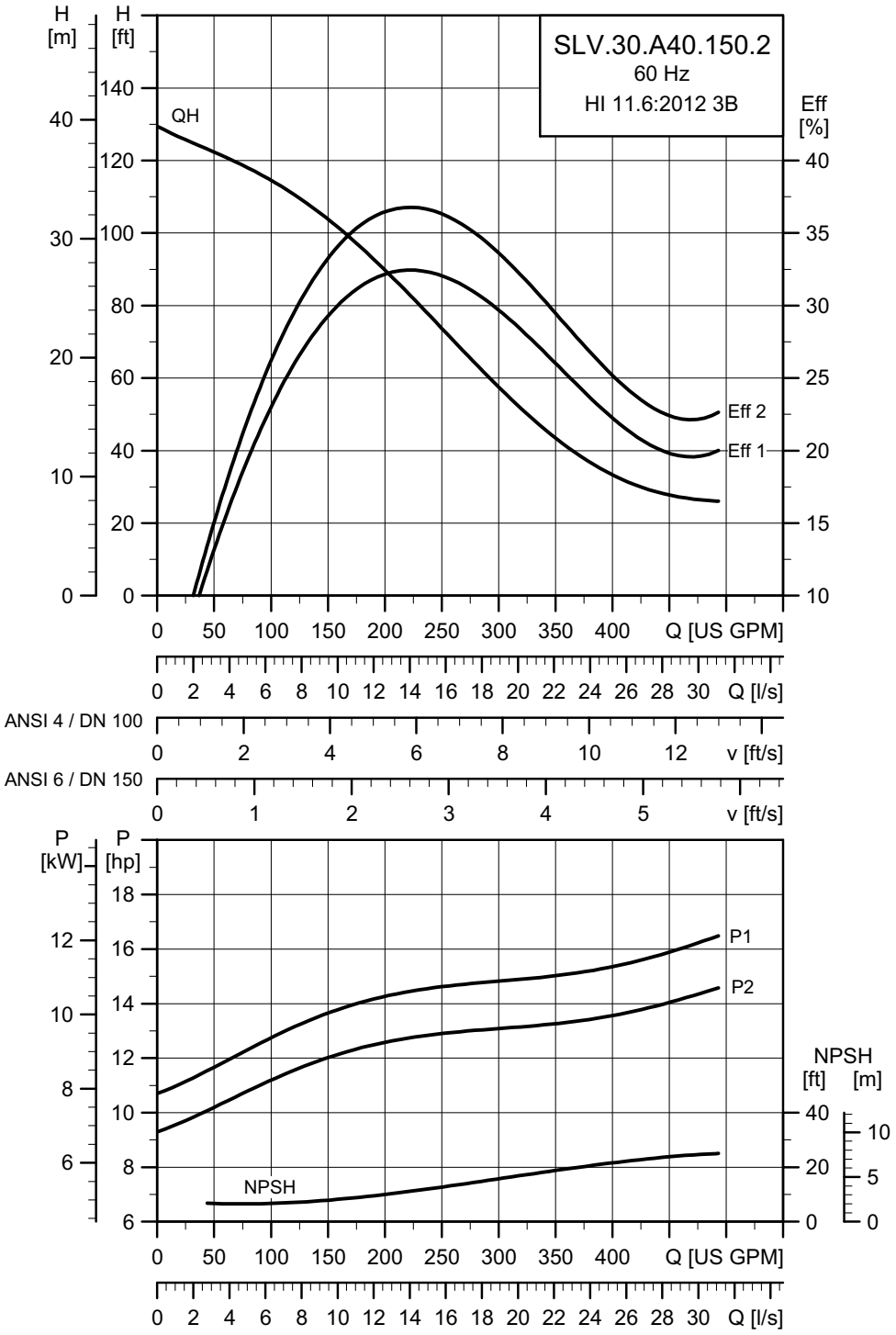
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	14.4 (10.6)	12.5 (9.2)	2	3551	DOL	31.7 - 31.7	308	91.6	91.6	91.7	0.65	0.78	0.82	1.15	0.686 (0.0289)	81.1 (110)
61R	3 x 230 V D/ 460 V Y	14.4 (10.6)	12.5 (9.2)	2	3551	Y/D	32	240	89.5	90.8	90.6	0.78	0.87	0.85	1.15	0.686 (0.0289)	45.7 (62)
61L	3 x 575 V D Y/D	14.4 (10.6)	12.5 (9.2)	2	3551	Y/D	11.5	118	91.6	91.6	91.7	0.65	0.78	0.82	1.15	0.686 (0.0289)	81.1 (110)

Pump data

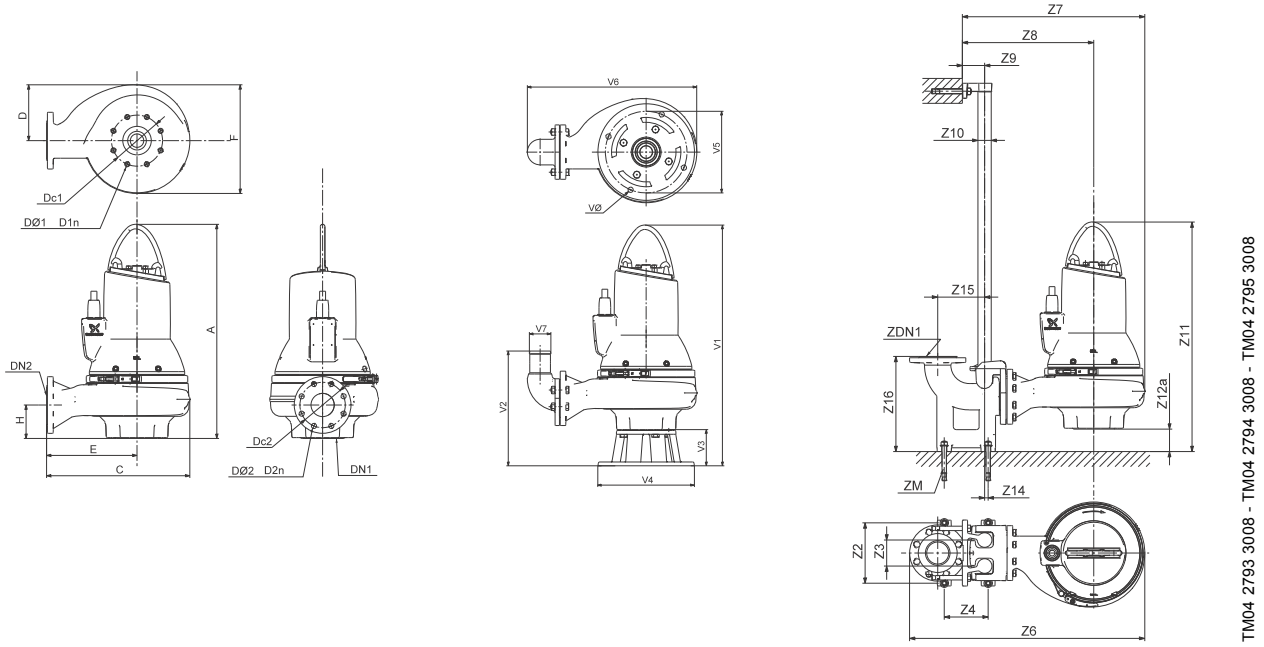
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.30.A40.150.2.--.C



TM04 7274 1914

Dimensional sketches: SLV.30.A40.150.2.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	30.8	19.7	8.5	11.9	16.3	4.8	3.0	6.0	8 x M16	4.0	7.5	8 x 0.75	386.1 lb
[mm]	782	499	217	303	413	123	DN 80	153	8 x M16	DN 100	191	8 x 19.1	175.2 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	37.1	28.2	20.5	4.3	2.0	35.4	4.6	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	942	716	520	110	50	899	117	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	35.9	15.6	5.0	13.0	11.0	26.1	3.9	0.7
[mm]	910	395	128	330	280	662	100	18

Electrical data

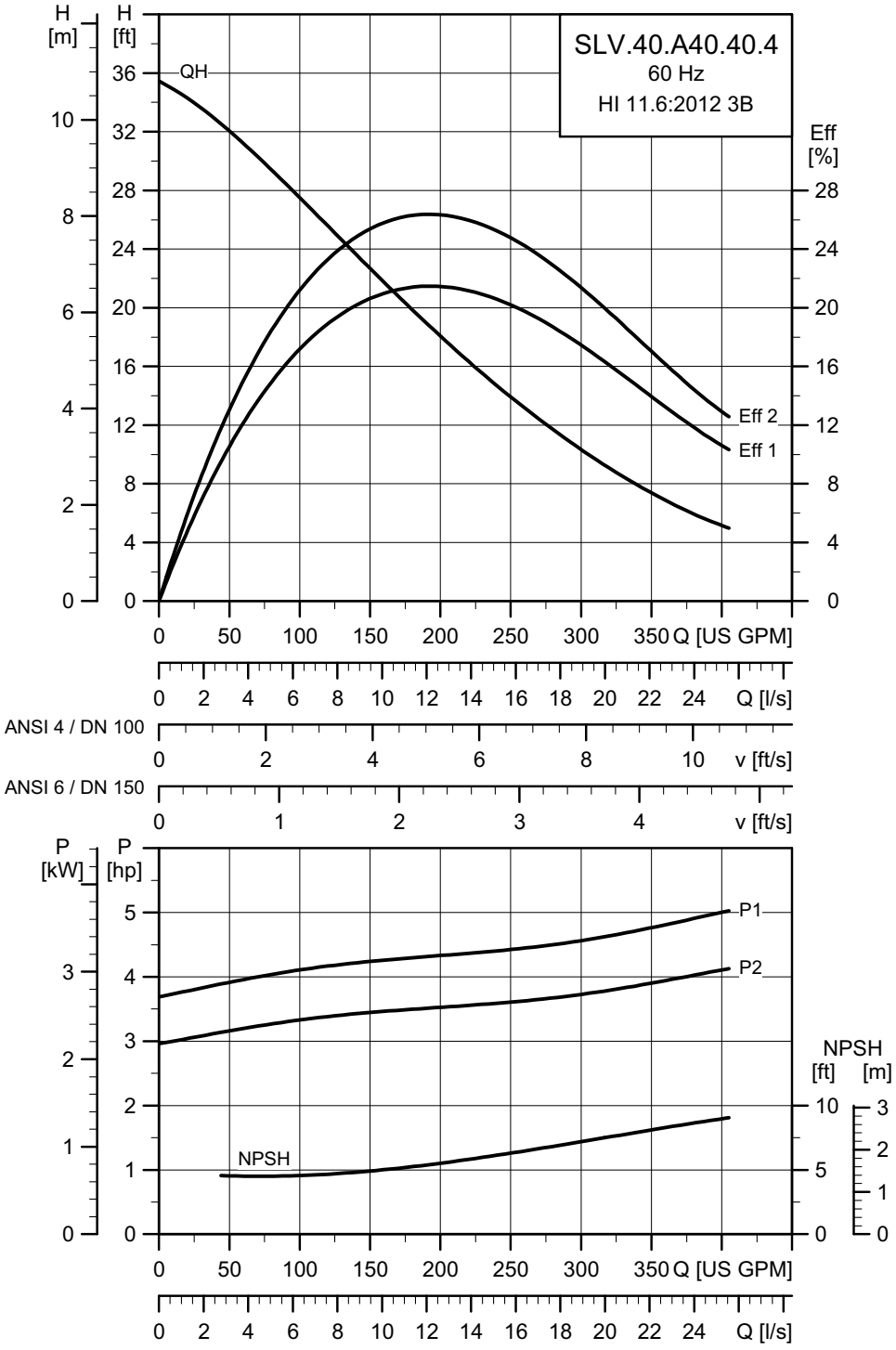
Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	17.0 (12.5)	15.0 (11.0)	2	3551	DOL	40.3 - 38.7	308	91.6	91.8	91.6	0.73	0.82	0.86	1.15	0.638 (0.0269)	81.1 (110)
61R	3 x 230 V D/ 460 V Y	17.1 (12.6)	15.0 (11.0)	2	3551	Y/D	22	240	91.2	91.2	90.7	0.77	0.84	0.87	1.15	0.638 (0.0269)	81.1 (110)
61L	3 x 575 V D Y/D	17.1 (12.6)	15.0 (11.0)	2	3551	Y/D	14.6	118	91.6	91.8	91.6	0.73	0.82	0.86	1.15	0.638 (0.0269)	81.1 (110)

Pump data

Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	3 (80)	10	20	IP68	H	A	104 (40)	4-14

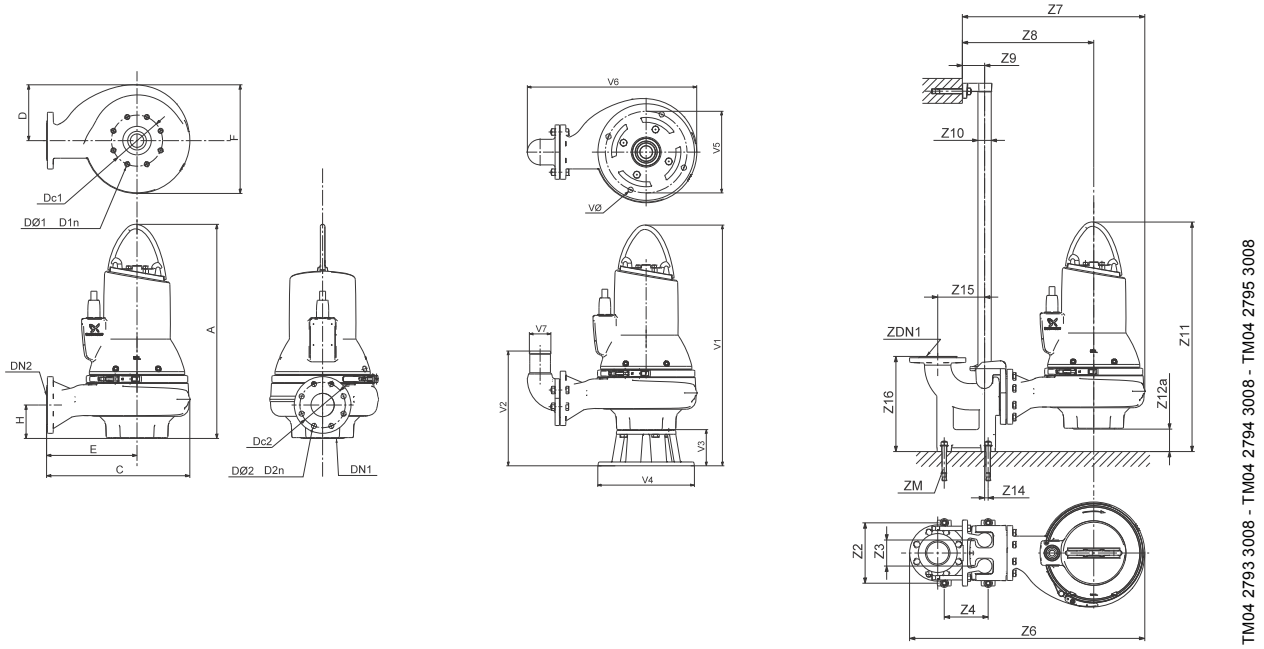
SLV.40.A40

Performance curves: SLV.40.A40.40.4.--.C



TM04 7275 1914

Dimensional sketches: SLV.40.A40.40.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.0	18.0	7.9	10.9	15.0	5.3	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	253.2 lb
[mm]	737	457	200	277	380	134	DN 100	191	8 x M16	DN 100	191	8 x 19.1	114.9 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	35.4	26.6	19.4	4.3	2.0	33.2	4.2	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	900	674	494	110	50	843	106	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	34.2	16.1	5.1	14.0	11.8	24.4	3.9	0.7
[mm]	867	408	130	355	300	620	100	19

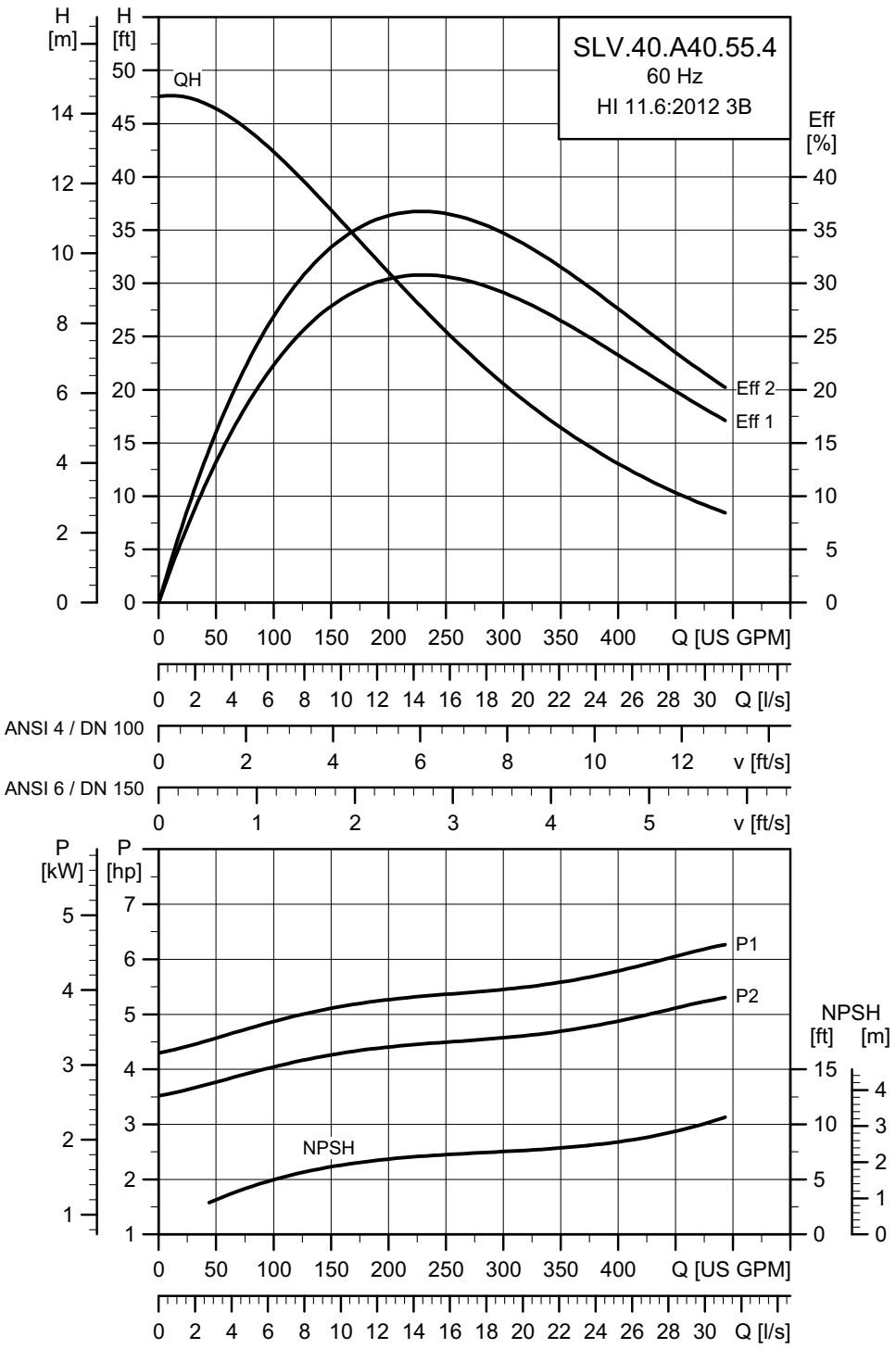
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	5.5 (4.0)	4.0 (3.0)	4	1755	DOL	12.5 - 12.9	98	84.6	86.3	86.4	0.63	0.75	0.79	1.15	3.097 (0.1305)	40.6 (55)
61R	3 x 208-230 V D	5.1 (3.7)	4.0 (3.0)	4	1755	Y/D	12	75	85.0	86.0	85.6	0.70	0.79	0.82	1.15	3.097 (0.1305)	32.5 (44)
61L	3 x 575 V D Y/D	5.1 (3.7)	4.0 (3.0)	4	1755	Y/D	4.5	37	84.6	86.3	86.4	0.63	0.75	0.79	1.15	3.097 (0.1305)	40.6 (55)

Pump data

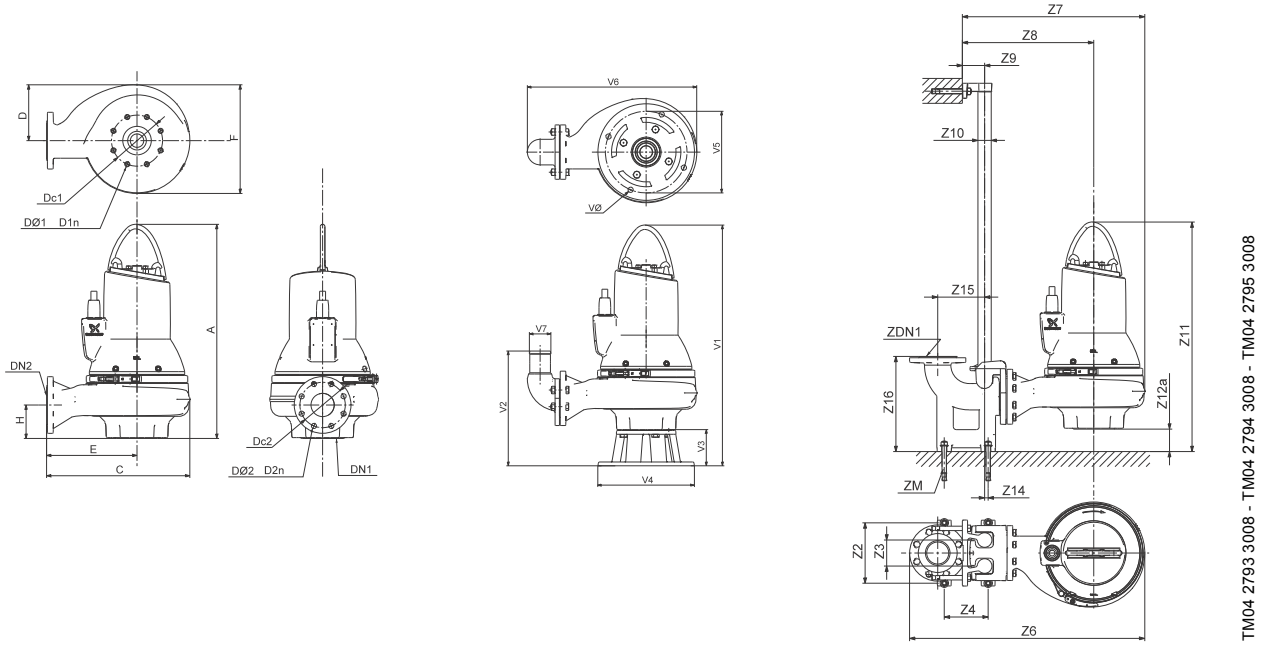
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	4 (100)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.40.A40.55.4.--.C



TM04 7276 1914

Dimensional sketches: SLV.40.A40.55.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	29.9	18.0	7.9	10.9	15.0	5.3	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	282.3 lb
[mm]	759	457	200	277	380	134	DN 100	191	8 x M16	DN 100	191	8 x 19.1	128.1 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	35.4	26.6	19.4	4.3	2.0	34.1	4.2	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	900	674	494	110	50	865	106	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	35.0	16.1	5.1	14.0	11.8	24.4	3.9	0.7
[mm]	889	408	130	355	300	620	100	19

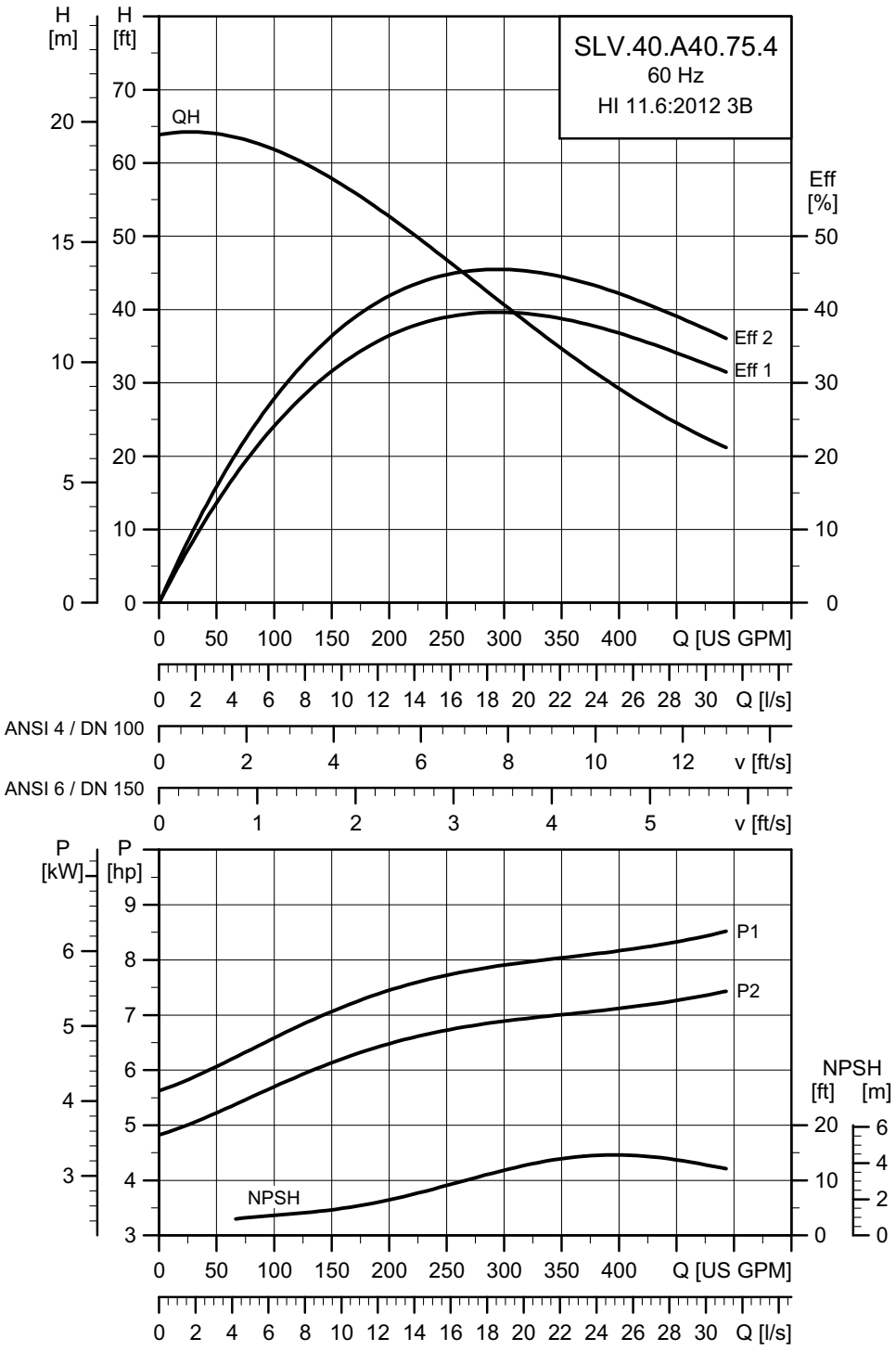
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	6.5 (4.8)	5.5 (4.0)	4	1767	DOL	17.3 - 19.0	133	85.3	87.4	88.2	0.53	0.66	0.74	1.15	3.073 (0.1295)	61.2 (83)
61R	3 x 230 V D/ 460 V Y	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	16.2	120	86.2	87.8	87.8	0.59	0.70	0.78	1.15	3.073 (0.1295)	48.7 (66)
61L	3 x 575 V D Y/D	6.5 (4.8)	5.5 (4.0)	4	1767	Y/D	6.3	51	85.3	87.4	88.2	0.53	0.66	0.74	1.15	3.073 (0.1295)	61.2 (83)

Pump data

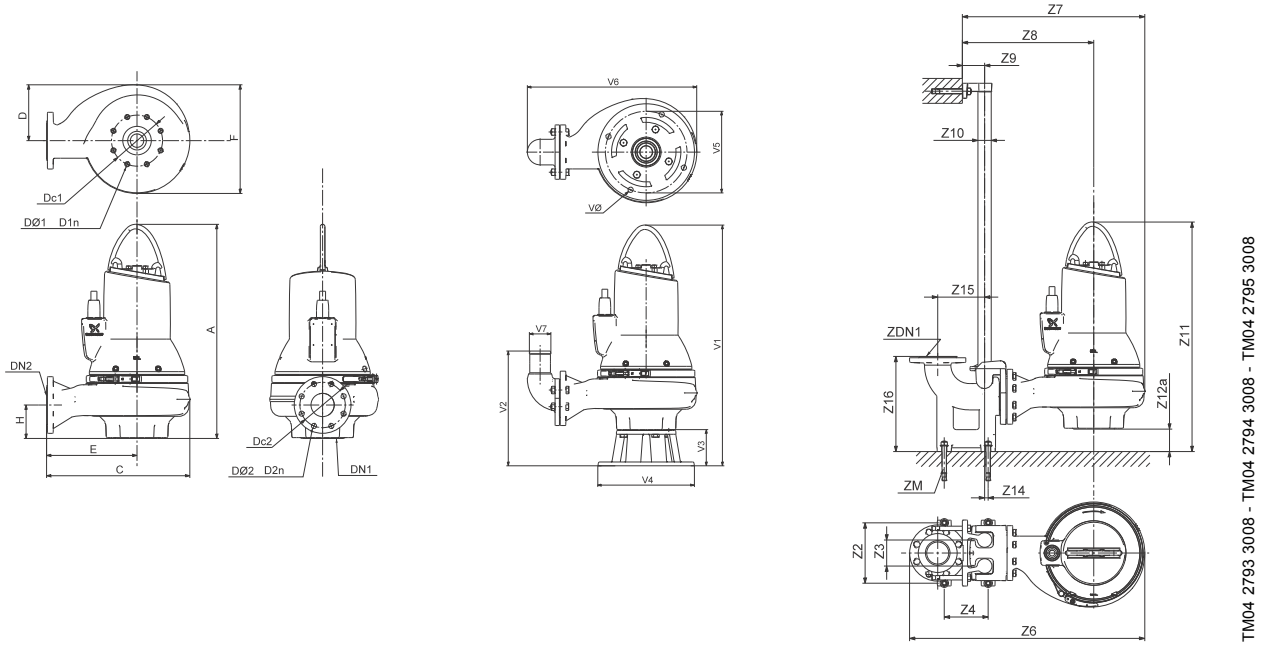
Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	4 (100)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.40.A40.75.4.--.C



TM04 7277 1914

Dimensional sketches: SLV.40.A40.75.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	30.2	18.0	7.9	10.9	15.0	5.3	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	305 lb
[mm]	766	457	200	277	380	134	DN 100	191	8 x M16	DN 100	191	8 x 19.1	138.4 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	35.4	26.6	19.4	4.3	2.0	34.33	4.2	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	900	674	494	110	50	872	106	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	35.3	16.1	5.1	14.0	11.8	24.4	3.9	0.7
[mm]	896	408	130	355	300	620	100	19

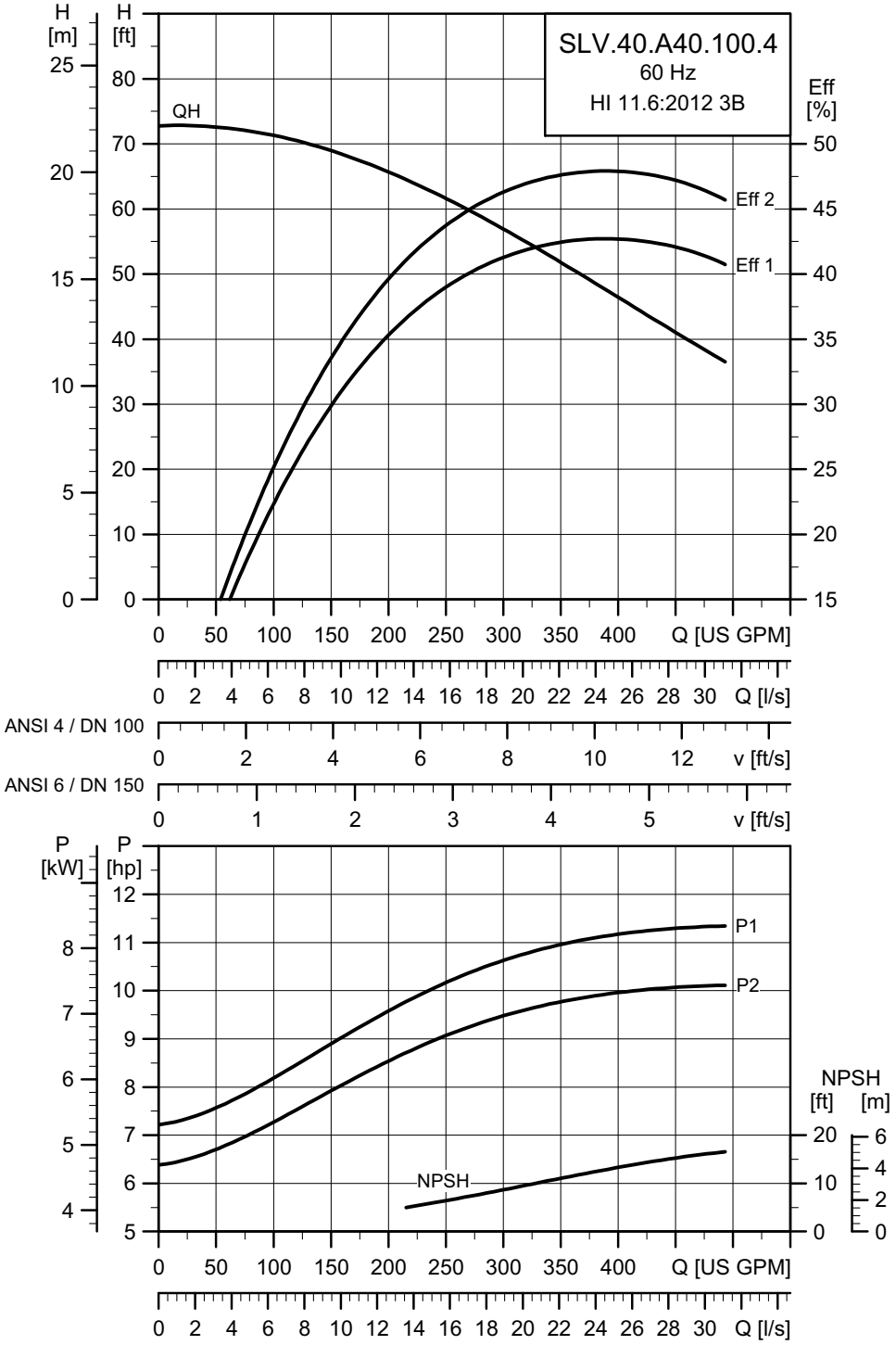
Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	8.5 (6.3)	7.5 (5.5)	4	1765	DOL	20.2 - 19.7	149	88.9	90.0	89.6	0.73	0.81	0.86	1.15	3.073 (0.1295)	73 (99)
61R	3 x 230 V D/ 460 V Y	8.7 (6.4)	7.5 (5.5)	4	1765	Y/D	19.2	120	89.2	89.7	88.9	0.77	0.84	0.87	1.15	3.073 (0.1295)	60.5 (82)
61L	3 x 575 V D Y/D	8.7 (6.4)	7.5 (5.5)	4	1765	Y/D	7.3	57	88.9	90.0	89.6	0.73	0.81	0.86	1.15	3.073 (0.1295)	73 (99)

Pump data

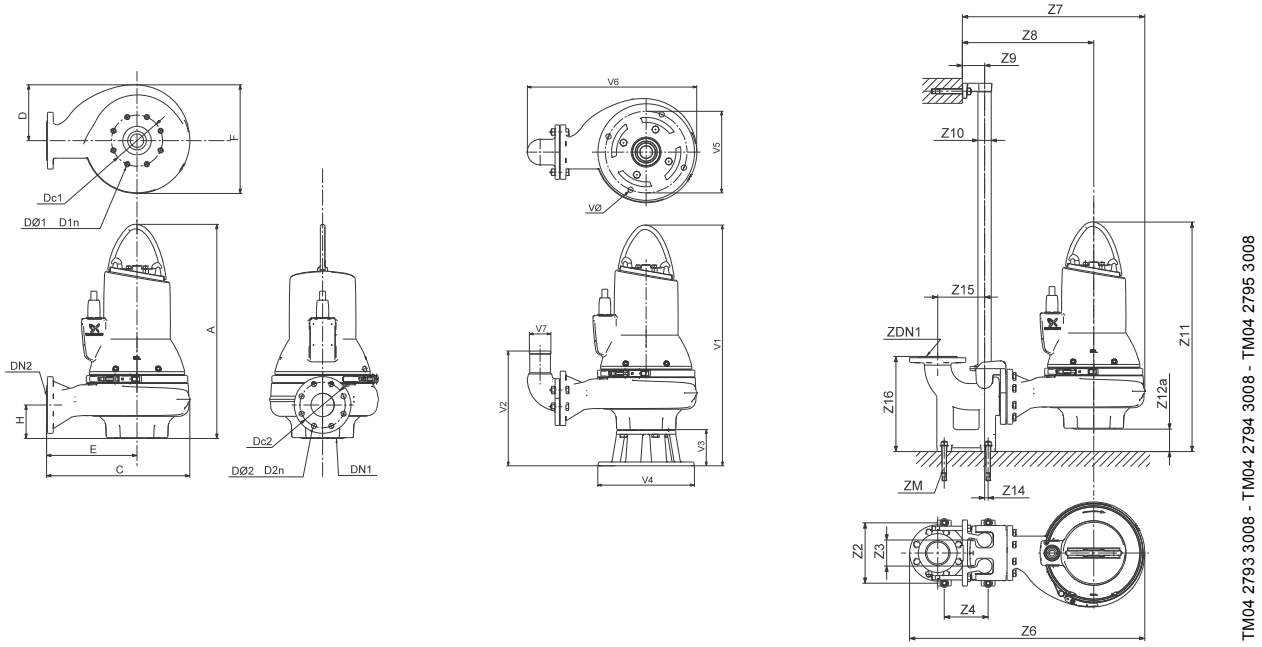
Impeller type	Max. solids size	Pump housing pressure	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature	pH
	[in. (mm)]	PN					[°F (°C)]	
SuperVortex	4 (100)	10	20	IP68	H	A	104 (40)	4-14

Performance curves: SLV.40.A40.100.4.--.C



TM04 7278 1914

Dimensional sketches: SLV.40.A40.100.4.--.C



TM04 2793 3008 - TM04 2794 3008 - TM04 2795 3008

	A	C	D	E	F	H	DN 1	Dc1	DØ1 D1n	DN 2	Dc2	DØ2 D2n	Weight
[in.]	33.2	19.3	8.5	11.6	16.3	5.7	4.0	7.5	8 x M16	4.0	7.5	8 x 0.75	371.8 lb
[mm]	842	490	217	294	413	145	DN 100	191	8 x M16	DN 100	191	8 x 19.1	168.7 kg

	Z2	Z3	Z4	Z6	Z7	Z8	Z9	Z10	Z11	Z12a	Z14	Z15	Z16	ZDN1	ZM
[in.]	10.3	4.3	8.7	36.7	27.9	20.1	4.3	2.0	37.0	3.7	0	8.7	16.3	4.0	4 x M16
[mm]	260	110	220	933	707	511	110	50	937	95	0	220	413	100	4 x M16

	V1	V2	V3	V4	V5	V6	V7	VØ
[in.]	38.3	16.5	5.1	14.0	11.8	25.7	3.9	0.7
[mm]	972	419	130	355	300	653	100	19

Electrical data

Pump type	Voltage [V]	P1 [hp (kW)]	P2 [hp (kW)]	No. of poles	RPM	Starting method	I_N	I_{start}	η_{motor} [%]			Cos φ			SF	Moment of inertia [lb*ft^2 (kgm^2)]	Breakdown torque M_{max} [lbf*ft (Nm)]
							[A]	[A]	1/2	3/4	1/1	1/2	3/4	1/1			
60J	3 x 208-230 V D	11.4 (8.4)	10.0 (7.5)	4	1766	DOL	27.0 - 27.5	205	91.0	91.4	91.0	0.71	0.81	0.85	1.15	1.839 (0.0775)	118 (160)
61R	3 x 230 V D/ 460 V Y	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	26.0	160	90.9	91.1	90.3	0.75	0.84	0.87	1.15	1.839 (0.0775)	81.3 (110)
61L	3 x 575 V D Y/D	11.6 (8.6)	10.0 (7.5)	4	1766	Y/D	9.8	79	91.0	91.4	91.0	0.71	0.81	0.85	1.15	1.839 (0.0775)	118 (160)

Pump data

Impeller type	Max. solids size [in. (mm)]	Pump housing pressure PN	Max. number of starts per hour	Enclosure class	Insulation class	Temperature rise class	Max. liquid temperature [°F (°C)]	pH
SuperVortex	4 (100)	10	20	IP68	H	A	104 (40)	4-14

11. Accessories

Installation systems

Picture	Description	Dimensions	SL1.20.A25	SL1.20.A30	SL1.30.A30	SL1.30.A40	SL1.40.A40	SL1.40.A60	SLV.25.A25	SLV.25.A30	SLV.30.A30	SLV.30.A40	SLV.40.A40	Product number
 TM04 4490 1409	Complete auto-coupling system, including guide claw, base plate and upper guide rail bracket. Cast iron, epoxy-coated. With bolts, nuts and gaskets. **Note**: If your guide rails exceed 13 feet (4 m), consider the use of intermediate guide rail brackets to support your system.	2.5"	•						•					97626234
		3"		•	•					•	•			97626236
		3" / 2.5"*	•						•					97626237
		4"				•	•					•	•	97626238
		4" / 3"*		•	•					•	•			97626239
		6"						•						97626240
		6" / 4"*				•	•					•	•	97626241
 TM05 4253 2112	Intermediate guide rail brackets of stainless steel (AISI 304). The size of the intermediate guide rail bracket depends on the outlet pipe dimension.	2.5"	•						•					96825119
		3"		•	•					•	•			96825142
		4"				•	•					•	•	96825161
		6"						•						96887674
 TM04 6086 4809	Ring stand with flanged 90 ° elbow and hose connection. Cast iron, epoxy-coated. With bolts, nuts, gaskets and anchor bolts.	2.5"	•											97632115
		2.5" / 3"*		•										97632165
		3" / 2.5"*							•					97632219
		3"								•	•			97632227
		3" / 4"										•		97632281
		4" / 3"			•									97632229
		4"				•							•	97632278
		6" / 4", galvanized steel					•							97632370
		6", galvanized steel						•						97632372
	Ring stand with flanged 90 ° elbow and outside thread connection. Cast iron, epoxy-coated. With bolts, nuts, gaskets and anchor bolts.	2.5"	•											97632119
		2.5" / 3"		•										97632166
		3" / 2.5"							•					97632226
		3"								•	•			97632228
		3" / 4"										•		97632283
		4" / 3"			•									97632241
		4"				•							•	97632280
		6" / 4", galvanized steel					•							97632371
		6", galvanized steel						•						97632373

* Outlet pipe/guide claw, e.g. 3"/2.5" = 3" outlet pipe and 2.5" guide claw.

Other accessories

Picture	Description	Max. load [lb (kg)]	SL1.20.A25	SL1.20.A30	SL1.30.A30	SL1.30.A40	SL1.40.A40	SL1.40.A60	SLV.25.A25	SLV.25.A30	SLV.30.A30	SLV.30.A40	SLV.40.A40	Product number
 TM02 6126 5102	13 ft (4 m) hot dip galvanized lifting chain with lifting link and safety hook. With certificates.	1763 (800)	•	•	•	•	•	•	•	•	•	•	•	96735550
	20 ft (6 m) hot dip galvanized lifting chain with lifting link and safety hook. With certificates.		•	•	•	•	•	•	•	•	•	•	•	96735553
	26 ft (8 m) hot dip galvanized lifting chain with lifting link and safety hook. With certificates.		•	•	•	•	•	•	•	•	•	•	•	96735554
	33 ft (10 m) hot dip galvanized lifting chain with lifting link and safety hook. With certificates.		•	•	•	•	•	•	•	•	•	•	•	96735556
	40 ft (12 m) hot dip galvanized lifting chain with lifting link and safety hook. With certificates.		•	•	•	•	•	•	•	•	•	•	•	96735557
	13 ft (4 m) stainless steel lifting chain with lifting link and safety hook. With certificates.	1763 (800)	•	•	•	•	•	•	•	•	•	•	•	96735559
	20 ft (6 m) stainless steel lifting chain with lifting link and safety hook. With certificates.		•	•	•	•	•	•	•	•	•	•	•	96735564
	26 ft (8 m) stainless steel lifting chain with lifting link and safety hook. With certificates.		•	•	•	•	•	•	•	•	•	•	•	96735566
	33 ft (10 m) stainless steel lifting chain with lifting link and safety hook. With certificates.		•	•	•	•	•	•	•	•	•	•	•	96735567
	40 ft (12 m) stainless steel lifting chain with lifting link and safety hook. With certificates.		•	•	•	•	•	•	•	•	•	•	•	96735569

Picture	Description	Product number
 TM05 6793 5112	IO 113	98097391
	IO 113 is an input/output interface between controllers and wastewater pumps equipped with sensors or a sensor board. The most important information is shown on the front panel.	

Level controllers

SLC and DLC

Picture	Description	Dimensions			Product number
		Motor shaft power [Hp]	Overload range [A]	Min. amp. required to disconnect [A]	
 TM05 6795 5112	Simplex Level Controller SLC panel, 208/230 VAC, 3-phase	1.5	2.0 - 6.3	15	98376348
		1.8			
		2.0	5.7 - 18.9	15	98411557
		3.0			
		2.0	9.0 - 30	30	98376349
		3.0			
		4.0			
		5.5			
		7.5			
		8.0	15-45	40	98376350
		10.0			
		12.5	15-45	60	98376371
		15.0			
	Simplex Level Controller SLC panel, 460 VAC, 3-phase	1.5	2.0 - 6.3	15	98376372
		1.8			
		2.0			
		3.0			
		4.0			
		5.5	5.7 - 18.9	20	98376373
		7.5			
		8.0			
		10.0			
		12.5	5.7 - 8.9	25	98376374
		15.0			
 TM05 6794 5112	Duplex Level Controller SLC panel, 208/230 VAC, 3-phase	1.5	2.0 - 6.3	20	98376375
		1.8			
		2.0	5.7 - 18.9	20	98411558
		3.0			
		2.0	9.0 - 30	50	98376376
		3.0			
		4.0			
		5.5			
		7.5			
		8.0	15-45	75	98376377
		10.0			
		12.5	15-45	120	98376378
		15.0			
	Duplex Level Controller SLC panel, 460 VAC, 3-phase	1.5	2.0 - 6.3	20	98376379
		1.8			
		2.0			
		3.0			
		4.0			
		5.5	5.7 - 8.9	40	98376380
		7.5			
		8.0			
		10.0			
		12.5	5.7 - 8.9	50	98376381
		15.0			

Level switches

Picture	Description	Product number
 TM05 6793 5112	Grundfos level switch MS1 UL with 33 ft cable	98365984
	Grundfos level switch MS1 UL with 40 ft cable	98365985
	Grundfos level switch MS1 UL with 60 ft cable	98365986
	Cable support of stainless steel	98365987
	Grundfos level switch MS1 Ex IEC ex with 33 ft cable	98372085
	Grundfos level switch MS1 Ex IEC ex with 40 ft cable	98372086
	Grundfos level switch MS1 Ex IEC ex with 60 ft cable	98372087
	Cable support of stainless steel	98365987

Features

SLC

SLC enables:

- control of one pump based on signals from level switches
- battery backup in case of mains supply failure (accessory)
- selection of automatic restarting
- selection of automatic/manual/off setting
- alarm indication of:
  - high water level
  - overload (via motor protection relay).

As standard, SLC has an audio/visual high water level alarm with auto reset.

- audio alarm, 95 dB warble tone at 24"
- visual alarm 7/8" diameter red lens, push to silence
- NEMA 4X, 1 W bulb.

TM05 6795 5112

Fig. 25 SLC controller

DLC

DLC enables:

- control of two pumps based on signals from level switches
- automatic pump changeover (even distribution of operating hours on both pumps)
- battery backup in case of mains supply failure (accessory)
- selection of automatic restarting
- selection of automatic/manual/off setting
- alarm indication of:
  - high water level
  - overload (via motor protection relay).

As standard, DLC has an audio/visual high water level alarm with auto reset:

- audio alarm, 95 dB warble tone at 24"
- visual alarm 7/8" diameter red lens, push to silence
- NEMA 4X, 1 W bulb.

TM05 6794 5112

Fig. 26 DLC controller

Level switches

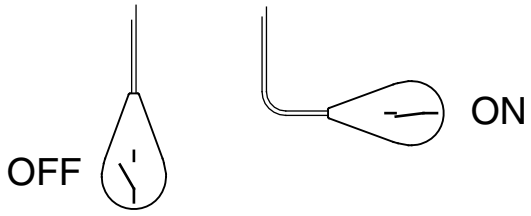
The Grundfos level switches are of the non-mercury type and are available for standard and explosion-proof pumps. The hermetically sealed polypropylene housing and polyurethane cable make the level switch resistant to, e.g., many chemicals, alcohol, uric acid, sewage, oils, gasoline and fruit acid.

Location and position of level switches

The level switches are to be installed in the pit floating on the pumped liquid.

The position of the level switches decides when SLC or DLC will start and stop the pump:

- When the level switch is pointing upwards, the level switch contact will be closed and the pump will start.
- When the level switch is pointing downwards, the level switch contact will be opened and the pump will stop.



TM00 6678 3497

Fig. 27 Level switch positions

Dedicated Controls

Gr-1014749

Fig. 28 Dedicated Controls control unit

Grundfos Dedicated Controls is a control system that can control and monitor one to six Grundfos wastewater pumps and a mixer or a flushing valve.

Dedicated Controls are used in installations requiring advanced control and data communication.

The main components of the Dedicated Controls system are:

- CU 362 control unit
- IO 351B module (general I/O module).

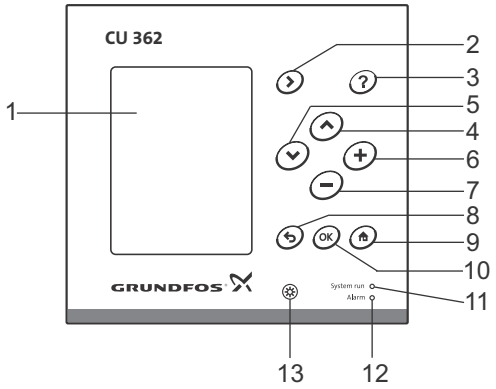
Dedicated Controls are available as separate components.

The control system can be operated by

- float switches
- a level sensor
- a level sensor and safety float switches.

The separate control unit and modules can be built for practically any size of system.

CU 362 control panel



TM05 3044 2012

Fig. 29 CU 362 control panel

Pos.	Description
1	Display
2	Right
3	Help
4	Up
5	Down
6	Plus
7	Minus
8	Back
9	Home
10	OK (accept)
11	Indicator light, operation (green)
12	Indicator light, fault (red)
13	Contrast

Status menu

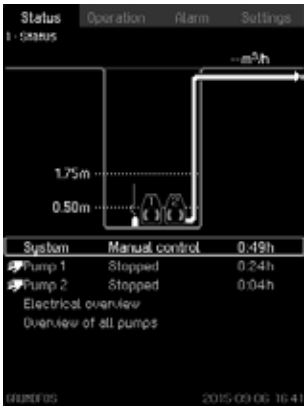


Fig. 30 Status menu

Description

- Graphical illustration of system (upper half of display).
- Clear text parameters.
- Indication of alarms that occur during operation (top and middle of display).
- Reading of system and individual pump performance (lower half of display).
- Button (?) for further information.
- Active buttons are illuminated.

Operation menu

Fig. 31 Operation menu

Description

- Setting of basic parameters, for instance start/stop levels.
- Setting of auto/on/off of system or individual pumps.
- Resetting of alarm relays.
- Button (?) for further information.
- Active buttons are illuminated.

Alarm menu

Fig. 32 Alarm menu

Description

- Current alarm and alarm log with detailed information:
  - What the cause of the fault is.
  - Where the fault occurred (system, pump no. 1 etc.).
  - When the fault occurred (time and date).
  - When the fault disappeared (time and date).
- Alarm snapshot - reading of system and pump parameters at the time of alarm.
- Alarm log with up to 24 historical warnings and alarms.
- Button (?) for further information.
- Active buttons are illuminated.

Settings menu

Fig. 33 Settings menu

Description

- Various settings:
  - Setting of analog/digital inputs and outputs.
  - Setting of application-optimized functions such as energy optimization, foam drainage and advanced alternation.
  - Display language.
  - Communication settings.
  - Ethernet etc.
- Button (?) for further information.
- Active buttons are illuminated.

Dedicated Controls can be fitted with various units:

- The CU 362 control unit, which is the "brain" of the Dedicated Controls system, is fitted in the cabinet front. CU 362 can be fitted with one of the Grundfos CIM communication modules mentioned below, depending on the monitoring needs or the SCADA system:
  - CIM 200 is a Grundfos communication module used for the Modbus RTU fieldbus protocol.
  - CIM 250 is a communication module used for GSM/GPRS communication. CIM 250 establishes communication between CU 362 and a SCADA system, thereby allowing the application to be monitored and controlled remotely. This module also offers SMS messaging, for example status and alarm messages.
  - CIM 270 is a communication module for the Grundfos Remote Management system (GRM). CIM 270 establishes communication between CU 362 and GRM, thereby allowing the application to be monitored and controlled remotely.
- The IO 351B module, which is a general I/O module communicating with CU 362 via GENIbus.
- The MP 204 motor protector (optional), which provides many electrical status values, for example voltage, current, power, insulation resistance and energy. MP 204 offers better protection of the pumps than a conventional motor protection device.
- CUE/VFD (optional), which is either a Grundfos variable-frequency converter or a general variable-frequency converter, also offers better pump protection and a more steady flow through the pit pipes, so the pumps are treated well and the energy consumption is kept at a minimum.

For further information, see the data booklet or installation and operating instructions for Dedicated Controls on www.grundfos.us (Grundfos Product Center).

Name		Dedicated Controls
Application		
	One pump	●
	Two pumps (up to six pumps)	●
	Mixer	●
	Battery backup	●
Level sensor		
	Float switch	●
	Electrodes	
	Air bell	
	Pressure sensor	●
	Ultrasonic sensor	●
	Analog level sensor with safety float switches	●
Starting method		
	Direct-on-line starting (DOL)	●
	Star-delta starting	●
	Soft starter	●
Basic functions		
	Start and stop of pump(s)	●
	Pump alternation	●
	High-level alarm	●
	Dry-running-level alarm	●
	Flow measurement (calculated or via flow sensor)	●
	Pump statistics	●
	Conflicting-levels alarm	●
Advanced functions		
	Start and stop delays (prevent water hammering)	●
	Motor temperature sensor	●
	Test run/anti-seizing	●
	Daily emptying (emptying the pit once a day)	●
	Water-in-oil sensor input	●
Communication		
	SMS messaging	● [1)]
	SCADA communication (GSM/GPRS)	● [2)]
User interface		
	Level indication	●
	Graphical display	●
	PC Tool WW Controls	●

1) If an SMS module is fitted.
2) If a CIM 250 GSM/GPRS module is fitted in CU 362.

12. Grundfos Product Center

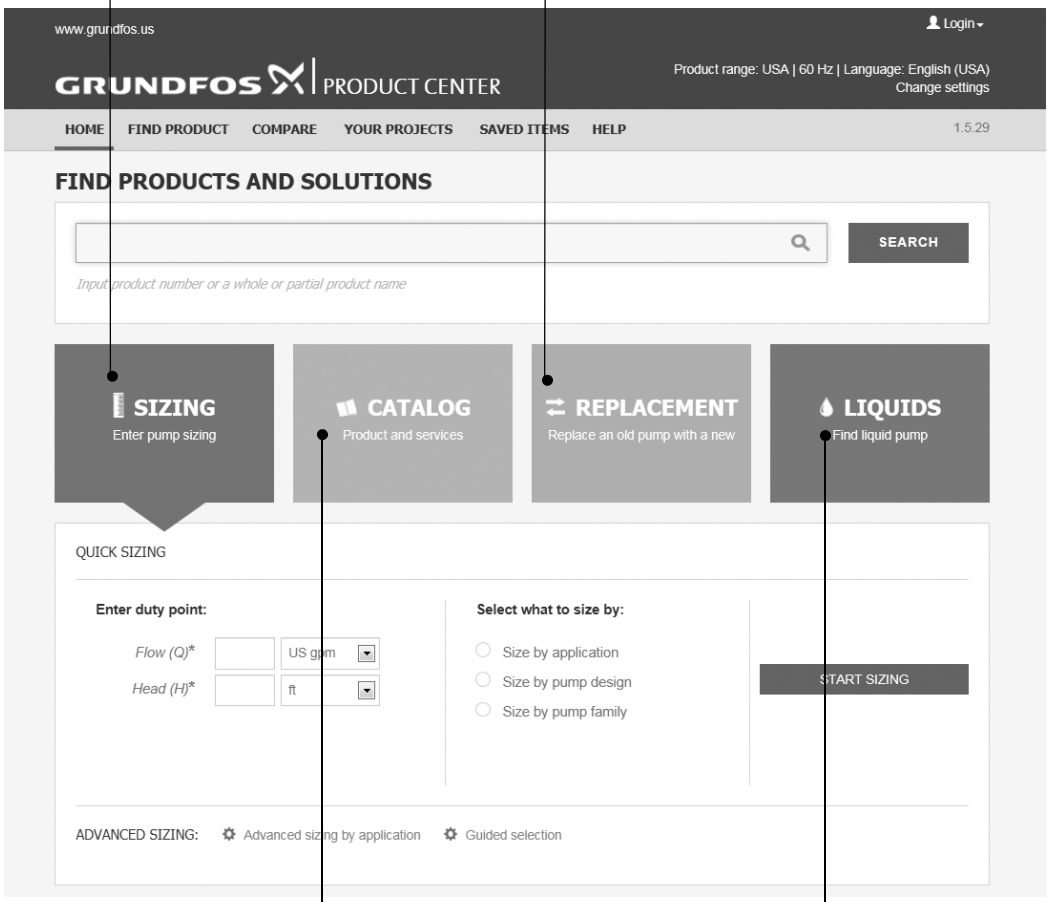
Online search and sizing tool to help you make the right choice.

http://product-selection.grundfos.com

SIZING enables you to size a pump based on entered data and selection choices.

REPLACEMENT enables you to find a replacement product.
Search results will include information on

- the lowest purchase price
- the lowest energy consumption
- the lowest total life cycle cost.



CATALOG gives you access to the Grundfos product catalog.

LIQUIDS enables you to find pumps designed for aggressive, flammable or other special liquids.

All the information you need in one place

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items — including complete projects — right on the main page.

Downloads

On the product pages, you can download Installation and Operating Instructions, Data Booklets, Service Instructions, etc. in PDF format.

Grundfos GO

Mobile solution for professionals on the GO!

Grundfos GO is the mobile tool box for professional users on the go. It is the most comprehensive platform for mobile pump control and pump selection including sizing, replacement and documentation. It offers intuitive, handheld assistance and access to Grundfos online tools, and it saves valuable time for reporting and data collection.

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