

Deep-well pumps



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HYDRO-VACUUM[®] S.A.

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Application

Deep-well units are designed for use in water supply systems, for pumping and increasing liquid pressures in technological processes, reduction of ground water level, watering systems, and other industrial and residential applications.

Essential advantages of type G deep-well pumps

- the pump unit may be installed in a suspended, standing or horizontal position without necessity to rebuild foundations
- may be installed in drilled, small-diameter wells without suction jackets
- may be installed in drilled, large-diameter wells and in large tanks, with the use of suction jackets
- pump unit may be installed directly in the pipeline, in a hermetic jacket in a vertical or horizontal position
- may be incorporated with the pump unit by-pass in parallel to the pipe line, in a hermetic jacket in a vertical or horizontal position
- incorporation of the pump unit is simplified by the linear position of stub pipes in the hermetic jacket
- space requirement is minimized due to compact design
- standardized design of the connections and couplings of the pumps and motors according to NEMA, which is accepted and used by all deep-well pump manufacturers in the world
- a splined slide-over coupling enables torque to be transferred efficiently and durably without any maintenance, for a simplified assembly/disassembly/replacement and facilitated servicing
- the pump/motor bearing arrangement requires no maintenance, it is lubricated by the pumped liquid in the pump and by the liquid that fills the motor in the motor, which enables heat of energetic losses to be removed therefrom
- the pump unit, submersed in a hermetic jacket or tank, produces no noise

Liquids handled

Deep-well pumps are designed for use in handling raw or treated potable water, sea water, as well as for mineral and thermal applications, with no long fibers or abrasive content.

Mechanical impurities in the liquids handled may be up to 100 mg/l of water; for pump units where impellers and stators are made of plastic, they may be up to 50 mg/l of water.

Impurities that might cause creation of deposits in the pump and on the motor are inadmissible. If this is unavoidable, the deposits of 0.5 mm maximum must be removed.

Liquids liable to cause accelerated corrosion or erosion of the pump construction materials must never be used.

Liquids other than water may be handled subject to manufacturer's approval.

Operating data

Capacity Q: 0,9 ÷ 420 m³/h

Delivery head H: up to 705 m

Liquid maximum temperature t: up to 25°C*

** for higher temperatures, please contact the manufacturer every time*

Motors used in deep-well units

Deep-well pumps manufactured by **Hydro-Vacuum S.A.** are fitted with wet-type submersible electric motors.

Other types, ones having a flange connection and dimensions according to **NEMA**, may be used, if required.

Cooperation with frequency converters

All deep-well units manufactured by Hydro-Vacuum S.A. and equipped with three-phase electric motors may have a frequency converter drive. Recommendations:

- avoid operation of submersible motors at higher than nominal frequencies, i.e. 50 and 60 Hz;
- the power rating of the submersible motor selected ought to be one magnitude higher than the standard motor power rating, matching a given pump;
- the permissible minimum frequency is 32Hz, provided that a minimum rate of flow past the external motor surface of 0.2 m/s is maintained; it is advised to use a suction jacket for the purpose;
- use RC and LC filters to protect the motor from harmful over-voltage and interferences;
- select a frequency converter that matches the nominal current rating of the motor;
- the frequency converter ought to incorporate safety devices, protecting the motor from:
 - over-current,
 - drop of supply voltage,
 - phase decay.
- the frequency converter ought to be supplied strictly in accordance with manufacturer's requirements, specifically those in respect of feeder-cable cross-sections and keeping the permissible distance between the frequency converter and the motor.
- please note that the relationship below applies when changing the current frequency / rate of rotation of the pump unit shaft

$$Q_x = Q_n \cdot f_x / f_n \quad ; \quad H_x = H_n \cdot (f_x / f_n)^2 \quad ; \quad P_x = P_n \cdot (f_x / f_n)^3$$

For details of the cooperation between deep-well pumps and frequency converters please contact our Technical Advisors Department.

General conditions of characteristics validity

For all the characteristics of the pumps shown in this catalogue the following general conditions shall apply:

- the characteristics declared above refer to pump units, with motors supplied with electric current at 50 Hz and power output sufficient for the entire pump capacity range
- tolerances of pump operation parameters according to PN-EN ISO 9906 Cl. 2 Appendix A
- the characteristics are obtained for handling non-aerated water at 20°C and viscosity $\nu = 1 \text{ mm}^2/\text{s}$
- the pump characteristics $H=f(Q)$ include hydraulic losses at the pump inlet and the non-return valve which is built in the pump
- power characteristics $P=f(Q)$ show an average power consumption by a single pump stage
- efficiency characteristics $\eta=f(Q)$ refer to a single hydraulic stage of a pump with a nominal-diameter impeller; without taking into account any losses at the pump inlet and the non-return valve
- the pump efficiency for several stages or with trimmed impellers is lower than that shown in this catalogue and the efficiency characteristics $\eta=f[Q]$ may be provided by the manufacturer if requested by the client
- the pump works without cavitation if the required NPSH cavitation reserve plus the liquid column 0,5-1m is maintained
- for handling liquids other than water please contact the manufacturer: handling liquids of which the density and viscosity are higher than those of water will cause an increased requirement for power at the pump shaft, therefore, a motor with a higher power output has to be used.

In certain situations, the duty point required may be located between the nominal characteristics of the succeeding pump type dimensions. Therefore, intermediate characteristics, obtained by the nominal impeller trimming, are introduced in GC, GD and GF deep-well pumps. In the GC and GD pumps having up to 9 stages, the succeeding trimmings are denoted by the letters A, B, C... and in the GF pump the succeeding impeller trimmings are denoted by the digits 1 to 5. This enables an optimized selection of the pump unit to match the required operating parameters, reduces power requirement on the pump shaft and enables a motor with a lower nominal power output to be selected.

If you are interested in pumps with more than 9 stages and having trimmed impellers, please contact the pump unit manufacturer.

It is recommended to select pumps for operation in their high performance range for a more economical operation and maximized service life of the pump unit.

The pump unit may not be operated with the valve on the discharge pipe closed because the absence of flow past the motor makes it impossible to cool it. The recommended minimum pump capacity is not lower than $0,2 \cdot Q_{max}$.

Design of deep-well pumps

Deep-well pumps are a multistage type of pumps, constructed in series. They are installed on submersible motors, therefore, they are also referred to as submersible units. The pumping unit is installed vertically, with a submersible motor located at the bottom and the deep-well impeller pump. The suction casing, protected with a sieve filter, is installed straight on the motor. The specific pump stages are installed after the suction casing. Each of them comprises the casing and the stator fitted in it, and an impeller (radial or diagonal type). The pump is closed with the non-return valve housing and the discharge casing to connect the pump unit to the discharge pipe using either flanges or a threaded connection. A coupling is provided to connect the rotating parts of the pump and the motor shaft. Distance sleeves are provided to correctly position the impeller in the stator and pump casing.

The rotating unit of the pump has steel-and-rubber bearing bushes.

Depending on the deep-well pump type, the pump stages may be connected using either:

- connecting tapes (the GAB, GB, GBC, GC and GCA pumps), or
- double-nutted bolts (the GDB, GDC and GFB pumps) - individual stages.

Underwater deep-well units are special application pumps. They are compact and highly reliable. They have the following advantages:

- low cost (the bore-holes have very small diameters, no buildings over the well are required),
- low operating costs,
- simple operation (no lubrication points),
- fast and simple assembly and disassembly.

Deep-well pumps have been manufactured by HYDRO-VACUUM S.A. since 1938. Experience and ongoing improvement effort have resulted in a series of deep-well pumps of which the operating characteristics and service life are comparable to those of European products. They are used in a number of applications all over Poland: in municipal drinking water systems, in villages, in housing estates, in farming and gardening. They proved very well in tests and have been operated on a regular basis in the brown coal strip mine in Bełchatów and Konin (Poland). At present, they are used in other strip mines and in the construction industry, where low subsoil water levels are required in deep foundation trenches.

Materials of construction

Pumps are produced in four material versions (see: Table):

Pump type	Casings				Middle casing				Stator				Impellers				Shaft&Coupling				Bearing			
	Material of construction				Material of construction				Material of construction				Material of construction				Material of construction				Material of construction			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
GAB.2	brass	cast iron	-	-	s. steel	s. steel	-	-	Lexan	Lexan	-	-	Lexan	Lexan	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GAB.4	brass	cast iron	-	-	s. steel	s. steel	-	-	Lexan	Lexan	-	-	Lexan	Lexan	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GAB.5	brass	cast iron	-	-	s. steel	s. steel	-	-	Noryl	Noryl	-	-	Noryl	Noryl	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GB.0	cast iron	-	-	-	cast iron	-	-	-	Lexan	-	-	-	Lexan	-	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GBC.0	brass	-	-	-	s. steel	-	-	-	Lexan	-	-	-	Lexan	-	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GBA.1	cast iron	-	-	-	cast iron	-	-	-	Lexan	-	-	-	Lexan	-	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GBC.1	brass	-	-	-	s. steel	-	-	-	Lexan	-	-	-	Lexan	-	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GBA.2	cast iron	-	-	-	cast iron	-	-	-	Lexan	-	-	-	Lexan	-	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GBC.2	brass	-	-	-	s. steel	-	-	-	Lexan	-	-	-	Lexan	Lexan	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GBC.3	brass	cast iron	-	-	s. steel	cast iron	-	-	Lexan	Lexan	-	-	Lexan	-	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GBC.4	cast iron	-	-	-	cast iron	-	-	-	-	-	-	-	brass	-	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GBC.5	cast iron	-	-	-	cast iron	-	-	-	-	-	-	-	brass	-	-	-	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GC.0	cast iron	cast iron	t.bronze	sfero. c.i.	cast iron	cast iron	t.bronze	copper c.i.	-	-	-	-	Noryl ¹	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GCA.2	cast iron	cast iron	t.bronze	sfero. c.i.	cast iron	cast iron	t.bronze	copper c.i.	-	-	-	-	Noryl ¹	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GCA.3	-	cast iron	t.bronze	sfero. c.i.	-	cast iron	t.bronze	copper c.i.	-	-	-	-	-	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GCA.5	-	cast iron	t.bronze	sfero. c.i.	-	cast iron	t.bronze	copper c.i.	-	-	-	-	-	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GCA.6	-	cast iron	t.bronze	sfero. c.i.	-	cast iron	t.bronze	copper c.i.	-	-	-	-	-	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GCA.7	-	cast iron	t.bronze	sfero. c.i.	-	cast iron	t.bronze	copper c.i.	-	-	-	-	-	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GCA.8	-	cast iron	t.bronze	sfero. c.i.	-	cast iron	t.bronze	copper c.i.	-	-	-	-	-	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GDC.2	sfero. c.i.	cast iron ²	t.bronze	sfero. c.i.	cast iron	cast iron ²	t.bronze	copper c.i.	-	-	-	-	brass	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GDC.4	sfero. c.i.	cast iron ²	t.bronze	sfero. c.i.	cast iron	cast iron ²	t.bronze	copper c.i.	-	-	-	-	brass	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-
GFB.1	sfero. c.i.	cast iron ²	t.bronze	sfero. c.i.	cast iron	cast iron ²	t.bronze	copper c.i.	-	-	-	-	brass	brass	t.bronze	brass	stainless steel	-	-	-	rubber/stainless steel	-	-	-

¹ for the GC.0.01 i GCA.2.01 ÷ 13 pump series only

sfero. c.i. - sferoidal cast iron

copper c.i. - copper cast iron

² enameled inside

t.bronze - tin bronze

s. steel - stainless steel

Constructional executions

Specific configurations are marked by sub-codes comprising the symbols - $e_1 e_2 e_3 e_4$, wherein:
 e_1 - denotes the type of connection to the motor
 e_2 - denotes the type or absence of valve
 e_3 - denotes the type of outlet
 e_4 - is reserve (the symbol 0)

Explanation of the sub-code structure:

Constructional execution designation	e_1					
	Execution type	Pump type/design variant				
		GA	GB	GC	GD	GF
1	Pump to a NEMA 4" shaft end motor	x				
	Pump to a NEMA 6" shaft end motor		x			
	Pump to a NEMA 8" shaft end motor			x		
	Pump to a 10" motor				x	
2	Pump to a NEMA 4" shaft end motor		x			
	Pump to a NEMA 6" shaft end motor			x		
	Pump to a NEMA 8" shaft end motor				x	x
3*	Pump to a 10" motor			x		
4	Pump to a 12" motor				x	x
5	Pump to a 10" motor					x

* concerning GCA.6, GCA.7, GCA.8

Constructional execution designation	e_2					
	Execution type	Pump type/design variant				
		GA	GB	GC	GD	GF
1	Hermetic valve	x	x	x	x	x
2	No valve - Only horizontal operation. Valve should be installed downstream of the pump	x	x			
3	Leak valve		x	x	x	x
4	Open valve - Only horizontal operation. Valve should be installed downstream of the pump			x	x	

Constructional execution designation	e_3					
	Execution type	Pump type/design variant				
		GA	GB	GC	GD	GF
1	Flange type outlet			x	x	x
2	Threaded outlet	x	x	x		

Constructional execution designation	e_4					
	Execution type	Pump type/design variant				
		GA	GB	GC	GD	GF
0	Is reserve	x	x	x	x	x

Example of a pump constructional execution

Sub-code - $e_1 e_2 e_3 e_4 = 1320$

pump to $e_1 = 1$ motor with a leak valve $e_2 = 3$,
 threaded outlet $e_3 = 2$, $e_4 = 0$ is reserve.

Scope of delivery

- 2 – Pump and coupling.
- 4 – Pump, coupling, motor.
- 5 – Pump, coupling, motor, cable fittings and safety devices.
- 6 – Pump, coupling, motor, electronic relay of liquid level
- 9 – In accordance with contract.

On special demand it is possible to deliver additionally:

- equipment for cable camping (clamps, part No. 43.1.918.9 and bands, part No. 40.0.930.9)
- and/or cable connections (number depends on size of motor cable section):
 - thermo-shrinkable pipe $\phi 6,4/3,2$ - 70.50.01.p
 - thermo-shrinkable pipe $\phi 4,8/2,4$ - 70.50.03.p
 - thermo-shrinkable pipe $\phi 18/9$ - 70.51.01.p
 - thermo-shrinkable pipe $\phi 25,4/12,7$ - 70.50.05.p
 - thermo-shrinkable pipe $\phi 38/19$ - 70.50.06.p
 - thermo-shrinkable pipe $\phi 51/25,5$ - 70.50.07.p

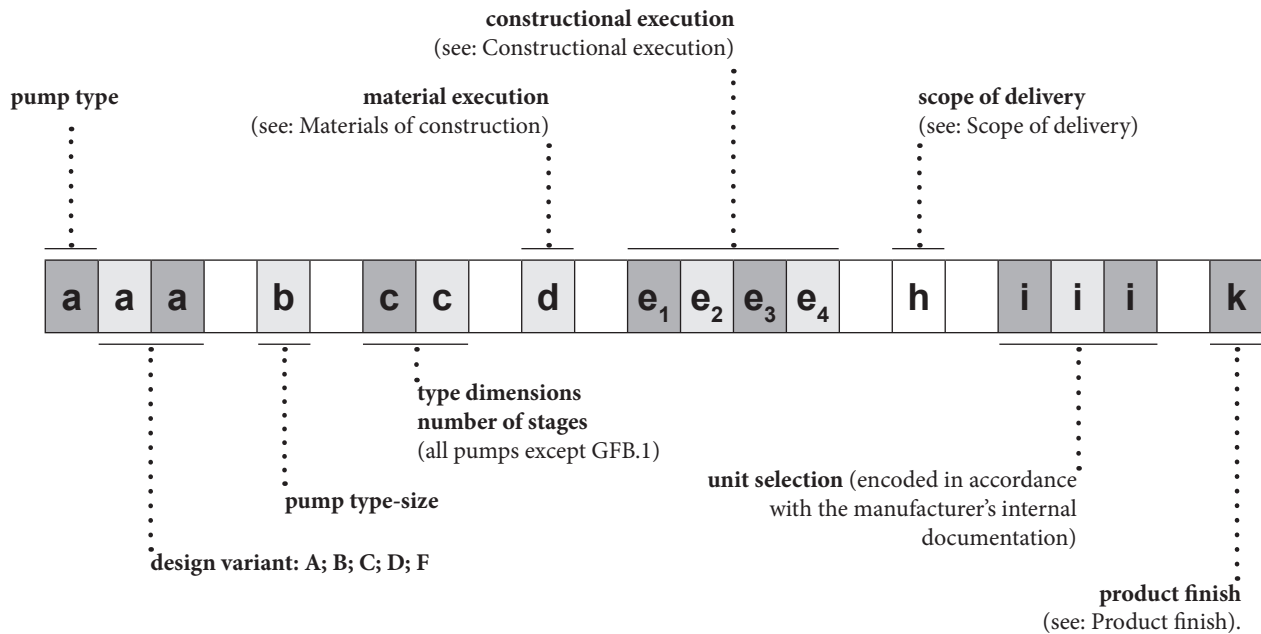
Product finish (protective coatings)

- 1 - standard
- 2 - special

Product designation structure

All essential information about the pump is encoded in its designation. The function of the designation, provided both in this catalogue and on the pump data plate, is to help make the right choice of a product and to keep in touch with us during its operation, for instance, when ordering spare parts.

The product code is structured as follows:



Example of a complete product designation

GCA.6.02.2.2110.4.232.1

Type GCA.6, pump, two stages, in material execution - 2, 6" motor, hermetic valve, flange type outlet, scope of delivery - 4, unit selection 232 (according to manufacturer's internal documentation), standard finish (protective coating).

The product label provides only part of the code, including constructional execution, e.g. : **GCA.6.02.2.2110**

Selection of feeder cables

The feeder cables for deep-well units are preferably selected using

- the diagram 1 and Table 1 for direct starting motors (see Page 8), and
- the diagram 2 and Table 2 for star-delta starting motors (See Page 9).

The diagrams show the maximum lengths of feeder cables, depending on the current output for the supply voltage $U_n=400$ V, a voltage drop of 3 % and temperature $t = +25^\circ\text{C}$.

For supply voltage ratings other than 400 V, the feeder cross-sectional area should be selected using suitable diagrams, adjusting the current output in accordance with the following formula:

$$I = I_{zn} \times \frac{400}{U_{zn}}$$

Selection of feeder cables

For temperatures above +25°C, the selected feeder cable cross-section should be adjusted with regard to the cable current load limit, based on tolerable current loads given in Tables 1 and 2.

Example

Select a feeder cable cross-section for a direct starting motor given the following parameters:

- supply voltage rating, U_n , = 400 V,
- current rating: 40 A,
- required cable length: 300 m,
- ambient temperature t = +45°C.

From Diagram 1 select the cable cross-section 35 mm² for 40 A current rating and 300 m cable length.

For such cable cross-section at 40 A current rating, the maximum tolerable cable length is 360 m. For a length of 300 m, the voltage drop is:

$$\Delta U = \frac{300}{360} \times 3\% = 2,5\%$$

A smaller cable cross-section of 25 mm² may be used for a current load of 40 A up to a length of 260 m.

For a length of 300 m, the voltage drop is:

$$\Delta U = \frac{300}{260} \times 3\% = 3,46\%$$

A cable cross-section of 35 mm² with 2.5% voltage drop is the right choice.

Checking the current load:

For a temperature of 45°C and cable cross-section of 35 mm², the tolerable maximum current load for a 3-wire cable is 120 A according to Table 1. Therefore, the cross-section above is suitable and sufficient.

Example

Select a feeder cable cross-section for a direct starting motor given the following parameters:

- supply voltage rating, U_n , = 1000 V,
- current rating: 100 A,
- required cable length: 200 m
- ambient temperature t = +30°C.

$$I = 100 \times \frac{400}{1000} = 40 \text{ A}$$

From Diagram 1 select the cable cross-section 35 mm² for 40 A current rating and 300 m cable length.

For such cable cross-section at 40 A current rating, the maximum tolerable cable length is 360 m. For a length of 300 m, the voltage drop is:

$$\Delta U = \frac{200}{360} \times 3\% = 1,67\%$$

Another smaller cable cross-section of 25 mm² may be used for a current load of 40 A up to a length of 260 m.

For a length of 200 m, the voltage drop is:

$$\Delta U = \frac{200}{260} \times 3\% = 2,30\%$$

The current load is checked for nominal current rating I_n = 100 A according to Table 1. For a temperature of 30°C, the tolerable maximum current load is 128 A. Therefore, the cable cross-section above is sufficient.

Selection of feeder cable cross-section for direct star-up

The data in the table below are based on Order 29 of the Ministry of Mining and Power Industry dated July 17th 1974, and VDE 0298 for cable temperature limit of 60°C.

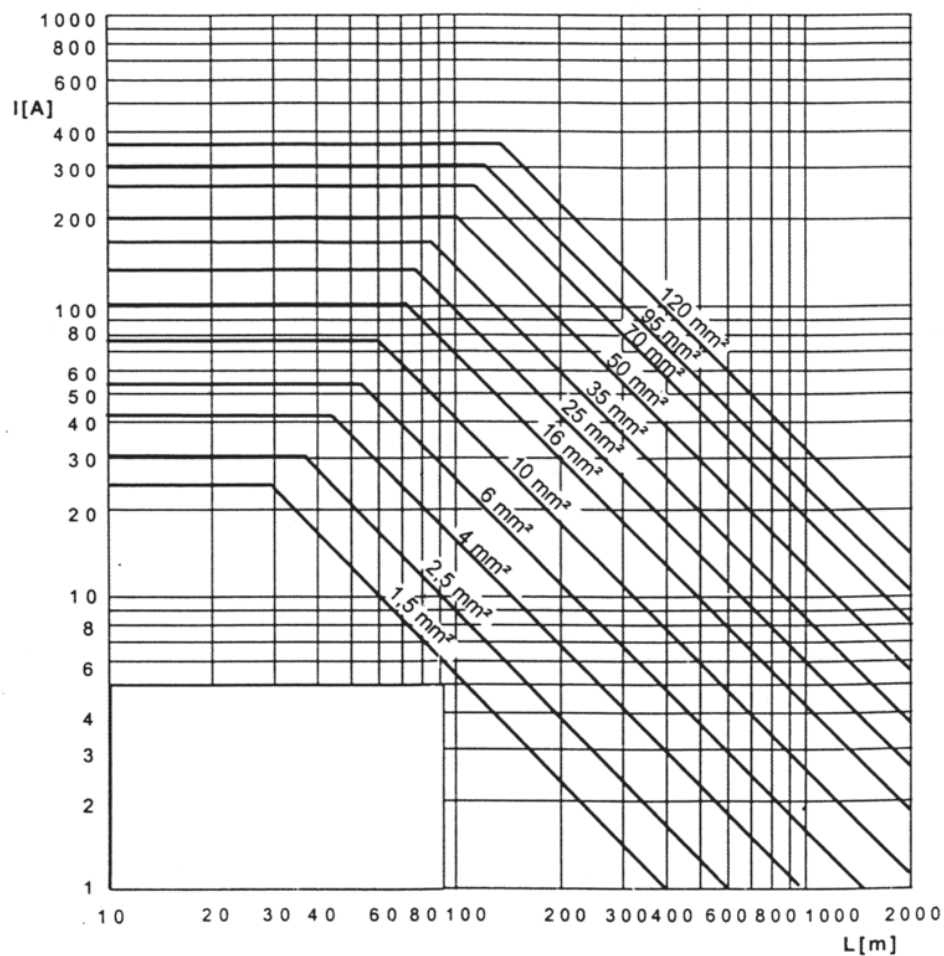
TABLE 1

Ambient temperature	25°C	30°C	35°C	40°C	45°C	50°C
Cross-section mm ²	Permissible current load for 3-wire cables					
	Motor current rating [A]					
1,5	25	23	21	19	17	13
2,5	34	31	29	25	23	18
4	45	41	38	34	31	24
6	58	53	49	43	40	31
10	80	73	67	60	55	42
16	107	98	90	80	74	57
25	139	128	117	104	96	74
35	174	160	146	130	120	92
50	216	199	181	162	149	114
70	267	246	224	200	184	143
95	322	296	270	242	222	171
120	369	340	310	276	255	195

Cable cross-section for 400 V

Voltage drop 3%; ambient temperature 25°C; $\cos \phi = 0,85$.

DIAGRAM 1



Selection of feeder cable cross-section for star-delta starting motors

The data in the table below are based on Order 29 of the Ministry of Mining and Power Industry dated July 17th 1974, and VDE 0298 for cable temperature limit of 60°C.

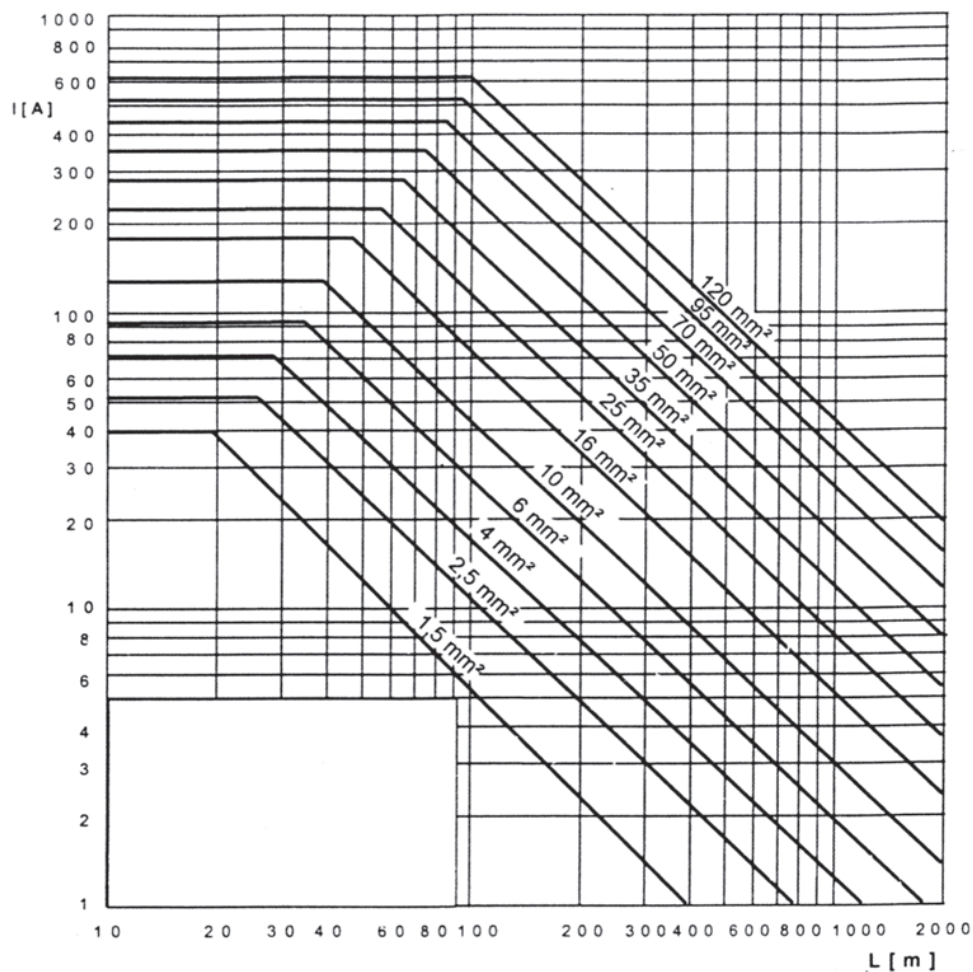
TABLE 2

Ambient temperature	25°C	30°C	35°C	40°C	45°C	50°C
Cross-sectional area mm ²	Permissible current load for 3-wire cables					
	Motor current rating [A]					
1,5	43	39	36	32	29	23
2,5	58	53	48	43	40	31
4	77	71	65	57	53	41
6	100	92	84	75	69	53
10	137	126	115	103	94	72
16	184	169	155	138	127	97
25	239	220	205	179	165	126
35	300	276	252	225	205	159
50	374	344	289	280	258	198
70	460	423	355	345	318	244
95	555	510	466	416	383	294
120	636	585	535	476	439	336

Cable cross-section for 400 V

Voltage drop 3%; ambient temperature 25°C; $\cos \phi = 0,85$.

DIAGRAM 2



Motor cooling

Specific requirements are posed as to the rate of flow past the motor:

Type of motor	Rate of flow past the motor	Liquid temperature
	m/s	°C
4" MOTORS	0,08	35
SMV	0,2	25
SMS	0,2	30
SMP	0,2	70

Calculation of the rate of flow past the motor:

$$V = \frac{Q}{2826 (D_s^2 - d_s^2)} \text{ [m/s]}$$

wherein: Q - pump capacity [m³/hr] D_s - well inside diameter [m] d_s - motor diameter [m]

Note: For $V_{\text{calc}} < V_{\text{req}}$, a suction jacket is required on the motor, of which the inside diameter suits the desirable rate of flow past the motor.

Motor safety devices

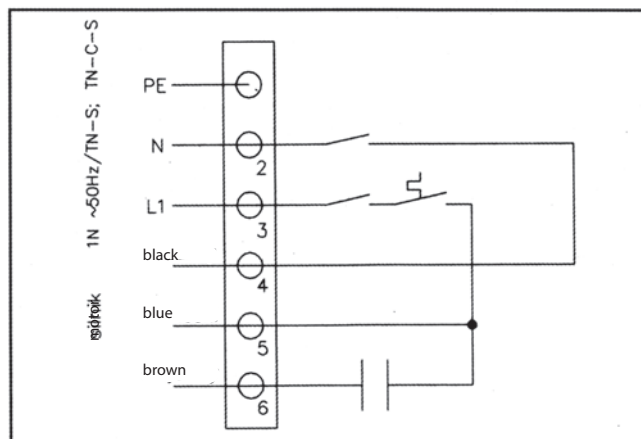
Type AMS safety device

Function

Two types of safety and control devices required in deep-well pumps having single-phase motors with power ratings 0.37-2.2 kW 1 x 230 V 50 Hz are available:

- AMS devices - for motors with power ratings from 0.37 to 1.5 kW and AM devices for those with a power rating of 2.2 kW.
- The devices comprise a starting capacitor, a thermal protection element to protect the motor from overload, and a switch.

Type of safety device	Motor power (kW)	Supply voltage (V)	Current rating (A)	Capacitor value (µF)
AMS/0,5 S	0,37	230	4,1	12
AMS/0,75 S	0,55	230	5,6	20
AMS/1,0 S	0,75	230	7	30
AMS/1,5 S	1,1	230	9,6	40
AMS/2,0 S	1,5	230	11,5	50
AMS/3,0 S	2,2	230	15	70



Motor safety devices

Type UZS 4 safety devices

Function

UZS 4 are safety and control devices, designed to protect the operation of three-phase asynchronous electric motors used in pump units, at the power output from 0.55 kW to 9 kW.

The UZS 4 device protects the motor in operation against the consequences of:

- a) short-circuit,
- b) overload,
- c) phase decay,
- d) feeding asymmetry,
- e) drop of supply voltage,
- f) "dry running",
- g) excessive number of switches.

Operating conditions

The UZS 4 safety-and-control devices are designed for operation in moderate climate conditions, at ambient temperatures in the range from -10°C to +40°C (optionally, from -30°C when the device has a internal heating element), at a relative humidity up to 80% at 20°C, in an environment that is free of water and dust, as well as explosive, inflammable or chemically active gas or vapors. The point of installation of the UZS 4 device shouldn't exceed 1000 above the sea level.

Design

The UZS 4 device comprises four modules: electronic voltage control element, electronic water level indicator, thermal over-current element, and over-current switch. The UZS 4 device comprises the following elements, enclosed in a hermetic plastic enclosure:

- contactor, CI
- thermo relay, TI
- electronic control module with signal lamps,
- double-throw rotary power switch.

Technical specifications

Type	UZS 4
Supply voltage rating	3 x 400 V (3 x 380 V), 50 Hz, arrangement TN-C-S, TN-S
Current rating	from 1,2 A to 20 A (depending on motor power rating), use the table below
Power consumption by the electronic module	4 VA
Probe electrode current	6 mA max.
Operating temperature range	from -10°C to +40°C (from -30°C to +40°C)
Enclosure protection degree	IP65
Weight	1,5 kg

Item No.	Type of safety device	Maximum motor rating (approx.)	Overload relay setting range	Dimensions: height x width x length [mm]
1	UZS4.01	0,55 kW	1,2 - 1,9 A	250 x 165 x 140
2	UZS4.02	0,75 kW	1,8 - 2,8 A	
3	UZS4.03	1,5 kW	2,7 - 4,2 A	
4	UZS4.04	2,2 kW	4 - 6,2 A	
5	UZS4.05	3,7 kW	6 - 9,2 A	
6	UZS4.06	4,5 kW	8 - 12 A	
7	UZS4.07	5,5 kW	11 - 16 A	
8	UZS4.08	7,5 kW	15 - 20 A	
9	UZS4.09	9 kW	15 - 20 A	

Motor safety devices

Type UZS 5 safety devices

Function

UZS 5 are safety and control devices, designed to protect the operation of three-phase asynchronous electric motors used in pump units, at the power output from 0.55 kW to 185 kW.

The UZS 5 device protects the motor in operation against the consequences of:

- a) short-circuit,
- b) overload,
- c) phase decay,
- d) feeding asymmetry,
- e) drop of supply voltage,
- f) "dry running",
- g) excessive number of switches.

Operating conditions

The UZS 5 safety-and-control devices are designed for operation in moderate climate conditions, at ambient temperatures in the range from -10°C to +40°C (optionally, from -30°C when the device has a internal heating element), at a relative humidity up to 80% at 20°C, in an environment that is free of water and dust, as well as explosive, inflammable or chemically active gas or vapors. The point of installation of the UZS 5 device shouldn't exceed 1000 above the sea level.

Design

UZS 5 comprises the following modules: programmable logic controller for control of the safety devices, over-current switch, executive and measurement devices, and connecting elements.

Technical specifications

Type	UZS 5
Supply voltage rating	3 x 400 V (3 x 380 V), 50 Hz, arrangement TN-C-S, TN-S
Current rating	from 1,2 A to 400 A (depending on motor power rating), use Table 1
Auxiliary voltage	220 / 230 V
Frequency	50 / 60 Hz
Power consumption by the electronic module	20 mA
Motor current rating	(from 0,2 to 1) * InA
Operating temperature range	from -25°C to +60°C for configuration 1 (from -30°C to +60°C for configuration 2)
Enclosure protection degree	IP55

Item No.	Type of safety device	Maximum motor rating (approx.)	Overload relay setting range	Dimensions: height x width x length [mm]
1	UZS5.01	2,2 kW	6 A	400 x 300 x 200
2	UZS5.02	3 kW	9 A	
3	UZS5.03	4 kW	12 A	
4	UZS5.04	5,5 kW	15 A	
5	UZS5.05	7,5 kW	20 A	
6	UZS5.06	9 kW	25 A	
7	UZS5.07	11 kW	30 A	
8	UZS5.08	15 kW	37 A	
9	UZS5.09	18,5 kW	45 A	
10	UZS5.10	22 kW	50 A	
11	UZS5.11	26 kW	60 A	
12	UZS5.12	33 kW	72 A	
13	UZS5.13	40 kW	86 A	600 x 400 x 250
14	UZS5.14	75 kW	145 A	800 x 600 x 400
15	UZS5.15	90 kW	180 A	
16	UZS5.16	185 kW	400 A	

GENERAL DATA

Head loss

Flow rate		PRESSURE HEAD LOSSES IN STEEL PIPEWORK											
		Nominal diameter in inches, inside diameter in mm											
m³/h	l/min.	1/2" 15,75	3/4" 21,25	1" 27,00	1 1/4" 35,75	1 1/2" 41,25	2" 52,50	2 1/2" 68,00	3" 80,25	3 1/2" 92,50	4" 105,0	5" 130,0	6" 155,5
0,6	10	9,90	2,40	0,80									
0,9	15	20,00	4,90	1,60	0,40								
1,2	20	33,50	8,00	2,60	0,70	0,35							
1,5	25	50,00	12,00	4,00	1,00	0,50							
1,8	30	69,50	16,50	5,30	1,40	0,70	0,25						
2,1	35	91,50	21,50	7,00	2,00	0,90	0,30						
2,4	40		27,70	8,80	2,30	1,20	0,40						
3,0	50		41,50	13,00	3,50	1,70	0,55	0,16					
3,6	60		57,50	18,50	4,80	2,40	0,75	0,22					
4,2	70		76,50	24,00	6,50	3,00	1,00	0,30	0,15				
4,8	80			30,90	8,00	4,00	1,30	0,40	0,18				
5,4	90			38,50	9,90	5,00	1,60	0,50	0,21				
6,0	100			46,50	12,00	6,00	2,00	0,60	0,25	0,13			
7,5	125			70,50	18,00	9,00	3,00	0,85	0,36	0,18	0,10		
9,0	150				25,00	12,00	4,00	1,15	0,50	0,26	0,14		
10,5	175				33,50	16,70	5,20	1,50	0,65	0,35	0,19		
12,0	200				42,50	21,50	6,60	1,90	0,85	0,45	0,25	0,10	
15,0	250				64,90	32,30	10,00	2,90	1,30	0,65	0,35	0,13	
18,0	300					45,50	14,00	4,00	1,80	0,90	0,50	0,17	0,10
24,0	400					78,20	24,00	6,90	3,10	1,50	0,85	0,30	0,13
30,0	500						36,50	10,50	4,70	2,40	1,30	0,50	0,20
36,0	600						51,80	14,70	6,50	3,30	1,80	0,65	0,25
42,0	700							19,50	8,70	4,40	2,40	0,85	0,35
48,0	800							25,20	11,50	5,60	3,10	1,00	0,45
54,0	900							31,50	14,00	7,00	3,75	1,33	0,55
60,0	1000							38,50	17,00	8,50	4,60	1,60	0,68
75,0	1250								26,00	13,00	7,10	2,50	1,10
90,0	1500								39,90	18,50	9,90	3,50	1,45
105,0	1750									24,80	13,50	4,70	1,95
120,0	2000									31,90	17,50	6,00	2,50
150,0	2500										26,50	9,30	3,80
180,0	3000											13,10	5,50
240,0	4000											22,80	9,00
300,0	5000												14,50

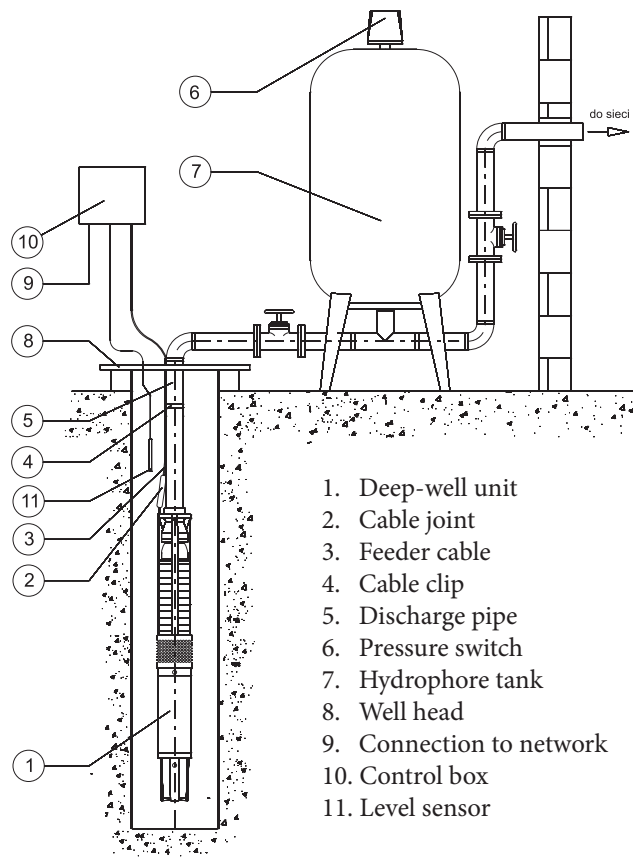
The pressure loss data above are specified for a 100 m straight section of pipework.

For elbows, T-pipes, non-return valves or cut-off gate valves, a length of 5 m is added to the straight section of pipework for each of the above elements.

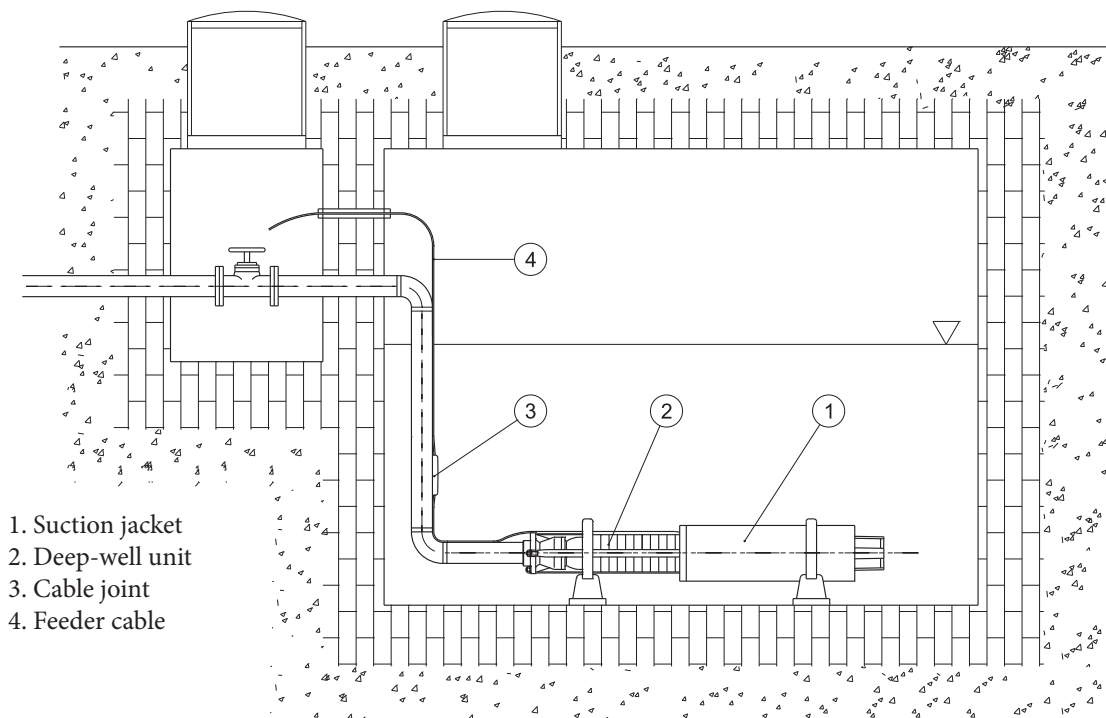
Flow rate		PRESSURE HEAD LOSSES IN PLASTIC PIPEWORK											
		Outside and inside diameters in mm											
m³/h	l/min.	25 20,4	32 26,2	40 32,6	50 40,8	63 51,4	75 61,4	90 73,6	110 90,0	125 102,2	140 114,6	160 130,6	180 147,2
0,6	10	1,80	0,70	0,30	0,09								
0,9	15	4,00	1,20	0,60	0,20	0,01							
1,2	20	6,40	2,20	0,90	0,30	0,11							
1,5	25	10,00	3,50	1,40	0,50	0,18	0,09						
1,8	30	13,00	4,50	2,00	0,60	0,22	0,10						
2,1	35	16,00	6,00	2,50	0,70	0,27	0,12						
2,4	40	22,00	7,50	3,40	0,95	0,35	0,16	0,07					
3,0	50	37,00	11,00	4,80	1,40	0,50	0,25	0,09					
3,6	60	43,00	15,00	6,50	1,90	0,70	0,35	0,13	0,06				
4,2	70		50,00	18,00	8,00	2,50	0,80	0,40	0,18	0,07			
4,8	80		25,00	10,50	3,00	1,30	0,50	0,25	0,08				
5,4	90		30,00	12,00	3,50	1,40	0,60	0,30	0,09	0,05			
6,0	100		39,00	16,00	4,60	1,80	0,70	0,35	0,12	0,07			
7,5	125		50,00	24,00	6,60	2,50	1,10	0,50	0,20	0,10	0,06		
9,0	150			33,00	8,50	3,50	1,40	0,60	0,25	0,15	0,08		
10,5	175			38,00	11,00	4,50	1,80	0,80	0,30	0,18	0,09		
12,0	200			50,00	14,00	5,50	2,40	1,00	0,40	0,21	0,12	0,06	
15,0	250				21,00	8,00	3,70	1,50	0,60	0,35	0,18	0,10	0,07
18,0	300				28,00	10,50	4,60	1,90	0,80	0,45	0,25	0,15	0,09
24,0	400					19,00	8,00	3,60	1,40	0,80	0,45	0,25	0,15
30,0	500					28,00	11,50	5,00	2,00	1,20	0,65	0,35	0,20
36,0	600					37,00	15,00	6,60	2,60	1,50	0,80	0,45	0,30
42,0	700					47,00	24,00	8,00	3,50	1,90	1,10	0,60	0,40
48,0	800						26,00	11,00	4,50	2,60	1,40	0,80	0,50
54,0	900						33,00	13,50	5,50	3,20	1,70	0,95	0,60
60,0	1000						40,00	16,00	6,50	4,00	2,20	1,20	0,75
75,0	1250							25,00	9,00	5,00	3,00	1,60	0,95
90,0	1500							33,00	13,00	8,00	4,10	2,30	1,40
105,0	1750							40,00	17,50	9,80	5,80	3,30	2,00
120,0	2000								23,00	13,00	7,00	4,00	2,50
150,0	2500								34,00	18,00	10,50	6,00	3,50
180,0	3000								45,00	27,00	14,00	7,50	5,50
240,0	4000									43,00	24,00	13,00	7,50
300,0	5000										33,00	18,00	11,00

Examples of installations

Vertical installation

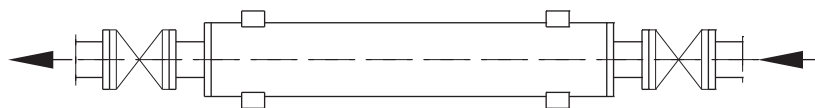


Horizontal installation

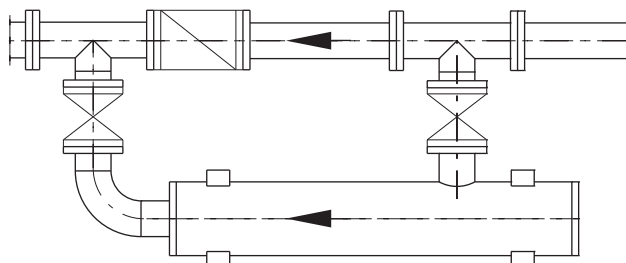


Alternative deep-well unit installations

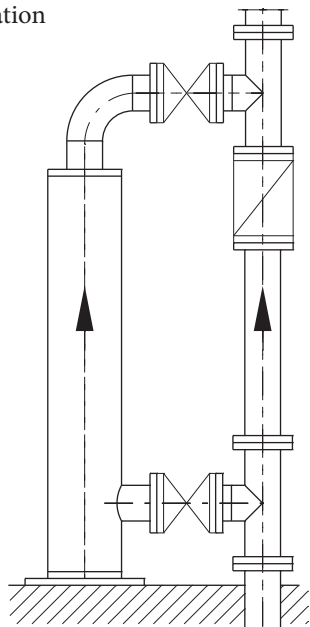
direct horizontal
installation



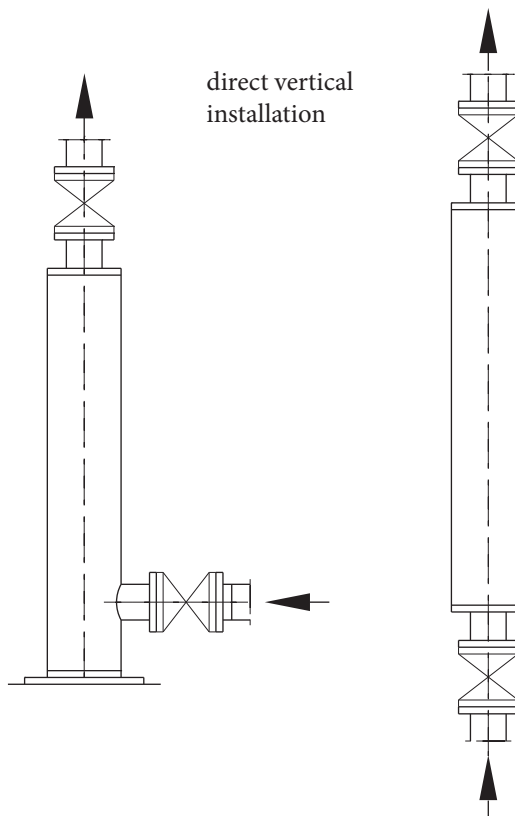
by-pass horizontal
installation



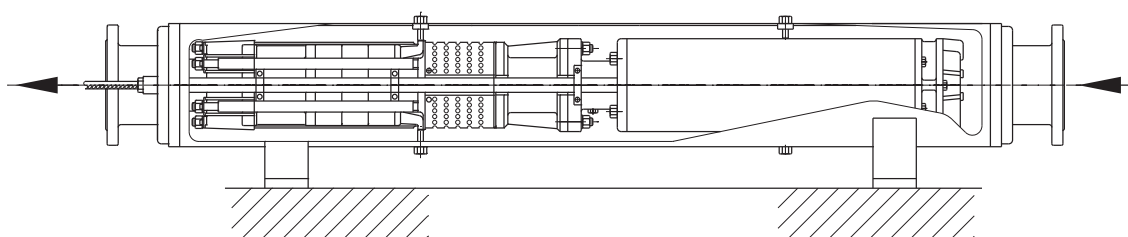
by-pass vertical
installation



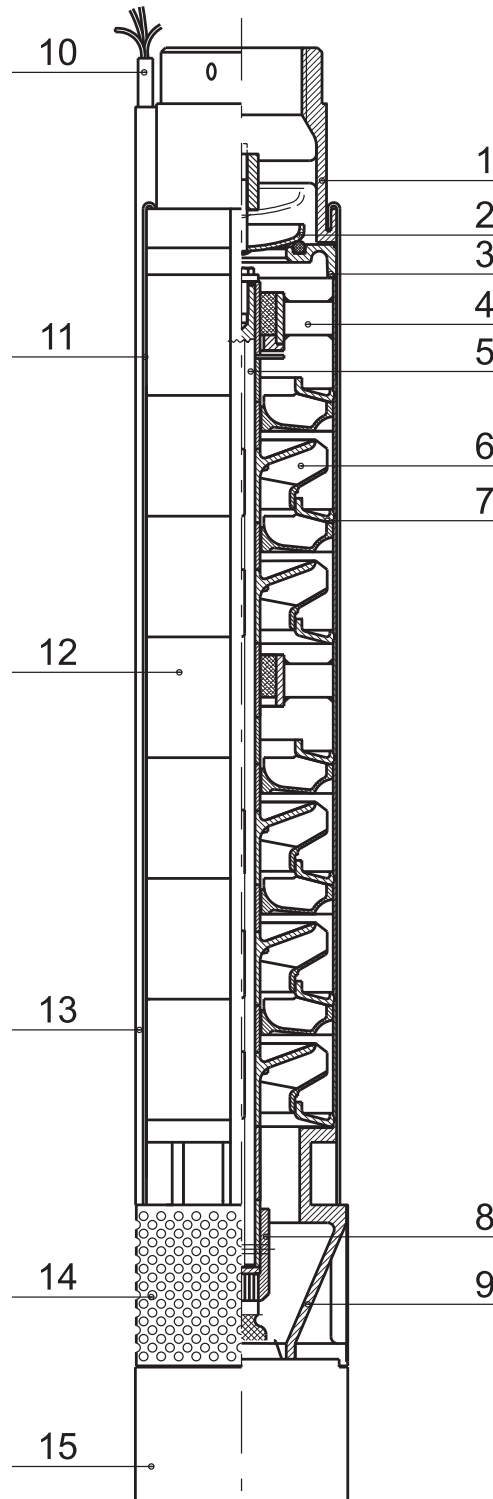
direct vertical
installation



deep-well unit in
leak-proof jacket
– horizontal
installation



GAB.2, GAB.4, GAB.5

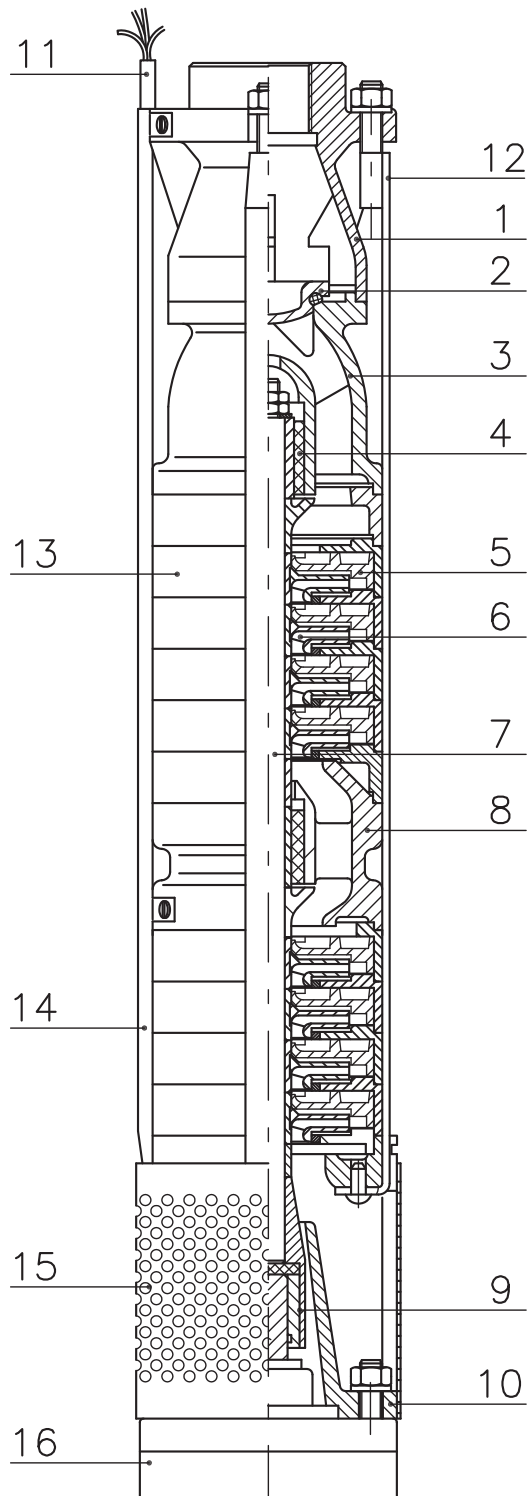


- 1. Discharge casing
- 2. Non-return valve head
- 3. Non-return valve housing
- 4. Bearing housing
- 5. Pump shaft
- 6. Impeller
- 7. Stator
- 8. Coupling

- 9. Suction casing
- 10. Feeder cable
- 11. Connecting band
- 12. Middle casing
- 13. Cable duct
- 14. Perforated sheet
- 15. Motor

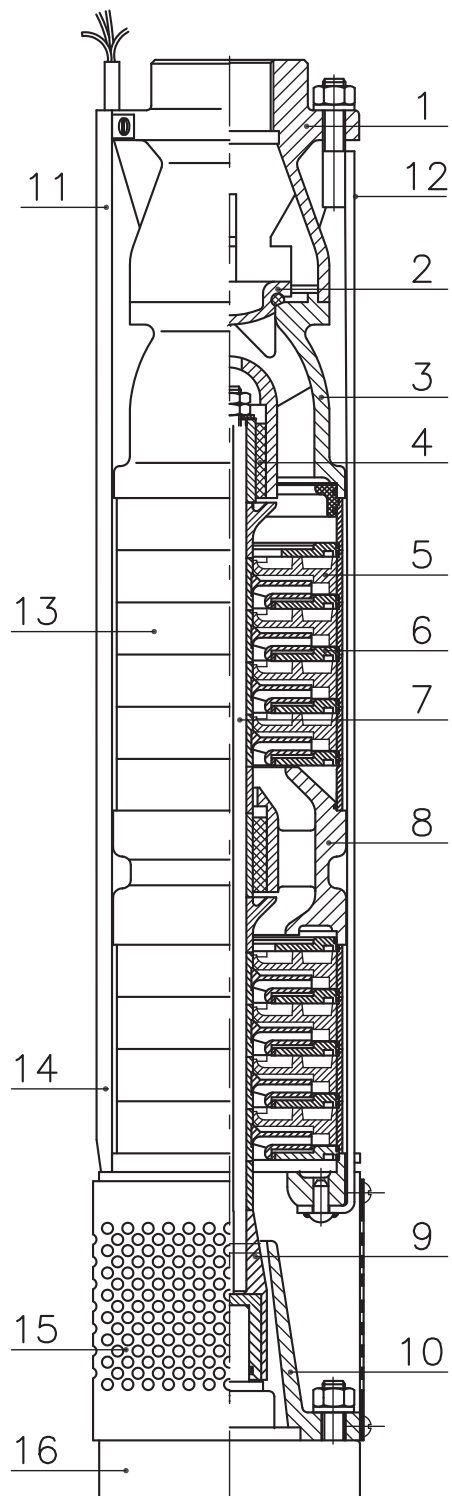
Pump design

GB.0, GBA.1, GBA.2



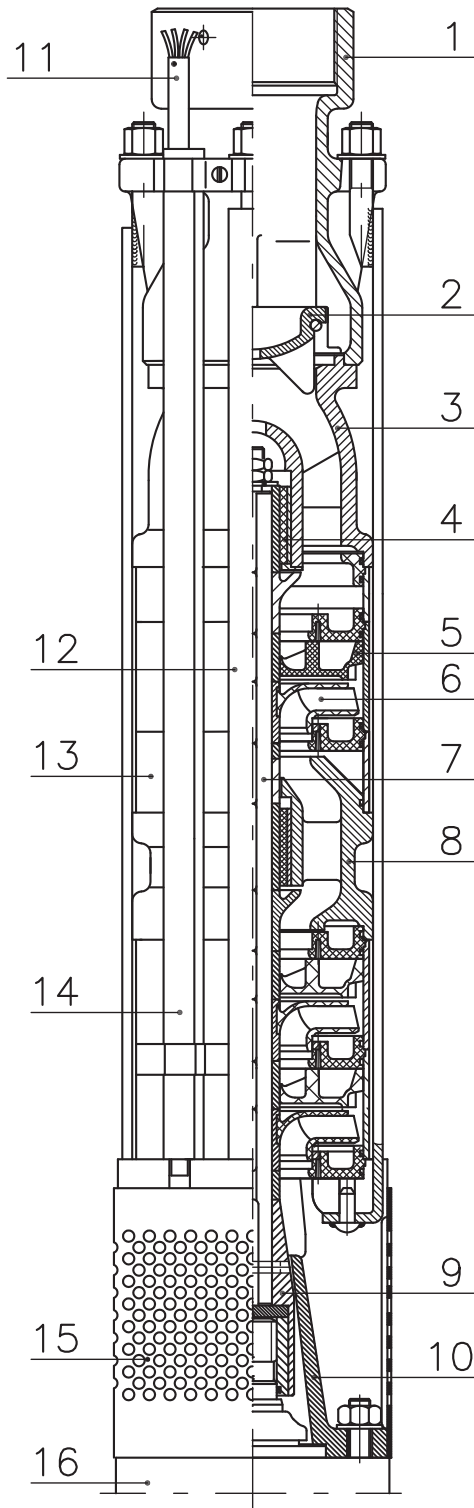
- | | |
|-----------------------------|----------------------|
| 1. Discharge casing | 9. Coupling |
| 2. Non-return valve | 10. Suction casing |
| 3. Non-return valve housing | 11. Feeder cable |
| 4. Metal and rubber bearing | 12. Connecting band |
| 5. Stator | 13. Middle casing |
| 6. Impeller | 14. Cable duct |
| 7. Shaft | 15. Perforated sheet |
| 8. Bearing housing | 16. Motor |

GBC.0, GBC.1, GBC.2



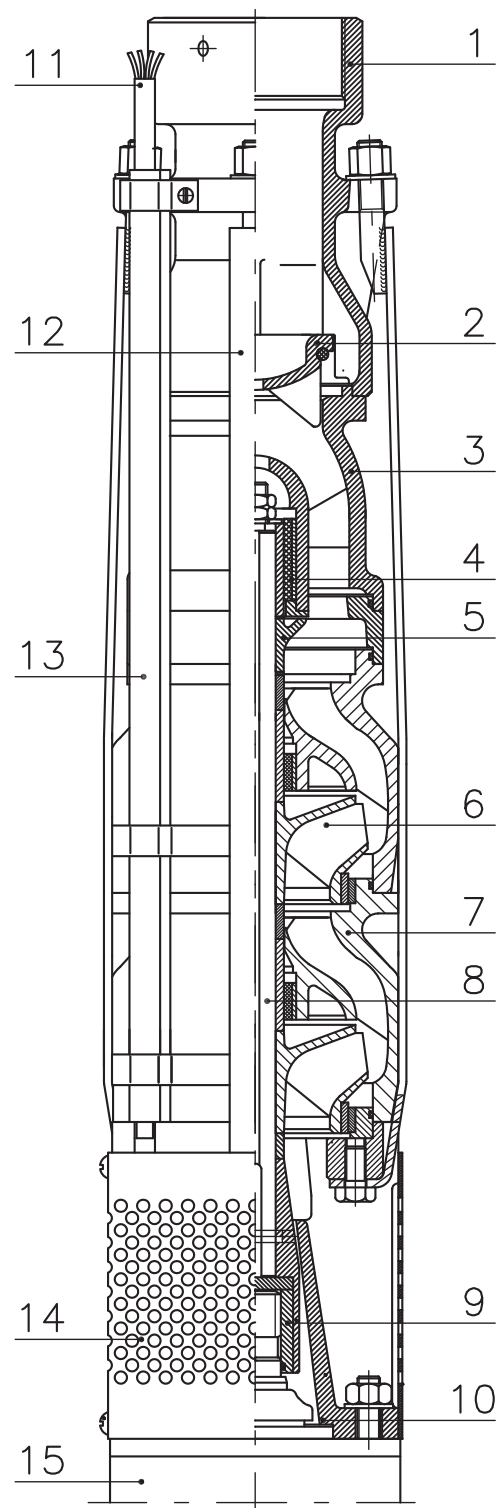
- | | |
|-----------------------------|----------------------|
| 1. Discharge casing | 9. Coupling |
| 2. Non-return valve | 10. Suction casing |
| 3. Non-return valve housing | 11. Feeder cable |
| 4. Metal and rubber bearing | 12. Connecting band |
| 5. Stator | 13. Middle casing |
| 6. Impeller | 14. Cable duct |
| 7. Shaft | 15. Perforated sheet |
| 8. Bearing housing | 16. Motor |

GBC.3



- | | |
|-----------------------------|----------------------|
| 1. Discharge casing | 9. Coupling |
| 2. Non-return valve | 10. Suction casing |
| 3. Non-return valve housing | 11. Feeder cable |
| 4. Metal and rubber bearing | 12. Connecting band |
| 5. Stator | 13. Middle casing |
| 6. Impeller | 14. Cable duct |
| 7. Shaft | 15. Perforated sheet |
| 8. Bearing housing | 16. Motor |

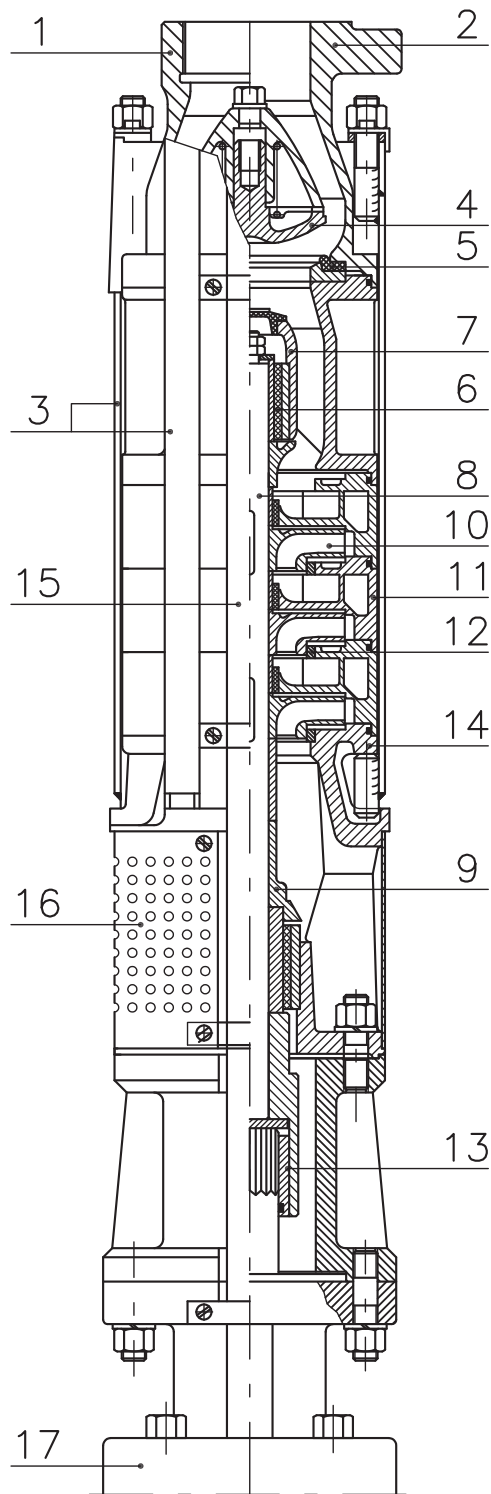
GBC.4, GBC.5



- | | |
|-----------------------------|----------------------|
| 1. Discharge casing | 9. Coupling |
| 2. Non-return valve | 10. Suction casing |
| 3. Non-return valve housing | 11. Feeder cable |
| 4. Metal and rubber bearing | 12. Connecting band |
| 5. Antisand shell | 13. Cable duct |
| 6. Impeller | 14. Perforated sheet |
| 7. Middle casing | 15. Motor |
| 8. Shaft | |

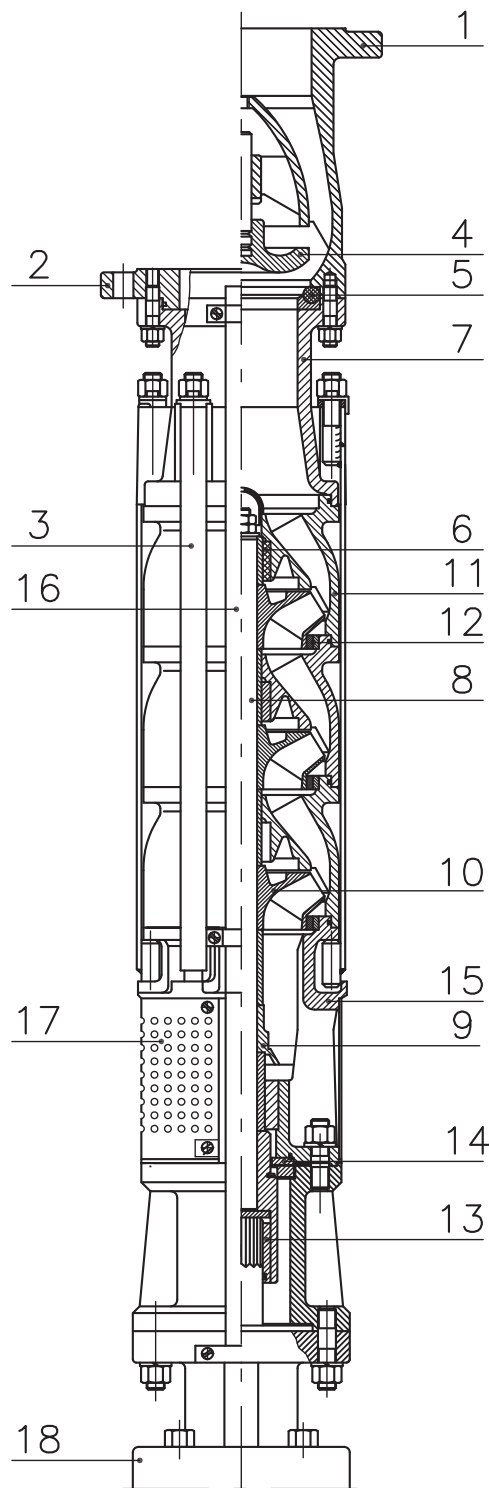
Pump design

GC.0, GCA.2, GCA.3, GCA.5



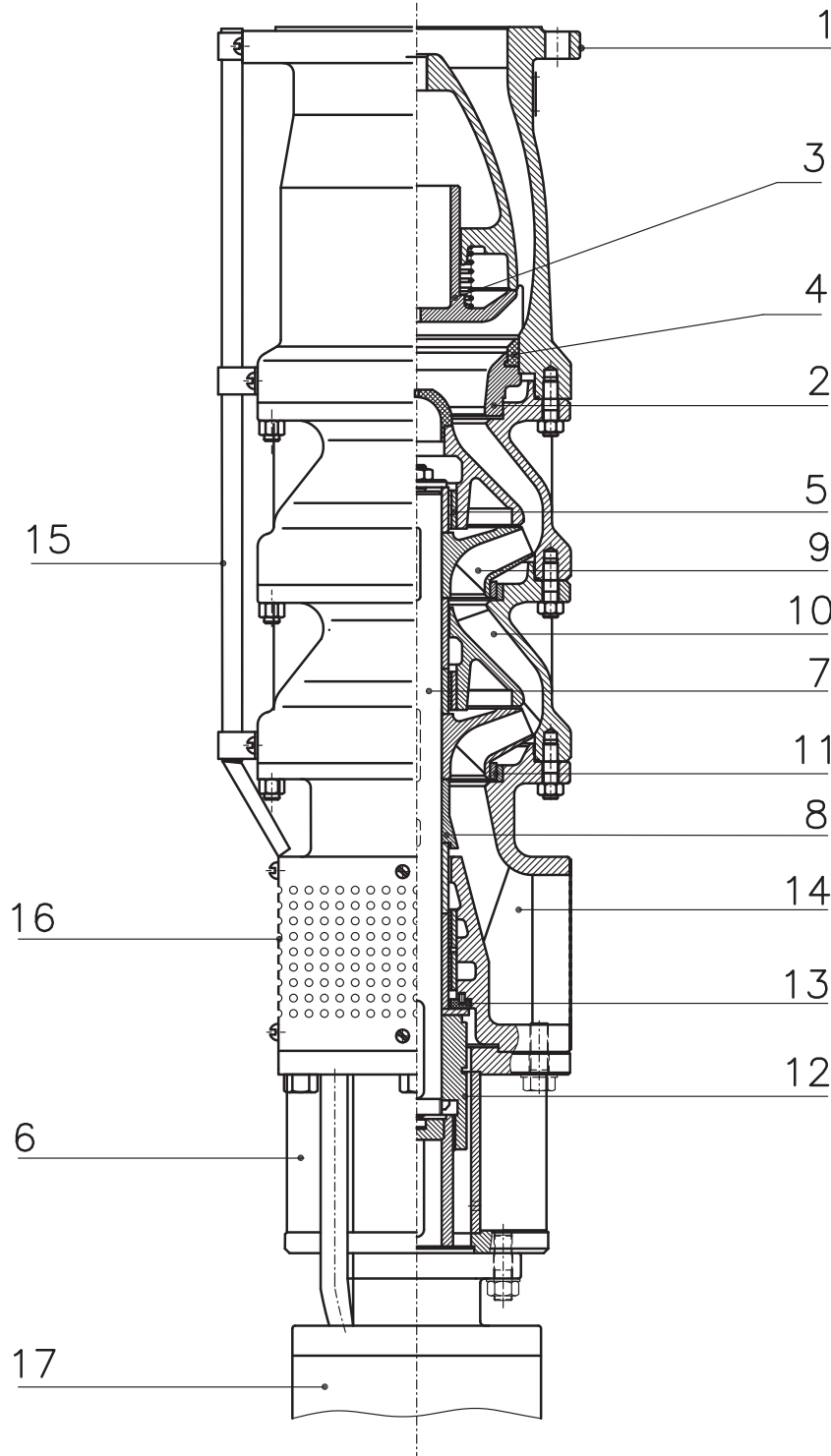
- | | |
|--|------------------------|
| 1. Discharge casing with threaded connection | 10. Impeller |
| 2. Discharge casing with flange connection | 11. Middle casing |
| 3. Connecting band | 12. Wear sealing rings |
| 4. Non-return valve head | 13. Coupling |
| 5. Non-return valve seal | 14. Suction casing |
| 6. Metal and rubber bearing | 15. Cable duct |
| 7. Bearing housing | 16. Perforated sheet |
| 8. Shaft | 17. Motor |
| 9. Antisand shell | |

GCA.6, GCA.7, GCA.8



- | | |
|--|------------------------|
| 1. Discharge casing with flange connection | 10. Impeller |
| 2. Flange (a configuration without non-return valve) | 11. Middle casing |
| 3. Connecting band | 12. Wear sealing rings |
| 4. Non-return valve head | 13. Coupling |
| 5. Non-return valve seal | 14. Thrust bearing |
| 6. Metal and rubber bearing | 15. Suction casing |
| 7. Valve housing | 16. Cable duct |
| 8. Shaft | 17. Perforated sheet |
| 9. Antisand shell | 18. Motor |

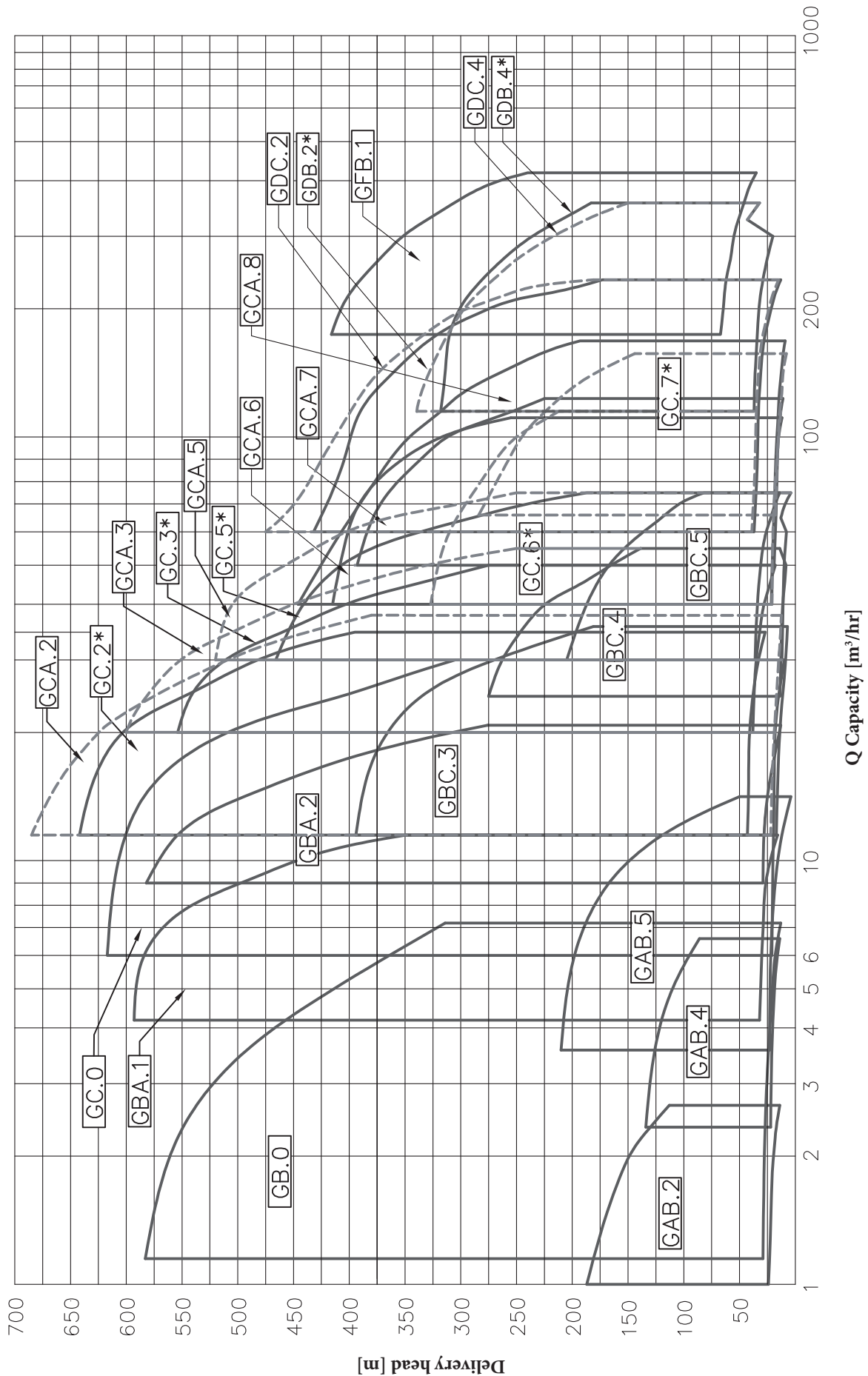
GDC.2, GDC.4, GFB.1



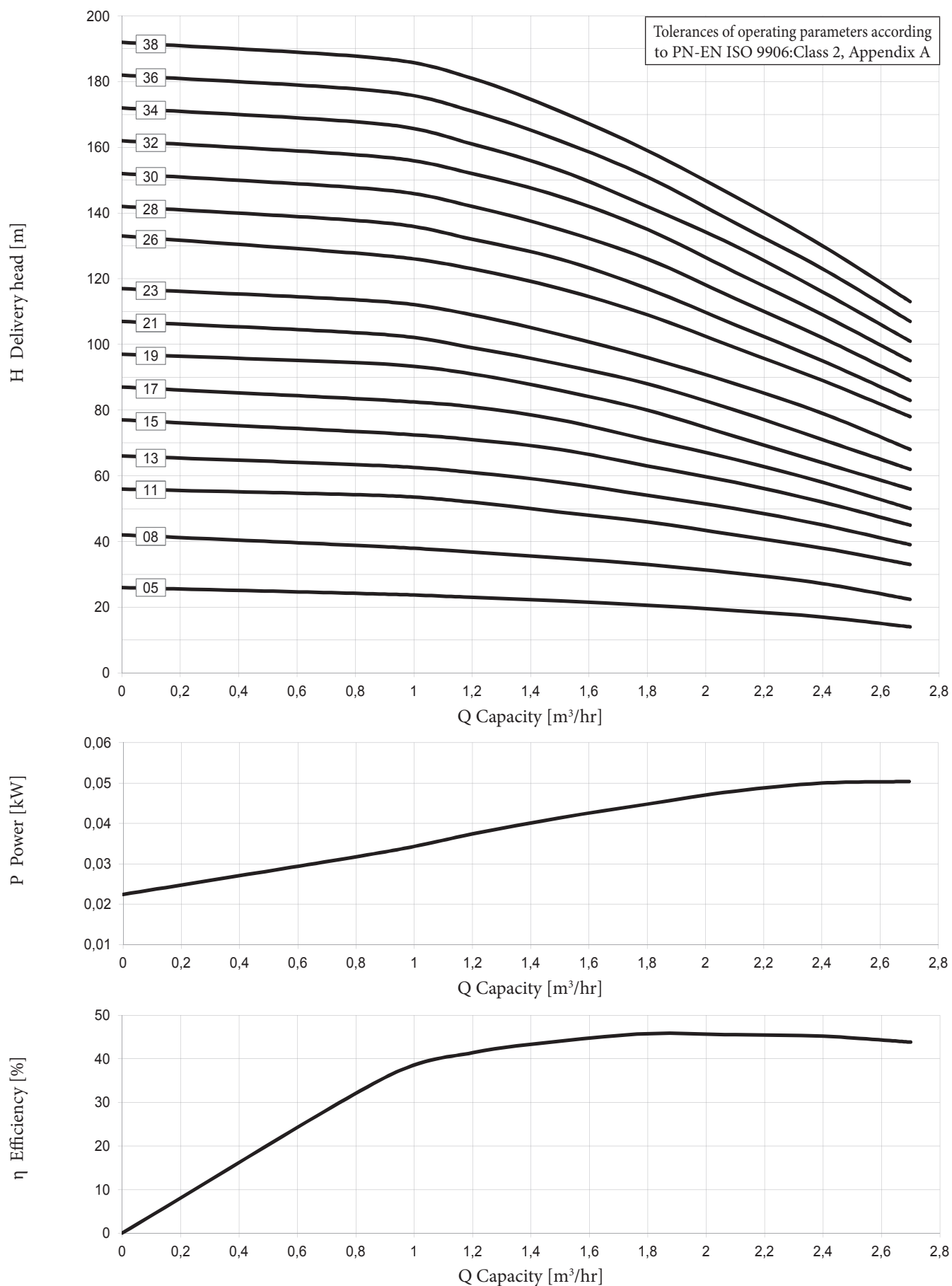
- 1. Discharge casing with flange connection
- 2. Non-return valve seat
- 3. Non-return valve head
- 4. Non-return valve seal
- 5. Metal and rubber bearing
- 6. Connecting body
- 7. Shaft
- 8. Antisand shell
- 9. Impeller

- 10. Middle casing
- 11. Wear sealing rings
- 12. Coupling
- 13. Thrust bearing
- 14. Suction casing
- 15. Cable duct
- 16. Perforated sheet
- 17. Motor

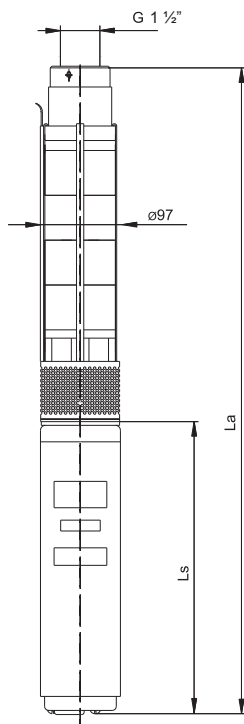
Cumulative diagram



*- withdrawn from production



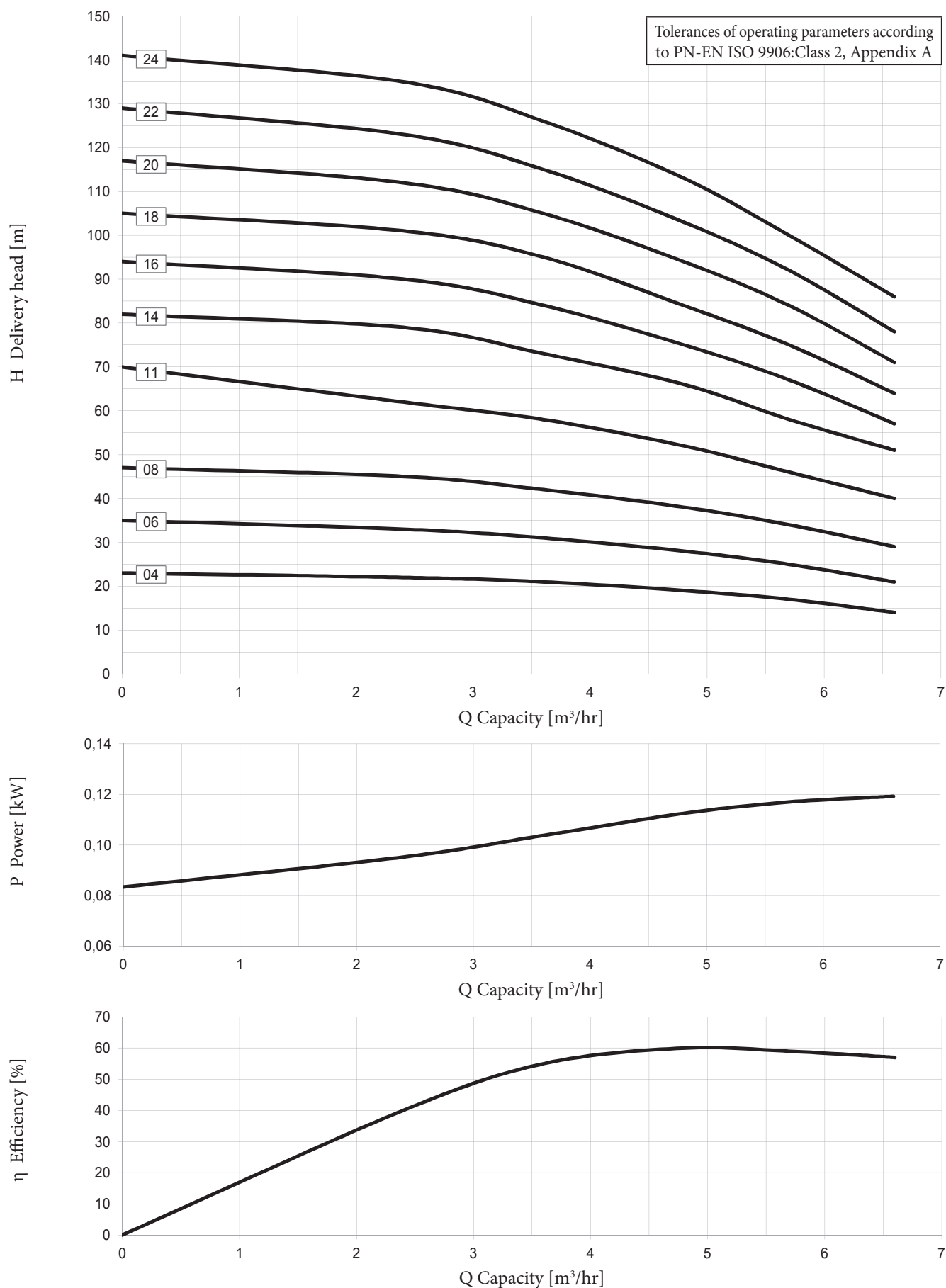
GAB.2



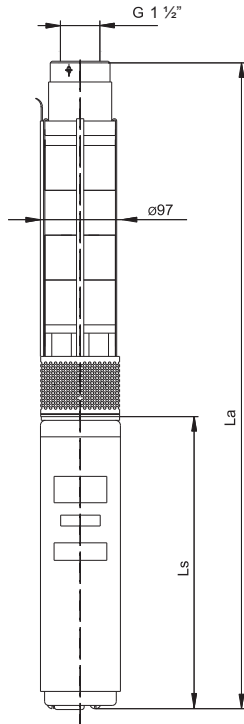
Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-4					SMS-4				
			L _a	L _p	L _s	Motor power (kW)	Unit weight (kg)	L _a	L _p	L _s	Motor power (kW)	Unit weight (kg)
GAB.2.05	0,33	4,7	703* 683	371	332* 312	0,37	12,6* 11,8	717* 701	371	346* 330	0,37	12,0* 11,4
GAB.2.08	0,52	5,1	797* 767	435	362* 332	0,55	14,2* 13,1	800* 781	435	365* 346	0,55	13,3* 12,5
GAB.2.11	0,71	5,5	892* 862	500	392* 362	0,75	16,0* 14,7	880* 865	500	380* 365	1,1	14,3* 13,7
GAB.2.13	0,77	5,9	975* 935	543	432* 392	1,1	17,9* 16,4	948* 923	543	405* 380	1,1	15,9* 14,8
GAB.2.15	0,83	6,4	1018* 978	586	432* 392	1,1	18,4* 16,9	991* 966	586	405* 380	1,1	16,4* 15,3
GAB.2.17	0,94	6,8	1061* 1021	629	432* 392	1,1	18,8* 17,3	1034* 1009	629	405* 380	1,1	16,8* 15,7
GAB.2.19	1,04	7,3	1104* 1064	672	432* 392	1,1	19,3* 17,8	1077* 1052	672	405* 380	1,1	17,3* 16,2
GAB.2.21	1,15	7,7	1207* 1147	715	492* 432	1,5	22,3* 20,5	1155* 1120	715	440* 405	1,5	19,2* 17,7
GAB.2.23	1,26	8,5	1293* 1233	801	492* 432	1,5	23,1* 20,5	1241* 1206	801	440* 405	1,5	20,0* 18,5
GAB.2.26	1,43	9,1	1358* 1298	866	492* 432	1,5	23,7* 21,1	1306* 1271	866	440* 405	1,5	20,6* 19,1
GAB.2.28	1,54	9,5	1481* 1401	909	572* 492	2,2	27,6* 24,3	1404* 1349	909	495* 440	2,2	23,5* 21,1
GAB.2.30	1,65	9,9	1524* 1444	952	572* 492	2,2	28,0* 24,7	1447* 1392	952	495* 440	2,2	23,9* 21,5
GAB.2.32	1,76	10,3	1567* 1487	995	572* 492	2,2	28,4* 25,1	1490* 1435	995	495* 440	2,2	24,3* 21,9
GAB.2.34	1,87	10,7	1610* 1530	1038	572* 492	2,2	28,8* 25,5	1533* 1478	1038	495* 440	2,2	24,7* 22,3
GAB.2.36	1,98	11,1	1653* 1573	1081	572* 492	2,2	29,2* 25,9	1576* 1521	1081	495* 440	2,2	25,1* 22,7
GAB.2.38	2,09	11,5	1696* 1616	1124	572* 492	2,2	29,6* 26,3	1619* 1564	1124	495* 440	2,2	25,5* 23,1

* for motor 1~

Pump unit code	Q Capacity [m³/hr]							
	0	0,9	1,2	1,5	1,8	2,1	2,4	2,7
	Q Capacity [l/min]							
	0	15	20	25	30	35	40	45
H [m]								
GAB.2.05	26	24	23	22	21	19	17	14
GAB.2.08	40	39	38	36	34	31	28	23
GAB.2.11	56	54	52	49	46	42	38	33
GAB.2.13	66	63	61	58	54	50	45	39
GAB.2.15	77	73	71	68	63	58	52	45
GAB.2.17	87	83	81	77	71	65	58	50
GAB.2.19	97	94	91	86	80	72	64	56
GAB.2.21	107	103	99	94	88	80	71	62
GAB.2.23	117	113	109	103	96	88	79	68
GAB.2.26	133	128	123	117	109	99	89	78
GAB.2.28	142	137	132	126	117	106	95	83
GAB.2.30	152	147	142	135	126	114	102	89
GAB.2.32	162	157	152	145	135	122	109	95
GAB.2.34	172	167	161	153	142	130	116	101
GAB.2.36	182	177	171	162	151	137	123	107
GAB.2.38	192	187	181	171	159	145	130	113



GAB.4

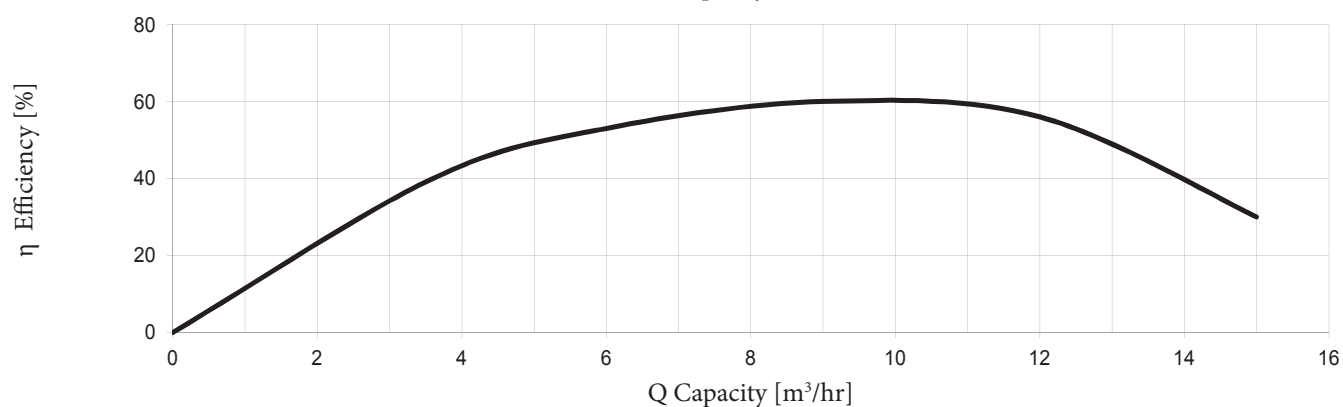
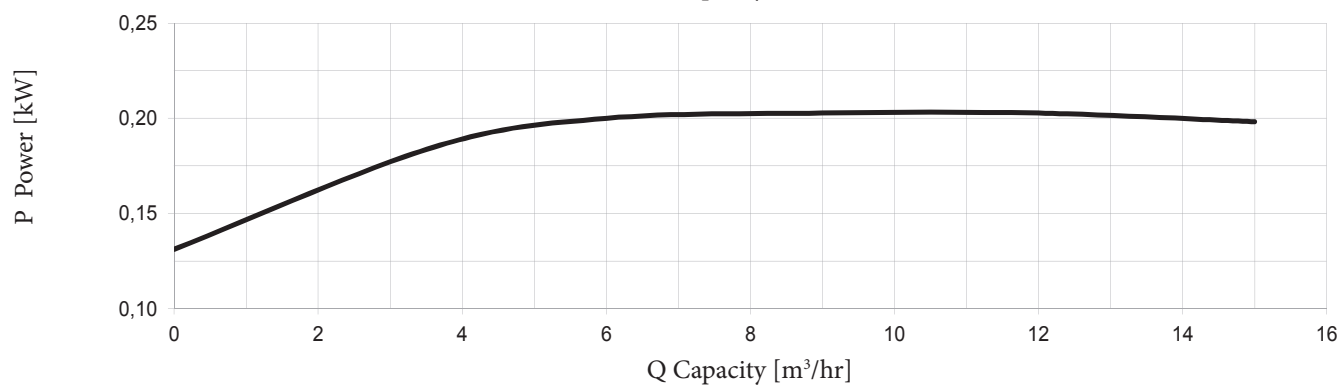
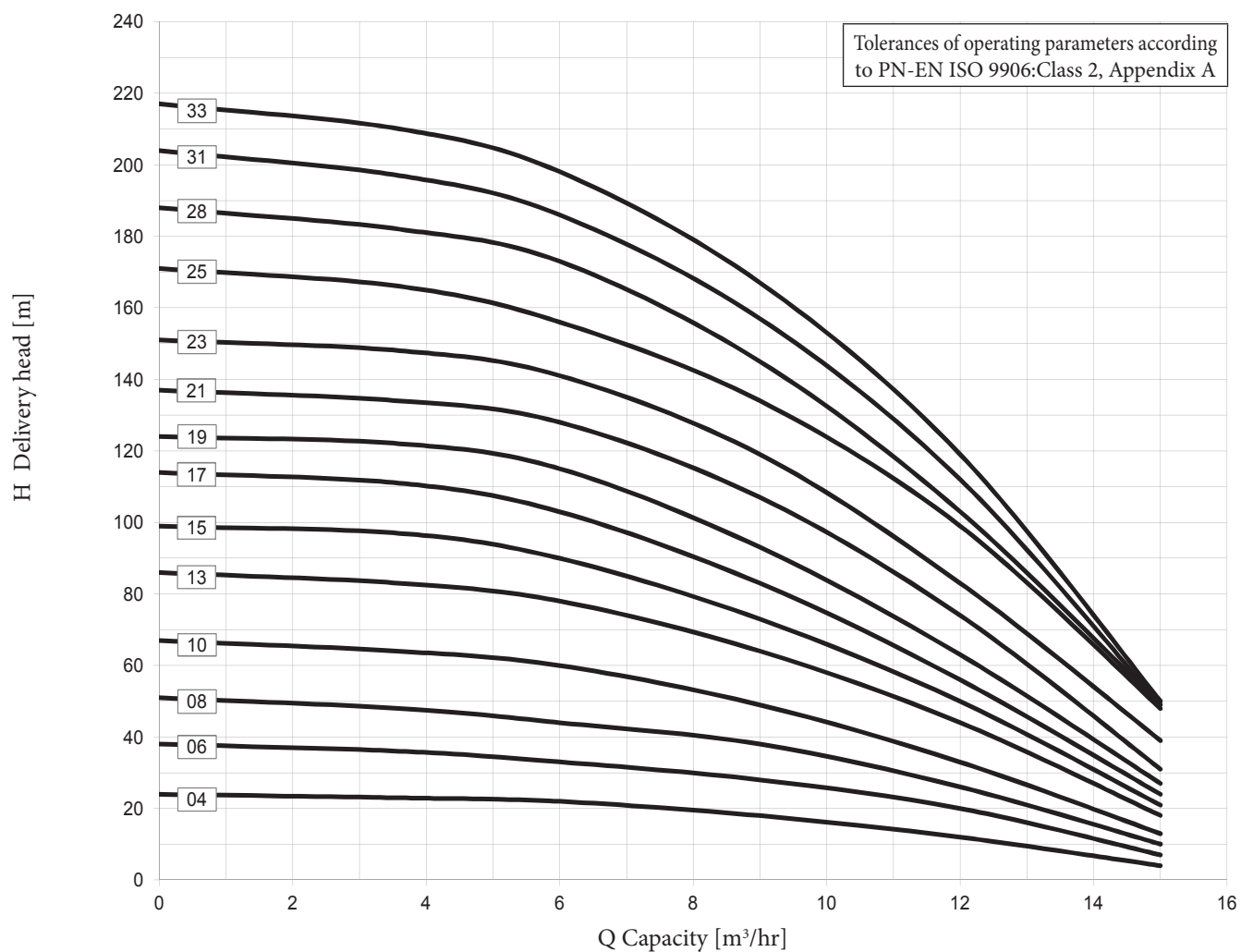


Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-4					SMS-4				
			L _a	L _p	L _s	Motor power (kW)	Unit weight (kg)	L _a	L _p	L _s	Motor power (kW)	Unit weight (kg)
GAB.4.04	0,6	4,5	752*	360	392*	0,75	15,0*	740*	360	380*	0,75	13,3*
			722		362		13,7	725		365		12,7
GAB.4.06	0,9	5,1	842*	410	432*	1,1	17,1*	815*	410	405*	1,1	15,1*
			802		392		15,6	790		380		14,0
GAB.4.08	1	5,7	892*	460	432*	1,1	17,7*	865*	460	405*	1,1	15,7*
			852		392		16,2	840		380		14,6
GAB.4.11	1,3	6,3	1027*	535	492*	1,5	20,9*	975*	535	440*	1,5	17,8*
			967		432		18,3	940		405		16,3
GAB.4.14	1,7	7	1182*	610	572*	2,2	25,1*	1105*	610	495*	2,2	21,0*
			1102		492		21,8	1050		440		18,6
GAB.4.16	1,9	7,5	1232*	660	572*	2,2	25,6*	1155*	660	495*	2,2	21,5*
			1152		492		22,3	1100		440		19,1
GAB.4.18	2,2	8,1	1243	710	533	3	24,4	1226	710	516	3	23,3
GAB.4.20	2,4	9,2	1333	800	533	3	25,5	1316	800	516	3	24,4
GAB.4.22	2,7	9,8	1383	850	533	3	26,1	1366	850	516	3	25,0
GAB.4.24	2,9	10,4	1513	900	613	4	30,5	1507	900	607	4	29,9

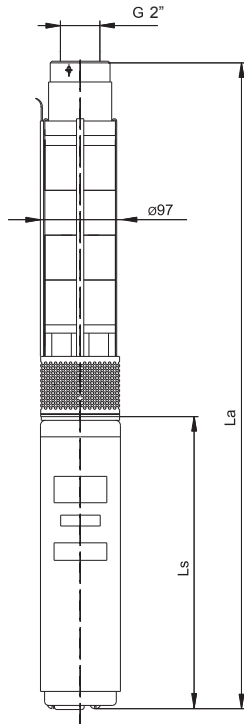
* for motor 1~

Pump unit code	Q Capacity [m³/hr]					
	0	2,4	3,6	4,8	5,7	6,6
	Q Capacity [l/min]					
	0	40	60	80	95	110
	H [m]					
GAB.4.04	23	22	21	19	17	14
GAB.4.06	35	33	31	28	25	21
GAB.4.08	47	45	42	38	34	29
GAB.4.11	70	62	58	52	46	40
GAB.4.14	82	79	73	66	58	51
GAB.4.16	94	90	84	75	67	57
GAB.4.18	105	101	95	84	75	64
GAB.4.20	117	112	105	94	84	71
GAB.4.22	129	123	115	103	92	78
GAB.4.24	141	135	126	113	100	86

Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A



GAB.5

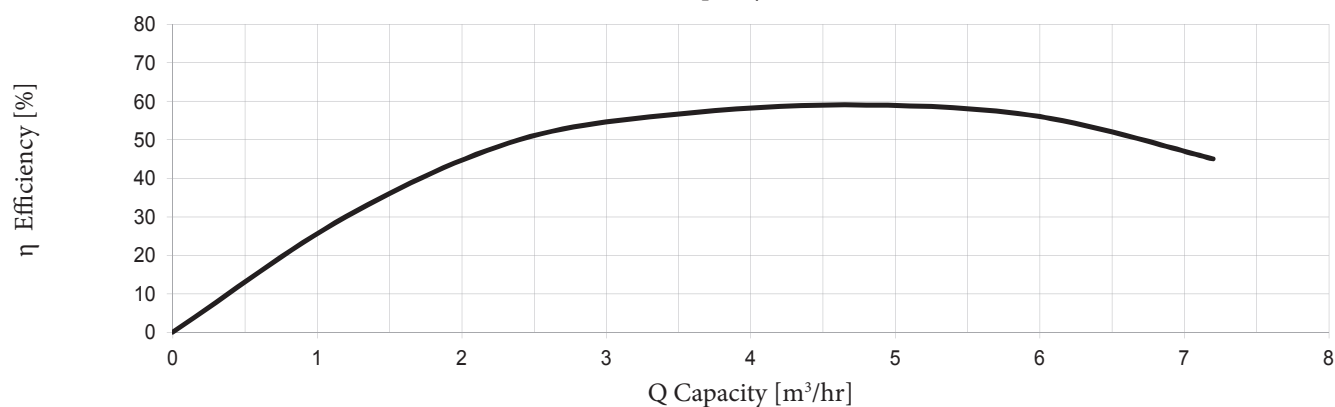
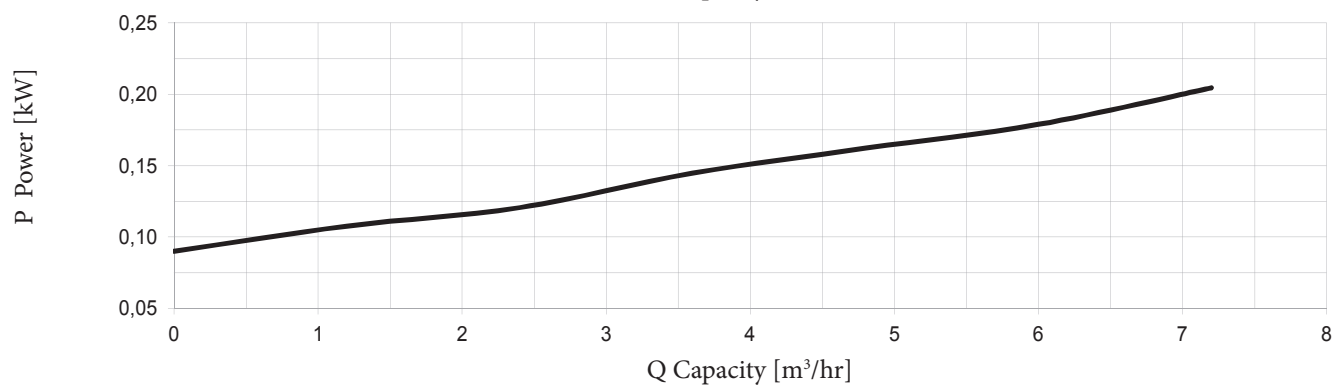
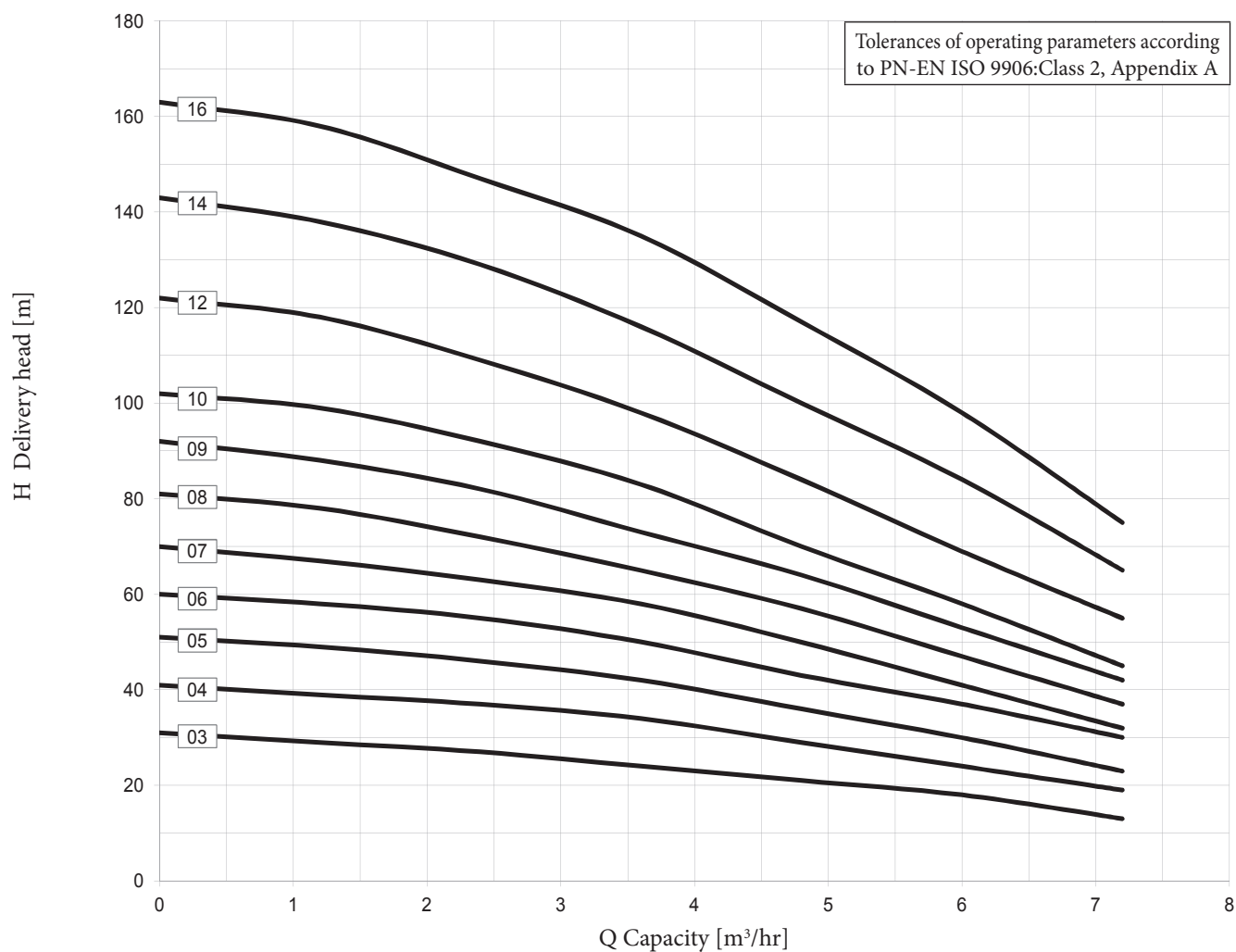


Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-4					SMS-4				
			L _a	L _p	L _s	Motor power (kW)	Unit weight (kg)	L _a	L _p	L _s	Motor power (kW)	Unit weight (kg)
GAB.5.04	0,9	5,2	911*	479	432*	1,1	17,2*	884*	479	405*	1,1	15,2*
			871		392		15,7	859		380		14,1
GAB.5.06	1,3	5,9	1079*	587	492*	1,5	20,5*	1027*	587	440*	1,5	17,4*
			1019		432		17,9	992		405		15,9
GAB.5.08	1,7	6,7	1187*	695	572*	2,2	24,8*	1190*	695	495*	2,2	20,7*
			1127		492		21,5	1135		440		18,3
GAB.5.10	2,2	7,5	1375*	803	572*	2,2	25,6*	1298*	803	495*	2,2	21,5*
			1295		492		22,3	1243		440		19,1
GAB.5.13	2,8	10,6	1552	1019	553	3	26,9	1535	1019	516	3	25,8
GAB.5.15	3,2	11,4	1740	1127	613	4	31,5	1734	1127	607	4	30,9
GAB.5.17	3,7	12,2	1848	1235	613	4	32,3	1842	1235	607	4	31,7
GAB.5.19	4,2	13	2066	1343	723	5,5	38,7	2026	1343	683	5,5	36,1
GAB.5.21	4,6	14,7	2228	1505	723	5,5	40,4	2188	1505	683	5,5	37,8
GAB.5.23	5,1	15,3	2336	1613	723	5,5	41,0	2296	1613	683	5,5	38,4
GAB.5.25	5,5	16,3	2444	1721	723	5,5	42,0	2404	1721	683	5,5	39,4
GAB.5.28	6,2	17,5	2746	1883	863	7,5	50,1	2666	1883	783	7,5	45,0
GAB.5.31	6,9	18,8	2908	2045	863	7,5	51,4	2828	2045	783	7,5	45,8
GAB.5.33	7,3	19,5	3016	2153	863	7,5	52,1	2936	2153	783	7,5	47,0

* for motor 1~

Pump unit code	Q Capacity [m³/hr]					
	0	3,6	6,0	9,0	12,0	15,0
	Q Capacity [l/min]					
	0	60	100	150	200	250
H [m]						
GAB.5.04	24	23	22	18	12	4
GAB.5.06	38	36	33	28	20	7
GAB.5.08	51	48	44	38	26	10
GAB.5.10	67	64	60	49	33	19
GAB.5.13	86	83	78	64	44	18
GAB.5.15	99	97	90	73	50	21
GAB.5.17	114	111	103	83	56	24
GAB.5.19	124	122	115	93	63	27
GAB.5.21	137	134	128	107	74	31
GAB.5.23	151	148	141	119	83	39
GAB.5.25	171	166	157	134	99	48
GAB.5.28	188	182	173	145	103	49
GAB.5.31	204	197	186	157	112	49
GAB.5.33	217	210	198	167	119	50

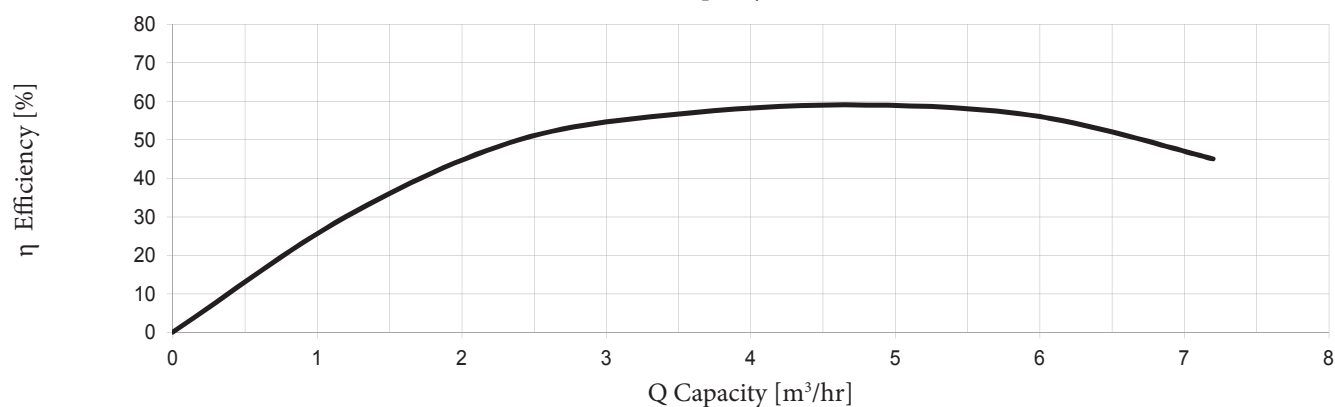
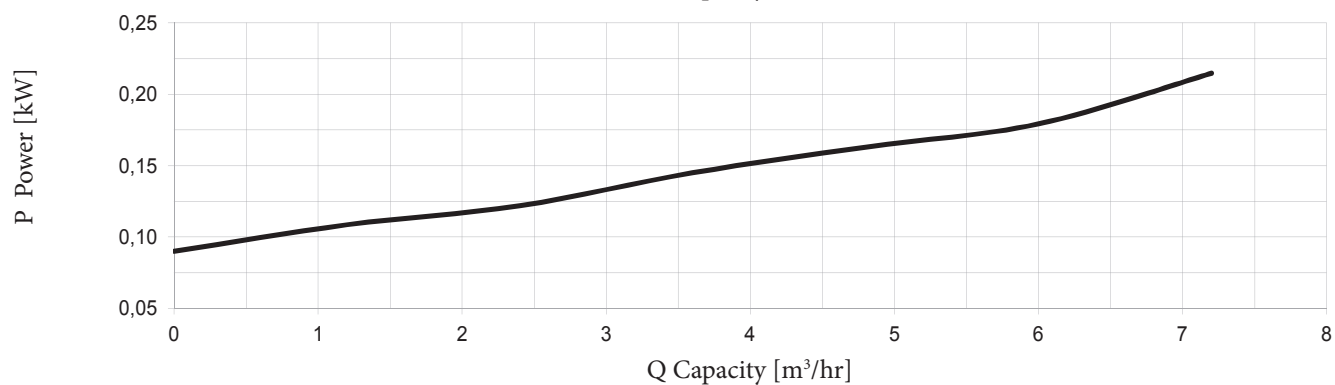
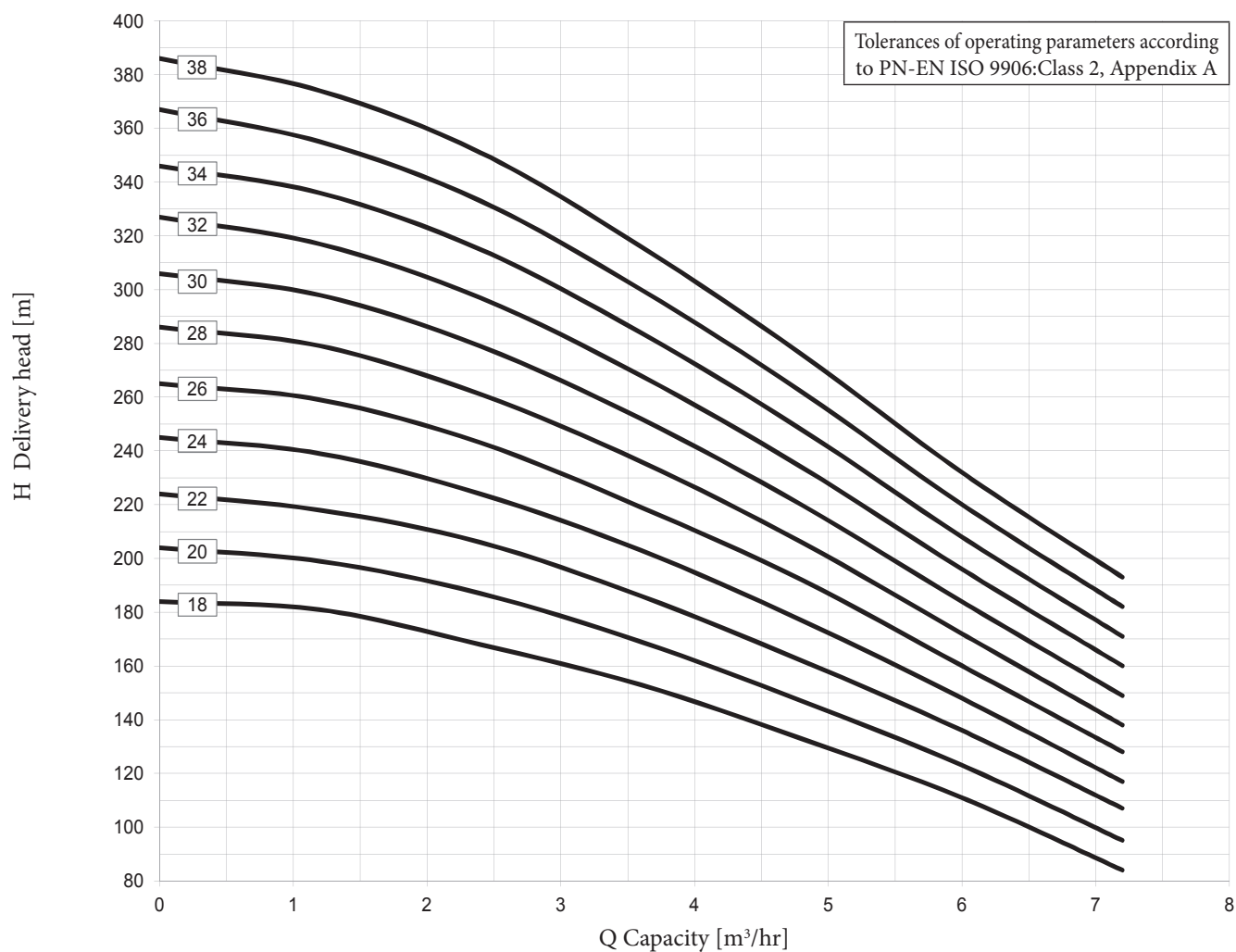
Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A



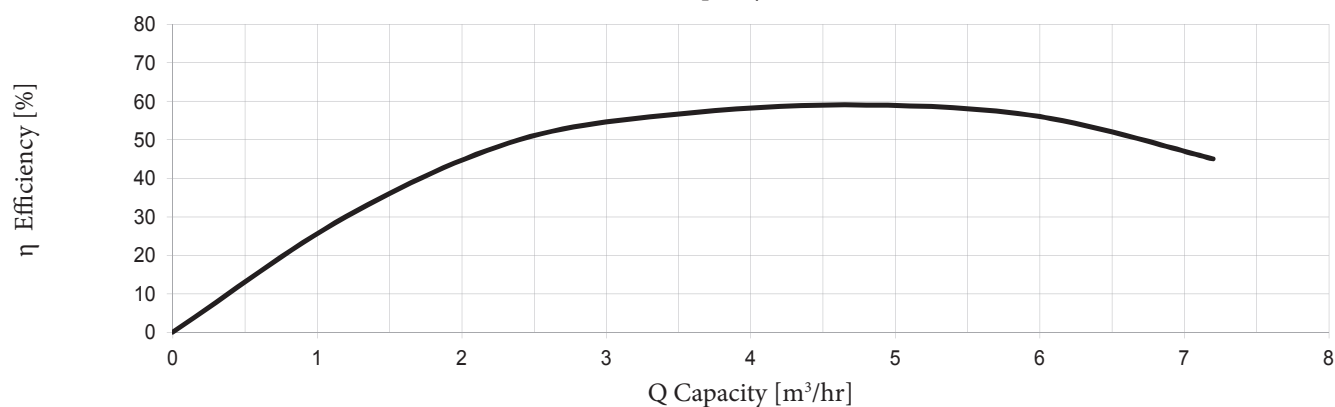
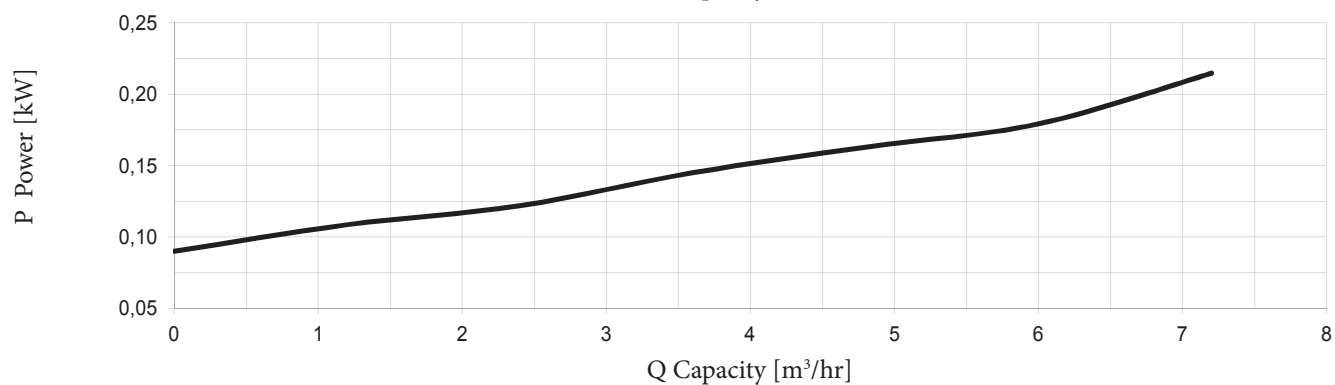
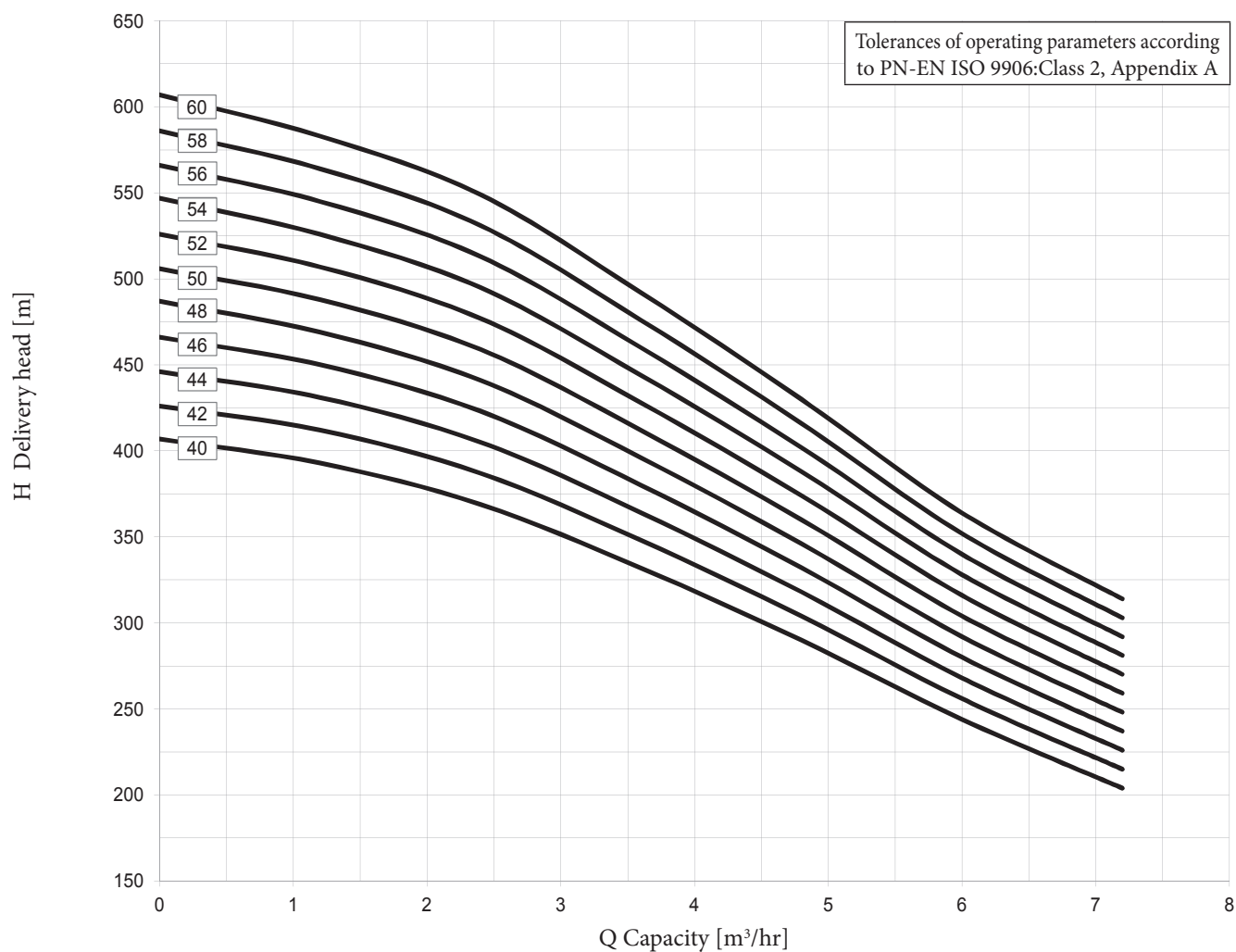
CHARACTERISTICS

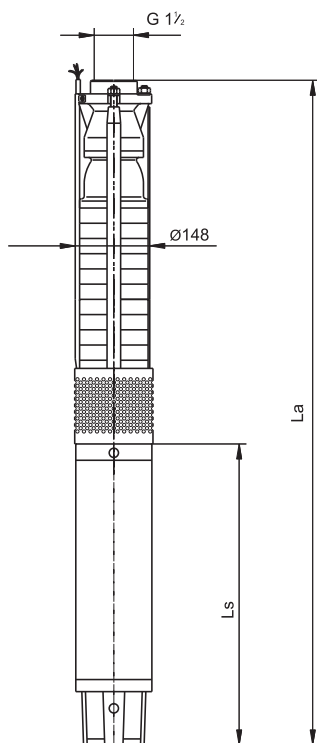
GB.0 GBC.0

Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A



Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A





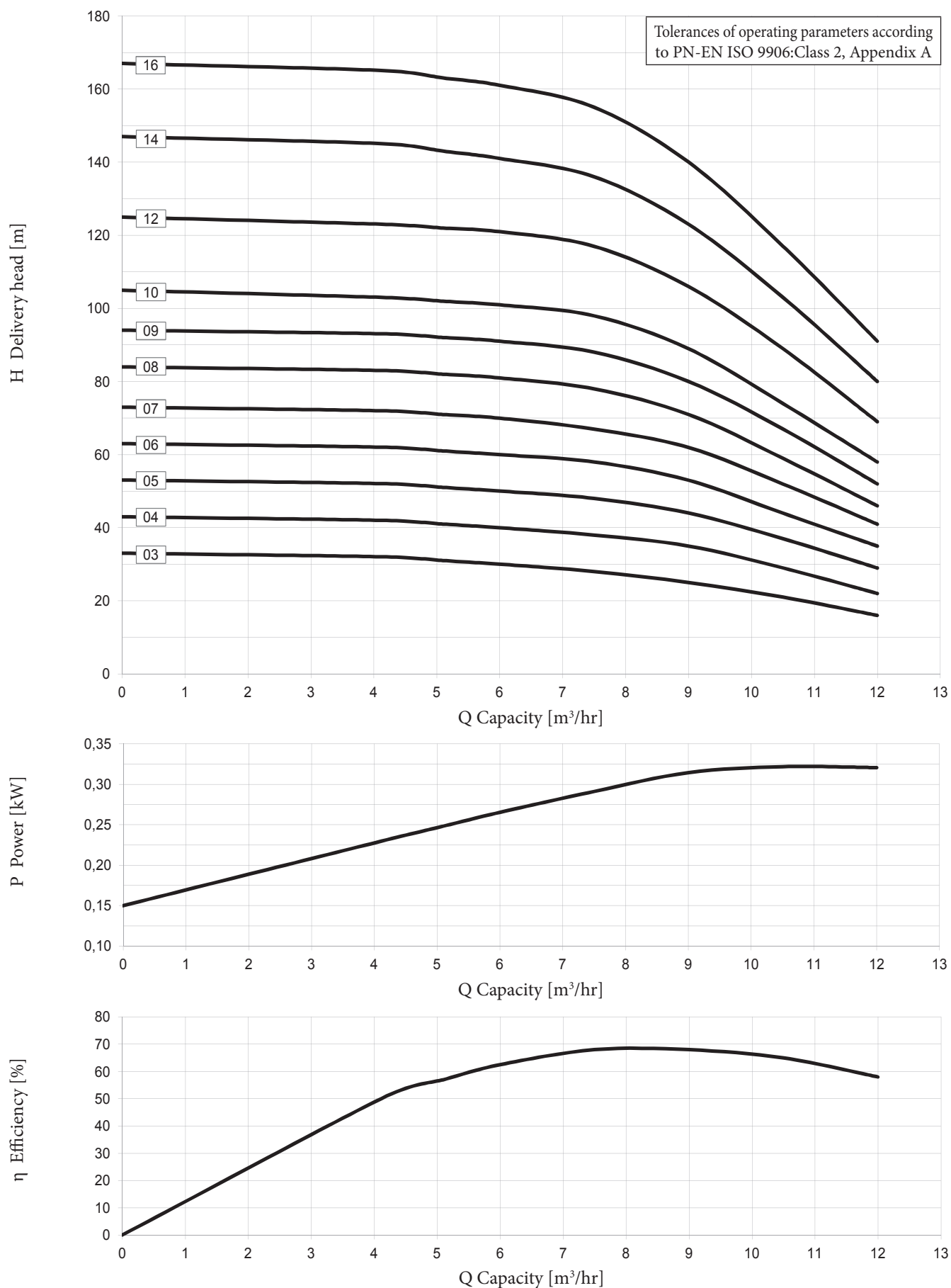
Pump unit code	Q Capacity [m³/hr]						
	0	1,2	2,4	3,6	4,8	6,0	7,2
	Q Capacity [l/min]						
	0	20	40	60	80	100	120
	H [m]						
GB.0.03	31	29	27	24	21	18	13
GB.0.04	41	39	37	34	29	24	19
GB.0.05	51	49	46	42	36	30	23
GB.0.06	60	58	55	50	43	37	30
GB.0.07	70	67	63	58	50	41	32
GB.0.08	81	78	72	65	57	47	37
GB.0.09	92	88	82	73	64	53	42
GB.0.10	102	99	92	83	70	58	45
GB.0.12	122	118	109	98	84	69	55
GB.0.14	143	138	129	116	100	84	65
GB.0.16	163	158	147	135	117	98	75
GB.0.18	184	181	168	153	133	111	84
GB.0.20	204	199	187	169	147	123	95
GB.0.22	224	218	206	186	162	136	107
GB.0.24	245	239	224	203	177	148	117
GB.0.26	265	259	243	219	192	160	128
GB.0.28	286	279	261	236	206	172	139
GB.0.30	306	298	279	252	220	184	149
GB.0.32	327	317	297	268	234	196	160
GB.0.34	346	336	315	284	248	208	171
GB.0.36	367	355	333	300	262	220	182
GB.0.38	386	374	351	316	276	232	193
GB.0.40	407	393	369	332	290	244	204
GB.0.42	426	412	387	348	304	256	215
GB.0.44	446	431	405	364	318	268	226
GB.0.46	466	450	423	380	332	280	237
GB.0.48	487	469	441	396	346	292	248
GB.0.50	506	488	459	412	360	304	259
GB.0.52	526	507	477	428	374	316	270
GB.0.54	547	526	495	444	388	338	281
GB.0.56	566	545	513	460	402	340	292
GB.0.58	586	564	531	476	416	352	303
GB.0.60	607	583	549	492	430	364	314

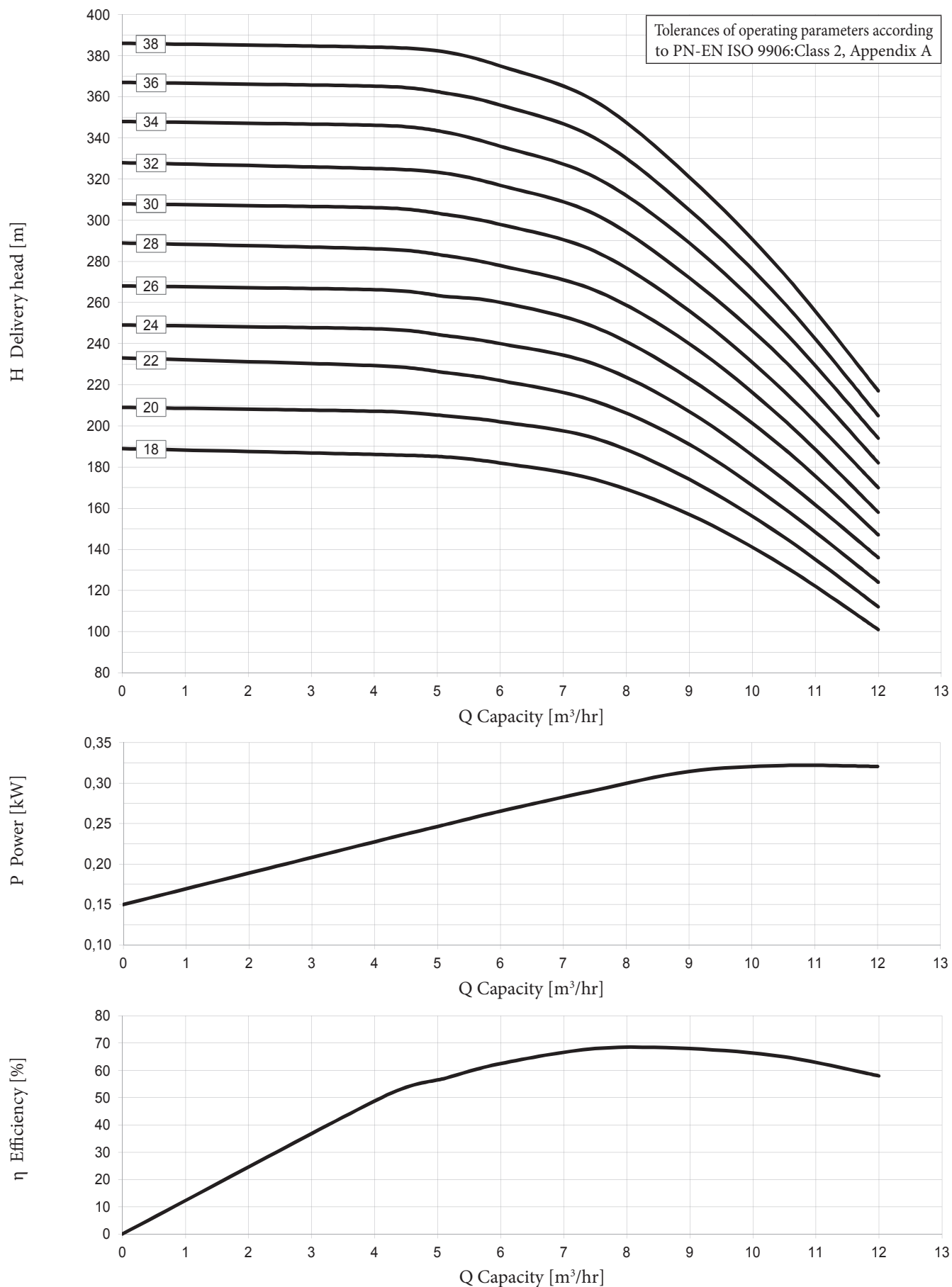
Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg) **	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg) **
GB.0.03	0,5	20	501	485	986	1,5	51,0	501	630	1131	1,5	66,0
GB.0.04	0,7	21	529	485	1014	1,5	51,5	529	630	1159	1,5	67,0
GB.0.05	0,9	22	557	485	1042	1,5	52,0	557	630	1187	1,5	68,0
GB.0.06	1,1	23	585	485	1070	1,5	52,5	585	630	1215	1,5	69,0
GB.0.07	1,3	24	613	485	1098	2,2	53,0	613	630	1243	1,5	70,0
GB.0.08	1,4	25	641	485	1126	2,2	53,5	641	630	1271	2,2	71,0
GB.0.09	1,6	26	669	485	1154	2,2	54,0	669	630	1299	2,2	72,0
GB.0.10	1,8	27	697	502	1199	3,0	58,0	697	630	1327	2,2	73,0
GB.0.12	2,2	29	753	502	1255	3,0	59,0	753	630	1383	3,0	75,0
GB.0.14	2,5	31	809	502	1311	3,0	60,0	809	630	1439	3,0	77,0
GB.0.16	2,9	33	865	521	1386	3,7	65,0	865	630	1495	3,3	79,0
GB.0.18	3,2	35	921	521	1442	3,7	66,0	921	630	1551	3,7	81,0
GB.0.20	3,6	42	1077	521	1598	4,0	71,0	1077	630	1707	4,0	88,0
GB.0.22	4,0	44	1133	552	1685	5,5	76,0	1133	630	1763	5,5	90,0
GB.0.24	4,3	46	1189	552	1741	5,5	77,0	1189	630	1819	5,5	92,0
GB.0.26	4,7	48	1245	552	1797	5,5	78,0	1245	630	1875	5,5	94,0
GB.0.28	5,0	50	1301	552	1853	5,5	79,5	1301	630	1931	5,5	96,0
GB.0.30	5,4	52	1357	595	1952	7,5	86,0	1357	652	2009	7,5	99,5
GB.0.32	5,8	54	1413	595	2008	7,5	87,0	1413	652	2065	7,5	101,5
GB.0.34	6,1	56	1469	595	2064	7,5	88,0	1469	652	2121	7,5	103,5
GB.0.36	6,5	58	1525	595	2120	7,5	89,0	1525	652	2177	7,5	105,5
GB.0.38	6,8	60	1581	595	2176	7,5	90,0	1581	652	2233	7,5	107,5
GB.0.40	7,2	67	1737	595	2332	7,5	95,0	1737	652	2389	7,5	114,5
GB.0.42	7,6	69	1793	635	2428	9,2	101,0	1793	693	2486	9,2	121,0
GB.0.44	7,9	71	1849	635	2484	9,2	102,0	1849	693	2542	9,2	123,0
GB.0.46	8,3	73	1905	635	2540	9,2	103,5	1905	693	2598	9,2	125,0
GB.0.48	8,6	75	1961	635	2596	9,2	104,5	1961	693	2654	9,2	127,0
GB.0.50	9,0	77	2017	685	2702	11,0	112,0	2017	730	2747	11,0	133,5
GB.0.52	9,4	79	2073	685	2758	11,0	113,0	2073	730	2803	11,0	135,5
GB.0.54	9,7	81	2129	685	2814	11,0	114,0	2129	730	2859	11,0	137,5
GB.0.56	10,1	83	2185	685	2870	11,0	115,0	2185	730	2915	11,0	139,5
GB.0.58	10,4	85	2241	685	2926	11,0	116,0	2241	730	2971	11,0	141,5
GB.0.60	10,8	87	2297	725	3022	13,0	119,0	2297	781	3078	13,0	149,0

* power up to 9,2 kW motor of SMS type
 over power 11 kW motor of SMP type
 ** weight of puming unit for GBC pumps

CHARACTERISTICS

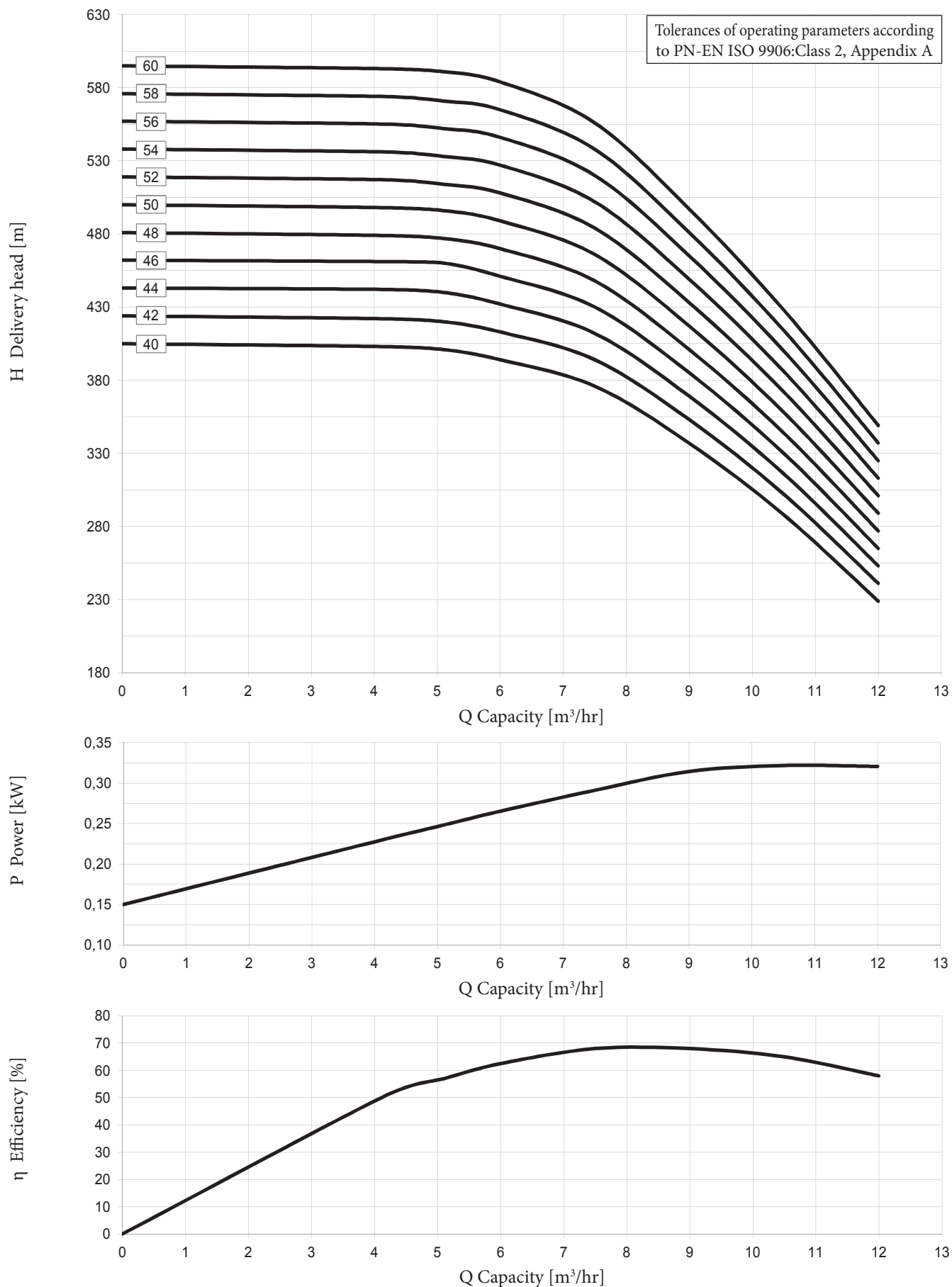
GBA.1 GBC.1

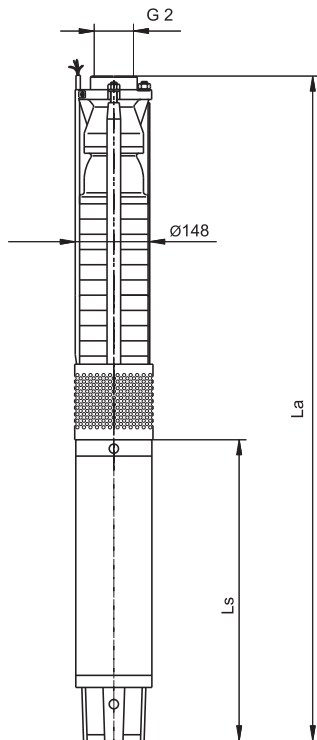




CHARACTERISTICS

GBA.1 GBC.1

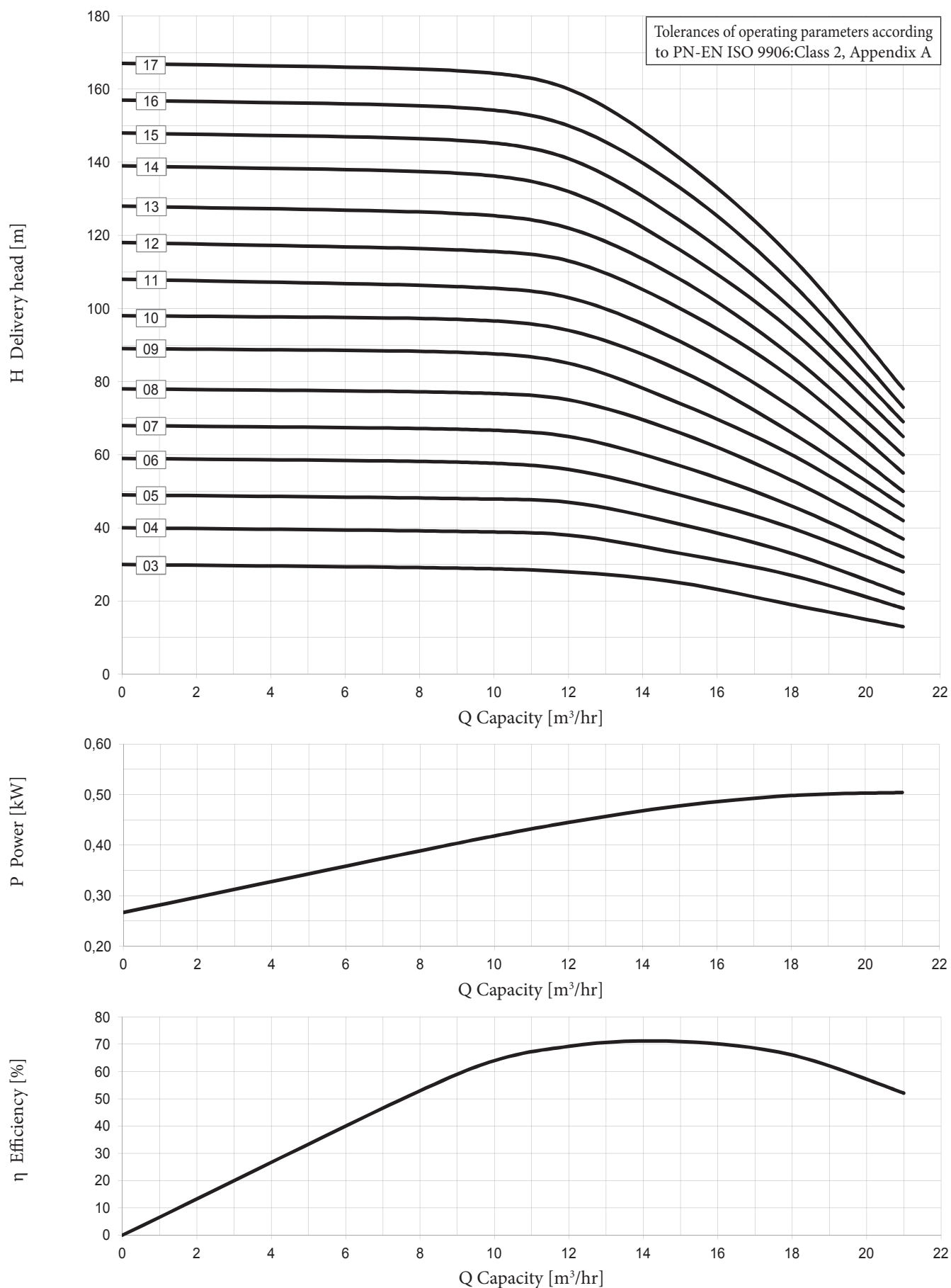




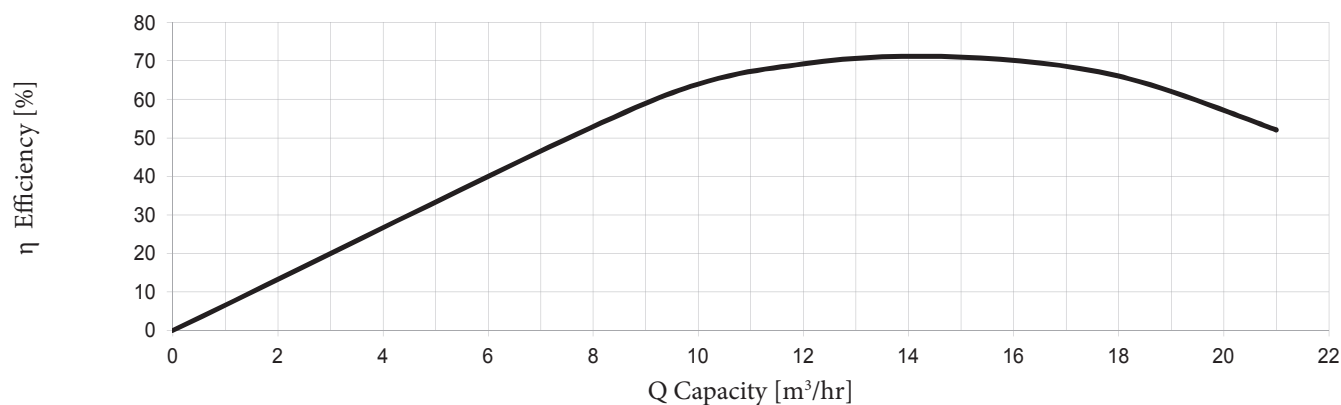
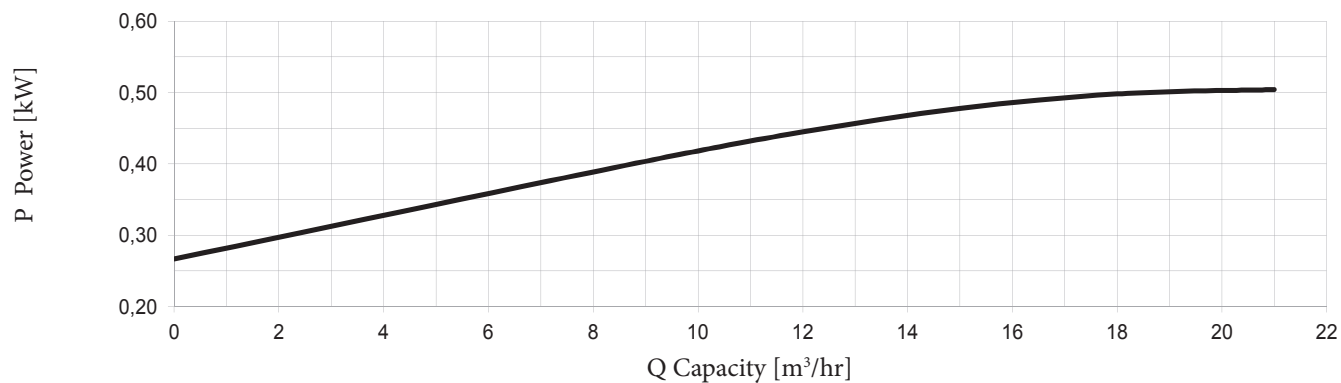
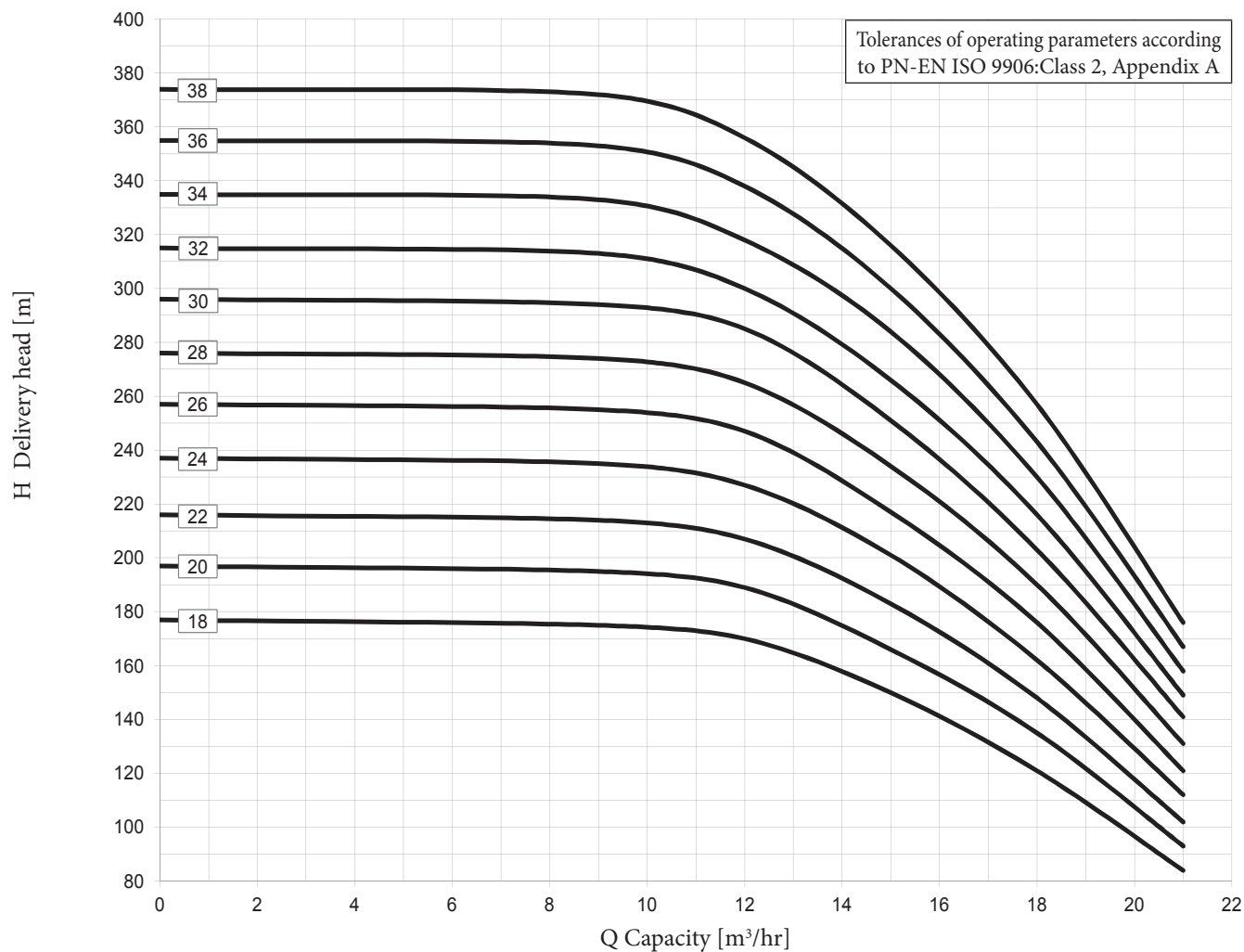
Pump unit code	Q Capacity [m³/hr]							
	0	4,2	5,1	6,0	7,5	9,0	10,5	12,0
	Q Capacity [l/min]							
	0	70	85	100	125	150	175	200
H [m]								
GB.1.03	33	32	31	30	29,5	28	21	16
GB.1.04	43	42	41	40	37	35	29	22
GB.1.05	53	52	51	50	49	45	37	29
GB.1.06	63	62	61	60	58	54	44	35
GB.1.07	73	72	71	70	69	62	52	41
GB.1.08	84	83	82	80	79	71	59	46
GB.1.09	94	93	92	90	89	80	67	52
GB.1.10	105	103	102	100	98	89	74	58
GB.1.12	125	123	122	120	117	106	89	59
GB.1.14	147	145	143	141	136	123	103	80
GB.1.16	167	165	163	161	155	140	117	91
GB.1.18	189	186	184	182	174	157	132	101
GB.1.20	209	207	204	202	194	174	146	112
GB.1.22	233	227	224	221	212	191	160	124
GB.1.24	249	247	244	240	231	207	174	136
GB.1.26	268	266	263	260	248	223	189	147
GB.1.28	289	286	284	278	266	240	203	158
GB.1.30	308	306	303	298	285	256	217	170
GB.1.32	328	325	323	317	303	272	232	182
GB.1.34	348	346	343	336	321	289	246	194
GB.1.36	367	365	362	356	340	305	260	205
GB.1.38	386	384	382	375	358	321	274	217
GB.1.40	405	403	401	394	376	337	288	229
GB.1.42	424	422	420	413	394	353	302	241
GB.1.44	443	442	441	432	412	369	316	253
GB.1.46	462	461	460	451	430	385	330	265
GB.1.48	481	479	471	470	448	401	344	277
GB.1.50	500	498	492	489	466	417	358	289
GB.1.52	519	517	512	508	484	433	372	301
GB.1.54	538	536	531	527	502	449	386	313
GB.1.56	557	555	552	546	520	465	400	325
GB.1.58	576	574	571	565	538	481	414	337
GB.1.60	595	593	591	584	556	497	428	349

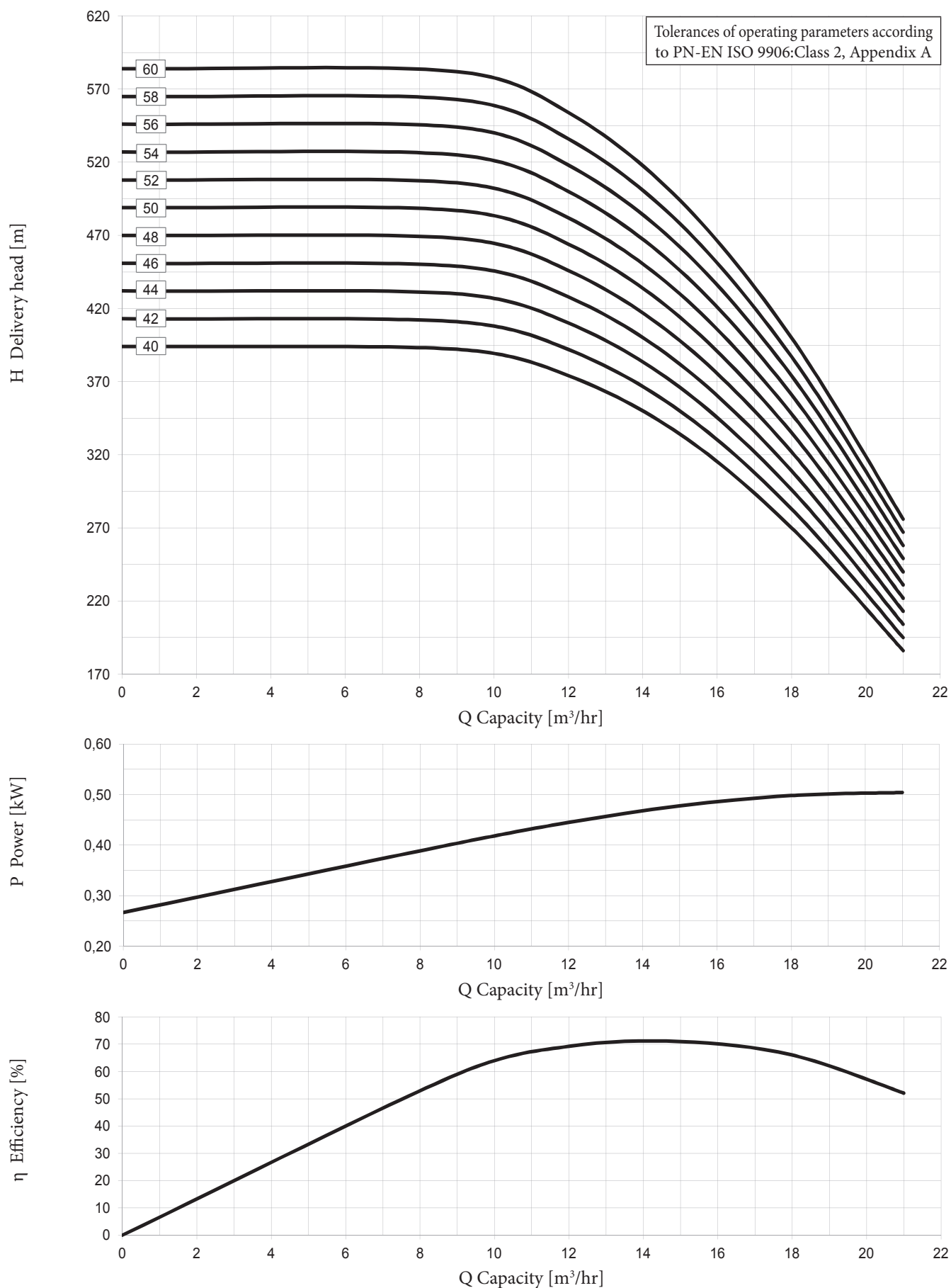
Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GB.1.03	1,1	17,5	513	485	998	1,5	50,0	513	630	1143	1,5	63,5
GB.1.04	1,4	18,5	545	485	1030	2,2	51,0	545	630	1175	2,2	64,5
GB.1.05	1,8	19,5	577	485	1062	2,2	52,0	577	630	1207	2,2	65,5
GB.1.06	2,2	20,0	609	485	1094	2,2	52,5	609	630	1239	2,2	66,0
GB.1.07	2,5	25,0	641	502	1143	3,0	61,0	641	630	1271	3,0	71,0
GB.1.08	2,9	25,5	673	502	1175	3,0	61,5	673	630	1303	3,0	71,5
GB.1.09	3,2	26,0	705	521	1226	3,7	66,0	705	630	1335	3,7	72,0
GB.1.10	3,6	26,5	737	521	1258	4,0	66,5	737	630	1394	3,7	72,5
GB.1.12	4,3	27,5	801	552	1353	5,5	71,5	801	630	1431	5,5	73,5
GB.1.14	5,0	28,5	865	552	1417	5,5	72,5	865	630	1495	5,5	74,5
GB.1.16	5,8	30,0	929	595	1524	7,5	79,0	929	652	1581	7,5	77,5
GB.1.18	6,5	31,0	993	595	1588	7,5	80,0	993	652	1645	7,5	78,5
GB.1.20	7,2	37,0	1161	635	1796	9,2	91,0	1161	693	1854	9,2	84,5
GB.1.22	7,9	39,0	1225	635	1860	9,2	93,0	1225	693	1918	9,2	91,0
GB.1.24	8,6	41,0	1289	635	1924	9,2	95,0	1289	693	1982	9,2	93,0
GB.1.26	9,4	59,0	1353	685	2038	11,0	102,0	1353	730	2083	11,0	115,5
GB.1.28	10,0	62,0	1417	685	2102	11,0	104,5	1417	730	2147	11,0	118,5
GB.1.30	10,8	65,0	1481	725	2206	13,0	108,5	1481	781	2262	13,0	127,0
GB.1.32	11,5	68,0	1545	725	2270	13,0	110,5	1545	781	2326	13,0	130,0
GB.1.34	12,2	71,0	1609	775	2384	15,0	115,0	1609	781	2390	13,0	133,0
GB.1.36	13,0	74,0	1673	775	2448	15,0	116,5	1673	831	2504	15,0	141,0
GB.1.38	13,6	77,0	1737	775	2512	15,0	118,5	1737	831	2568	15,0	144,0
GB.1.40	14,4	84,0	1905	875	2780	18,5	140,0	1905	831	2736	15,0	151,0
GB.1.42	15,1	87,0	1969	875	2844	18,5	141,0	1969	882	2851	18,5	160,0
GB.1.44	15,8	90,0	2033	875	2908	18,5	143,5	2033	882	2915	18,5	163,0
GB.1.46	16,5	93,0	2097	875	2972	18,5	145,0	2097	882	2979	18,5	166,0
GB.1.48	17,2	96,0	2161	875	3036	18,5	147,0	2161	882	3034	18,5	169,0
GB.1.50	18,0	99,0	2225	875	3100	18,5	149,0	2225	882	3107	18,5	172,0
GB.1.52	18,7	102,0	2289	965	3254	22,0	161,0	2289	981	3270	22,0	186,5
GB.1.54	19,4	105,0	2353	965	3318	22,0	162,5	2353	981	3334	22,0	189,5
GB.1.56	20,1	108,0	2417	965	3382	22,0	164,5	2417	981	3398	22,0	192,5
GB.1.58	20,8	111,0	2481	965	3446	22,0	166,0	2481	981	3462	22,0	195,5
GB.1.60	21,6	114,0	2545	1055	3600	26,0	180,0	2545	1031	3576	26,0	204,0

* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

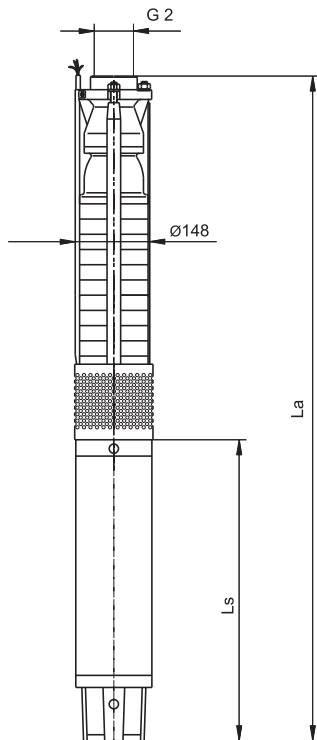


Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A





GBA.2 GBC.2

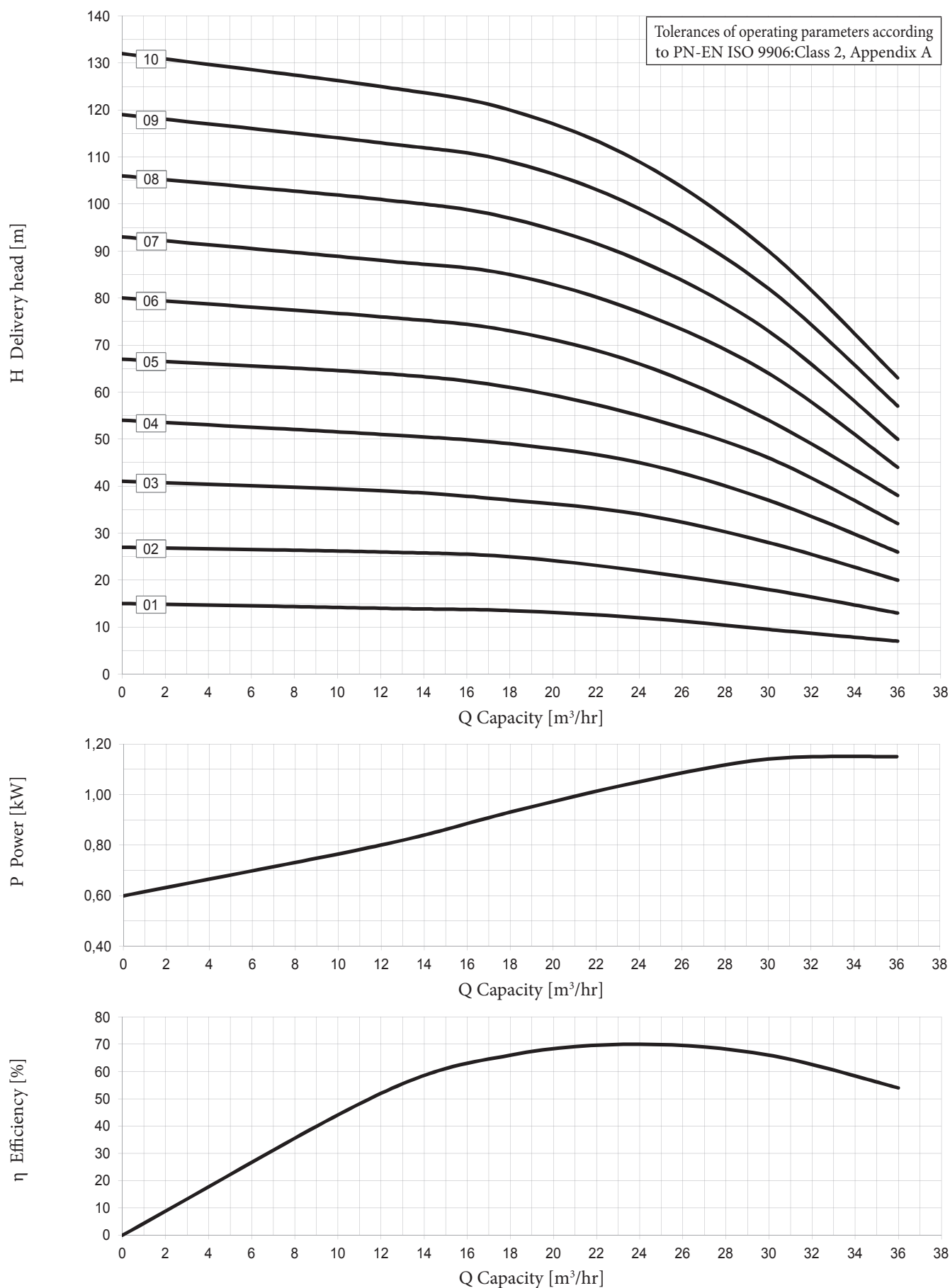


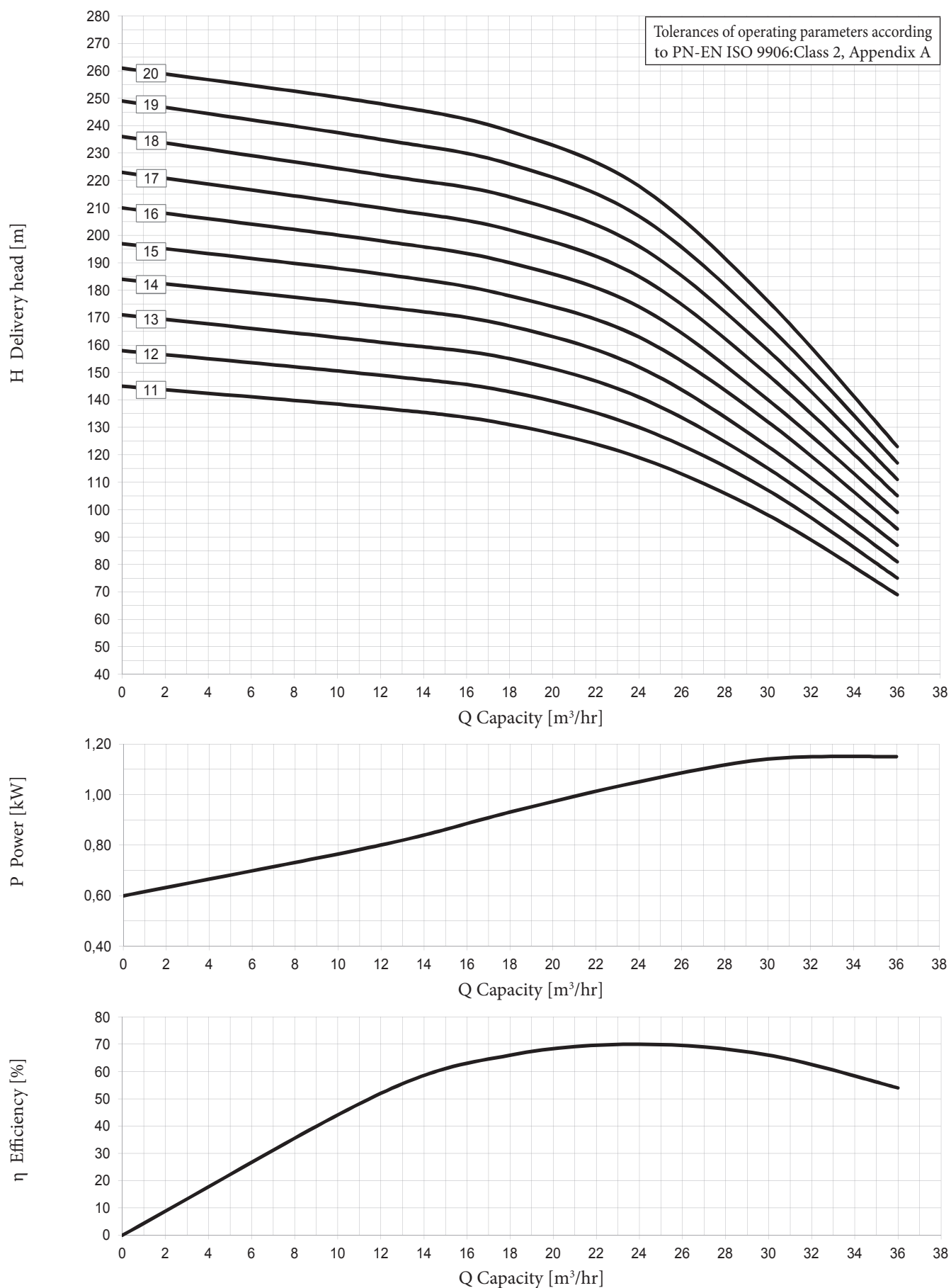
Pump unit code	Q Capacity [m³/hr]					
	0	9	12	15	18	21
	Q Capacity [l/min]					
	0	150	200	250	300	350
H [m]						
GB.2.03	30	29	28	25	19	13
GB.2.04	40	39	38	33	27	18
GB.2.05	49	48	47	41	33	22
GB.2.06	59	58	56	49	40	28
GB.2.07	68	67	65	57	46	32
GB.2.08	78	77	75	66	53	37
GB.2.09	89	88	85	74	60	42
GB.2.10	98	97	94	83	66	46
GB.2.11	108	106	103	91	73	50
GB.2.12	118	116	113	100	81	55
GB.2.13	128	126	122	108	87	60
GB.2.14	139	137	132	116	94	65
GB.2.15	148	146	141	124	100	69
GB.2.16	157	155	150	133	107	73
GB.2.17	167	165	160	141	114	78
GB.2.18	177	175	170	150	121	84
GB.2.20	197	195	189	166	135	93
GB.2.22	216	214	207	183	148	102
GB.2.24	237	235	227	201	162	112
GB.2.26	257	255	247	217	176	121
GB.2.28	274	270	265	234	190	131
GB.2.30	296	294	285	251	203	141
GB.2.32	315	313	300	266	216	149
GB.2.34	335	333	318	284	230	158
GB.2.36	355	353	338	300	243	167
GB.2.38	374	372	356	316	257	176
GB.2.40	394	392	374	334	270	186
GB.2.42	413	411	392	350	283	195
GB.2.44	432	430	410	366	296	204
GB.2.46	451	449	428	382	309	213
GB.2.48	470	468	446	398	322	222
GB.2.50	489	487	464	414	335	231
GB.2.52	508	506	482	430	348	240
GB.2.54	527	525	500	446	361	249
GB.2.56	546	544	518	462	374	258
GB.2.58	565	563	536	478	387	267
GB.2.60	584	582	554	494	400	276

Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg) **	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg) **
GB.2.03	1,5	20,0	540	485	1025	2,2	50,5	540	630	1170	2,2	66,0
GB.2.04	2,0	22,0	581	485	1066	2,2	51,5	581	630	1211	2,2	68,0
GB.2.05	2,5	23,0	622	502	1124	3,0	55,5	622	630	1252	3,0	39,0
GB.2.06	3,0	24,5	663	521	1184	3,7	60,5	663	630	1293	3,7	70,5
GB.2.07	3,5	26,0	704	521	1225	4,0	61,5	704	630	1334	4,0	72,0
GB.2.08	4,0	27,5	745	552	1297	5,5	66,5	745	630	1375	5,5	73,5
GB.2.09	4,5	29,0	786	552	1338	5,5	67,0	786	630	1416	5,5	75,0
GB.2.10	5,0	30,5	827	552	1379	5,5	68,5	827	630	1457	5,5	76,5
GB.2.11	5,5	32,0	868	595	1463	7,5	72,5	868	652	1520	7,5	79,5
GB.2.12	6,0	33,5	909	595	1504	7,5	73,5	909	652	1561	7,5	81,0
GB.2.13	6,5	35,0	950	595	1545	7,5	74,5	950	652	1602	7,5	82,5
GB.2.14	7,0	36,5	991	635	1626	9,2	80,5	991	652	1643	7,5	84,0
GB.2.15	7,5	38,0	1032	635	1667	9,2	81,5	1032	693	1725	9,2	90,0
GB.2.16	8,0	39,5	1073	635	1708	9,2	82,5	1073	693	1766	9,2	91,5
GB.2.17	8,5	41,0	1114	635	1749	9,2	83,5	1114	693	1807	9,2	93,0
GB.2.18	9,0	42,5	1155	635	1840	11,0	90,0	1155	730	1885	11,0	99,0
GB.2.20	10,0	49,5	1350	725	2075	13,0	98,0	1350	730	2080	11,0	106
GB.2.22	11,0	52,5	1432	725	2157	13,0	99,5	1432	781	2213	13,0	114,5
GB.2.24	12,0	55,5	1514	775	2289	15,0	104,5	1514	781	2295	13,0	117,5
GB.2.26	13,0	58,5	1596	775	2371	15,0	106,5	1596	831	2427	15,0	125,5
GB.2.28	14,0	61,5	1678	875	2553	18,5	124,0	1678	831	2509	15,5	128,5
GB.2.30	15,0	64,5	1760	875	2635	18,5	125,5	1760	882	2642	18,5	137,5
GB.2.32	16,0	67,5	1842	875	2717	18,5	127,5	1842	882	2724	18,5	140,5
GB.2.34	17,0	70,5	1924	875	2799	18,5	129,5	1924	882	2806	18,5	143,5
GB.2.36	18,0	73,5	2006	965	2971	22,0	141,0	2006	981	2987	22,0	158,0
GB.2.38	19,0	76,5	2088	965	3053	22,0	142,0	2088	981	3069	22,0	161,0
GB.2.40	20,0	79,5	2170	965	3135	22,0	144,0	2170	981	3151	22,0	164,0
GB.2.42	21,0	86,5	2365	965	3330	22,0	149,5	2365	981	3346	22,0	167,0
GB.2.44	22,0	89,5	2447	1055	3502	26,0	163,5	2447	1031	3478	26,0	179,5
GB.2.46	23,0	91,5	2529	1055	3584	26,0	164,5	2529	1031	3560	26,0	181,5
GB.2.48	24,0	94,5	2611	1055	3666	26,0	166,0	2611	1031	3642	26,0	184,5
GB.2.50	25,0	97,5	2693	1055	3748	26,0	167,5	2693	1031	3724	26,0	187,5
GB.2.52	26,0	100,5	2775	1135	3910	30,0	175,5	2775	1111	3886	30,0	199,5
GB.2.54	27,0	103,5	2857	1135	3992	30,0	177,5	2857	1111	3968	30,0	202,5
GB.2.56	28,0	106,5	2939	1135	4074	30,0	179,0	2939	1111	4050	30,0	205,5
GB.2.58	29,0	109,5	3021	1315	4336	37,0	201,5	3021	1195	4216	37,0	217,5
GB.2.60	30,0	112,5	3103	1315	4418	37,0	203,5	3103	1195	4298	37,0	220,5

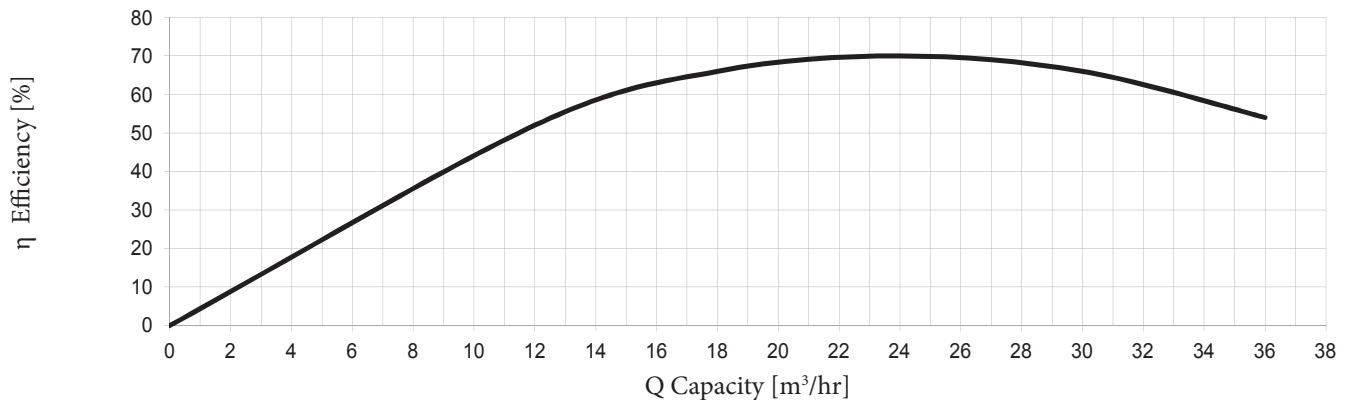
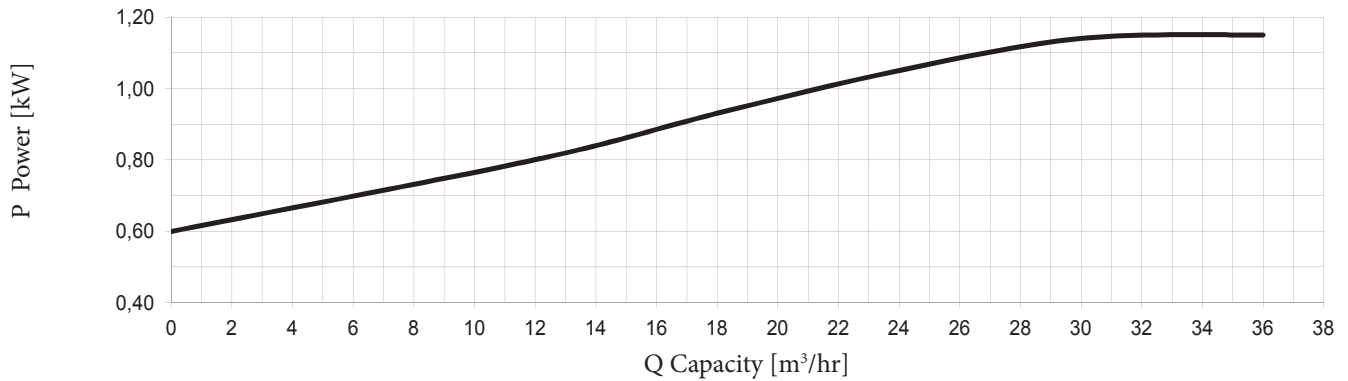
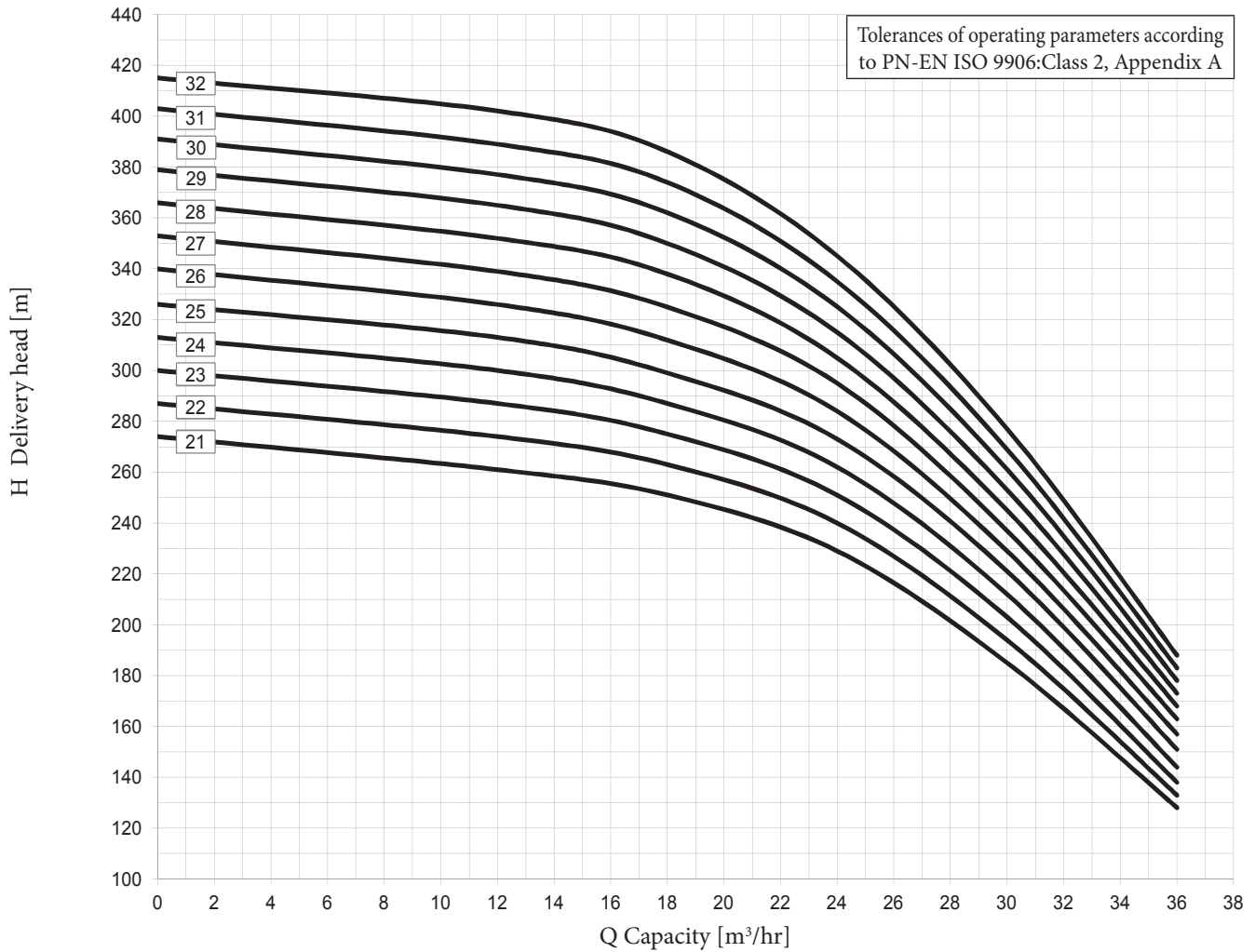
* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

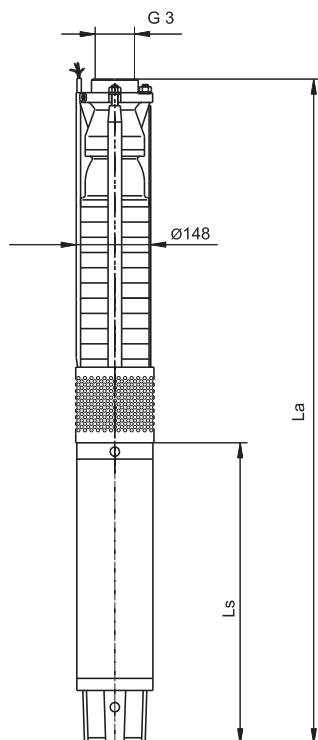
** weight of puming unit for GBC.2 pumps





Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A

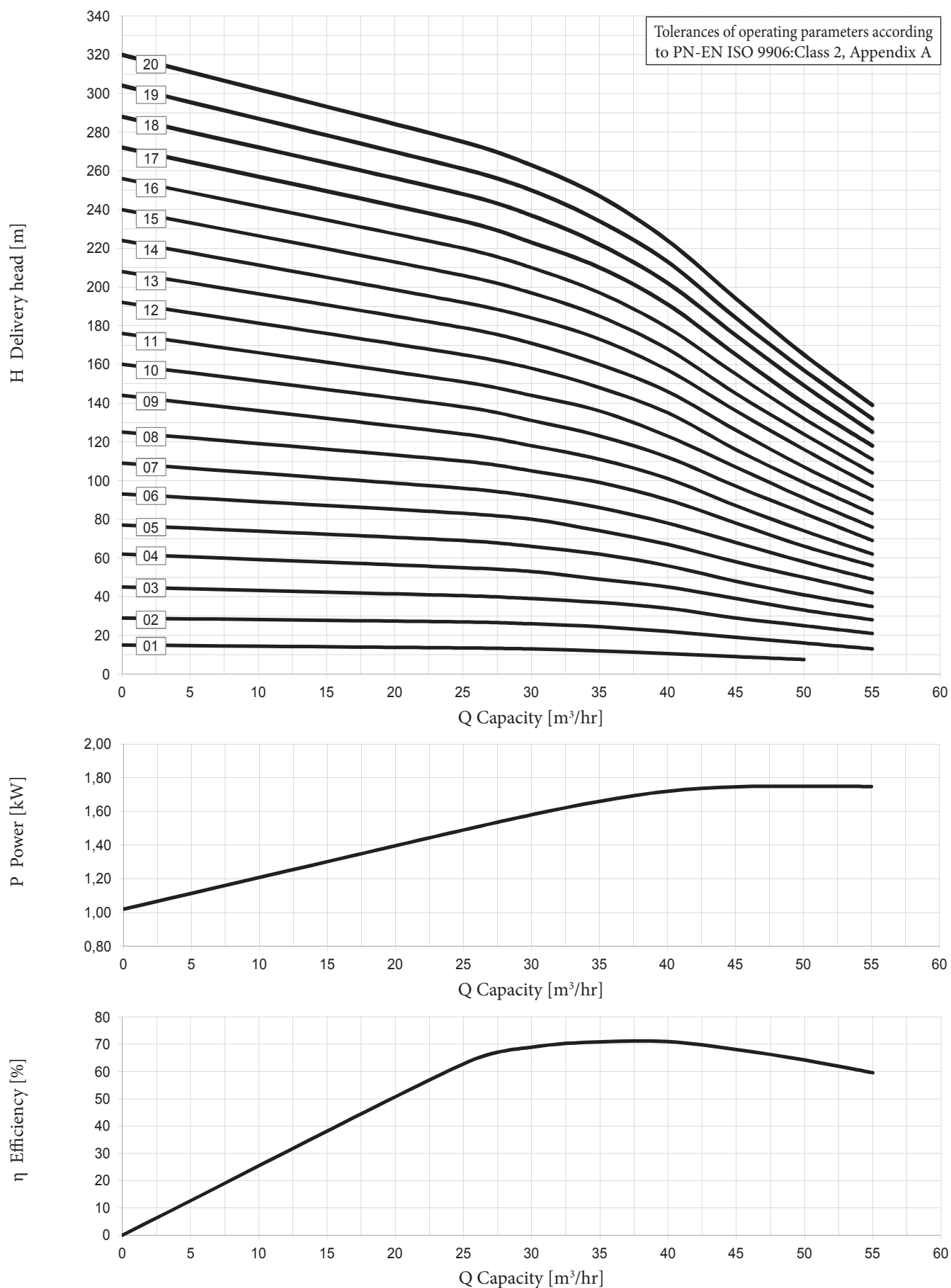




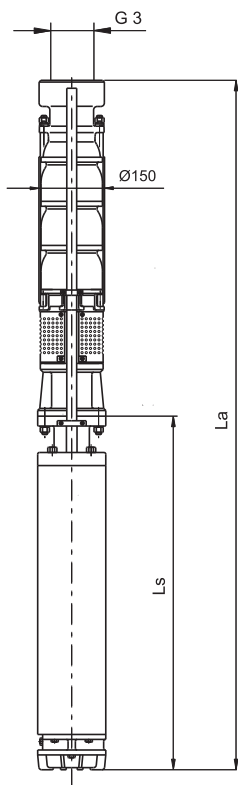
Pump unit code	Q Capacity [m³/hr]					
	0	12	18	24	30	36
	Q Capacity [l/min]					
	0	200	300	400	500	600
	H [m]					
GBC.3.01	15	14	13,5	12	9,5	7
GBC.3.02	27	26	25	22	18	13
GBC.3.03	41	39	37	34	28	20
GBC.3.04	54	51	49	45	37	26
GBC.3.05	67	64	61	55	46	32
GBC.3.06	80	76	73	66	54	38
GBC.3.07	93	88	85	77	64	44
GBC.3.08	106	101	97	88	73	50
GBC.3.09	119	113	109	99	82	57
GBC.3.10	132	125	120	109	90	63
GBC.3.11	145	137	131	119	98	69
GBC.3.12	158	149	143	130	107	75
GBC.3.13	171	161	155	141	115	81
GBC.3.14	184	174	167	152	123	87
GBC.3.15	197	186	178	163	132	93
GBC.3.16	210	198	190	174	140	99
GBC.3.17	223	210	202	185	149	105
GBC.3.18	236	222	214	196	158	111
GBC.3.19	249	235	226	207	167	117
GBC.3.20	261	248	238	218	176	123
GBC.3.21	274	261	251	229	185	128
GBC.3.22	287	274	263	240	194	133
GBC.3.23	300	287	275	251	203	138
GBC.3.24	313	300	287	262	212	144
GBC.3.25	326	313	299	273	221	151
GBC.3.26	340	326	312	284	229	157
GBC.3.27	353	339	325	295	237	163
GBC.3.28	366	352	338	305	245	168
GBC.3.29	379	365	350	315	253	173
GBC.3.30	391	377	362	325	261	178
GBC.3.31	403	389	374	335	269	183
GBC.3.32	415	402	386	345	277	188

	Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-6					SMS-6 / SMP-6 *				
				L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
d=1	GBC.3.01	1,3	20,5	528	485	1013	2,2	53,0	528	630	1158	2,2	66,5
	GBC.3.02	2,5	21,5	586	502	1088	3,0	57,5	586	630	1216	3,0	67,5
	GBC.3.03	3,7	23,0	644	521	1165	4,0	59,0	644	630	1274	4,0	69,0
	GBC.3.04	4,9	24,0	702	552	1254	5,5	68,0	702	630	1332	5,5	70,0
	GBC.3.05	6,0	25,5	760	595	1355	7,5	74,5	760	652	1412	7,5	73,0
	GBC.3.06	7,1	26,5	818	595	1413	7,5	75,5	818	652	1470	7,5	74,0
	GBC.3.07	8,2	28,0	876	635	1511	9,2	82,0	876	693	1569	9,2	80,0
	GBC.3.08	9,3	29,0	934	685	1619	11,0	89,0	934	730	1664	11,0	85,5
	GBC.3.09	10,4	30,5	992	685	1677	11,0	90,5	992	730	1722	11,0	87,0
	GBC.3.10	11,5	31,5	1050	725	1775	13,0	93,5	1050	781	1831	13,0	93,5
	GBC.3.11	12,6	33,0	1108	725	1833	13,0	95,0	1108	781	1889	13,0	95,0
	GBC.3.12	13,7	34,0	1166	775	1941	15,0	99,0	1166	831	1997	15,0	101,0
	GBC.3.13	14,7	35,5	1224	775	1999	15,0	100,5	1224	831	2055	15,0	102,5
	GBC.3.14	15,8	36,5	1282	875	2157	18,5	117,5	1282	882	2164	18,5	109,5
	GBC.3.15	16,9	38,0	1340	875	2215	18,5	119,0	1340	882	2222	18,5	111,0
	GBC.3.16	18,0	39,5	1398	875	2273	18,5	120,5	1398	882	2280	18,5	112,5
	GBC.3.17	19,1	41,0	1456	965	2421	22,0	132,0	1456	981	2437	22,0	125,5
	GBC.3.18	20,1	45,5	1622	965	2587	22,0	136,5	1622	981	2603	22,0	130,0
	GBC.3.19	21,2	46,5	1680	965	2645	22,0	137,5	1680	981	2661	22,0	131,0
	GBC.3.20	22,3	48,0	1738	1055	2793	26,0	151,0	1738	1031	2769	26,0	138,0
	GBC.3.21	23,3	49,0	1796	1055	2851	26,0	152,0	1796	1031	2827	26,0	139,0
	GBC.3.22	24,3	50,5	1854	1055	2909	26,0	153,5	1854	1031	2885	26,0	140,5
	GBC.3.23	25,4	51,5	1912	1135	3047	30,0	160,5	1912	1111	3023	30,0	150,5
	GBC.3.24	26,6	53,0	1970	1135	3105	30,0	162,0	1970	1111	3081	30,0	152,0
	GBC.3.25	27,8	54,0	2028	1135	3163	30,0	163,0	2028	1111	3139	30,0	153,0
	GBC.3.26	28,8	55,5	2086	1135	3221	30,0	164,5	2086	1111	3197	30,0	154,5
	GBC.3.27	29,8	56,5	2144	1315	3459	37,0	186,5	2144	1195	3339	37,0	164,5
	GBC.3.28	30,8	58,0	2202	1315	3517	37,0	188,0	2202	1195	3397	37,0	166,0
	GBC.3.29	31,8	59,0	2260	1315	3575	37,0	189,0	2260	1195	3455	37,0	167,0
	GBC.3.30	32,8	60,5	2318	1315	3633	37,0	190,5	2318	1195	3513	37,0	168,5
	GBC.3.31	33,8	61,5	2376	1315	3691	37,0	191,5	2376	1195	3571	37,0	169,5
	GBC.3.32	34,8	63,0	2434	1315	3749	37,0	193,0	2434	1195	3629	37,0	171,0
d=2	GBC.3.01	1,3	20,0	525	485	1010	2,2	52,5	525	630	1155	2,2	66,0
	GBC.3.02	2,5	21,5	578	502	1080	3,0	57,5	578	630	1208	3,0	67,5
	GBC.3.03	3,7	23,0	630	521	1151	4,0	59,0	630	630	1260	4,0	69,0
	GBC.3.04	4,9	24,5	683	552	1235	5,5	68,5	683	630	1313	5,5	70,5
	GBC.3.05	6,0	26,0	735	595	1330	7,5	75,0	735	652	1387	7,5	73,5
	GBC.3.06	7,1	27,5	788	595	1383	7,5	76,5	788	652	1440	7,5	75,0
	GBC.3.07	8,2	29,0	840	635	1475	9,2	83,0	840	693	1533	9,2	81,0
	GBC.3.08	9,3	30,5	893	685	1578	11,0	90,5	893	730	1623	11,0	87,0
	GBC.3.09	10,4	32,0	945	685	1630	11,0	92,0	945	730	1675	11,0	88,5
	GBC.3.10	11,5	33,5	998	725	1723	13,0	95,5	998	781	1779	13,0	95,5
	GBC.3.11	12,6	35,0	1050	725	1775	13,0	97,0	1050	781	1831	13,0	97,0
	GBC.3.12	13,7	36,5	1103	775	1878	15,0	101,5	1103	831	1934	15,0	103,5
	GBC.3.13	14,7	38,0	1155	775	1930	15,0	103,0	1155	831	1986	15,0	105,0
	GBC.3.14	15,8	39,5	1208	875	2083	18,5	120,5	1208	882	2090	18,5	112,5
	GBC.3.15	16,9	41,0	1260	875	2135	18,5	122,0	1260	882	2142	18,5	114,0
	GBC.3.16	18,0	42,5	1313	875	2188	18,5	123,5	1313	882	2195	18,5	115,5
	GBC.3.17	19,1	44,0	1365	965	2330	22,0	135,0	1365	981	2346	22,0	128,5
	GBC.3.18	20,1	49,0	1524	965	2489	22,0	140,0	1524	981	2505	22,0	133,5
	GBC.3.19	21,2	50,5	1577	965	2542	22,0	141,5	1577	981	2558	22,0	135,0
	GBC.3.20	22,3	52,0	1629	1055	2684	26,0	155,0	1629	1031	2660	26,0	142,0
	GBC.3.21	23,3	53,5	1682	1055	2737	26,0	156,5	1682	1031	2713	26,0	143,5
	GBC.3.22	24,3	55,0	1734	1055	2789	26,0	158,0	1734	1031	2765	26,0	145,0
	GBC.3.23	25,4	56,5	1787	1135	2922	30,0	165,5	1787	1111	2898	30,0	155,5
	GBC.3.24	26,6	58,0	1839	1135	2974	30,0	167,0	1839	1111	2950	30,0	157,0
	GBC.3.25	27,8	59,5	1892	1135	3027	30,0	168,5	1892	1111	3003	30,0	158,5
	GBC.3.26	28,8	61,0	1944	1135	3079	30,0	170,0	1944	1111	3055	30,0	160,0
	GBC.3.27	29,8	62,5	1997	1315	3312	37,0	192,5	1997	1195	3192	37,0	170,5
	GBC.3.28	30,8	64,0	2049	1315	3364	37,0	194,0	2049	1195	3244	37,0	172,0
	GBC.3.29	31,8	65,5	2102	1315	3417	37,0	195,5	2102	1195	3297	37,0	173,5
	GBC.3.30	32,8	67,0	2154	1315	3469	37,0	197,0	2154	1195	3349	37,0	175,0
	GBC.3.31	33,8	68,5	2207	1315	3522	37,0	198,5	2207	1195	3402	37,0	176,5
	GBC.3.32	34,8	70,0	2259	1315	3574	37,0	200,0	2259	1195	3454	37,0	178,0

* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type



GBC.4

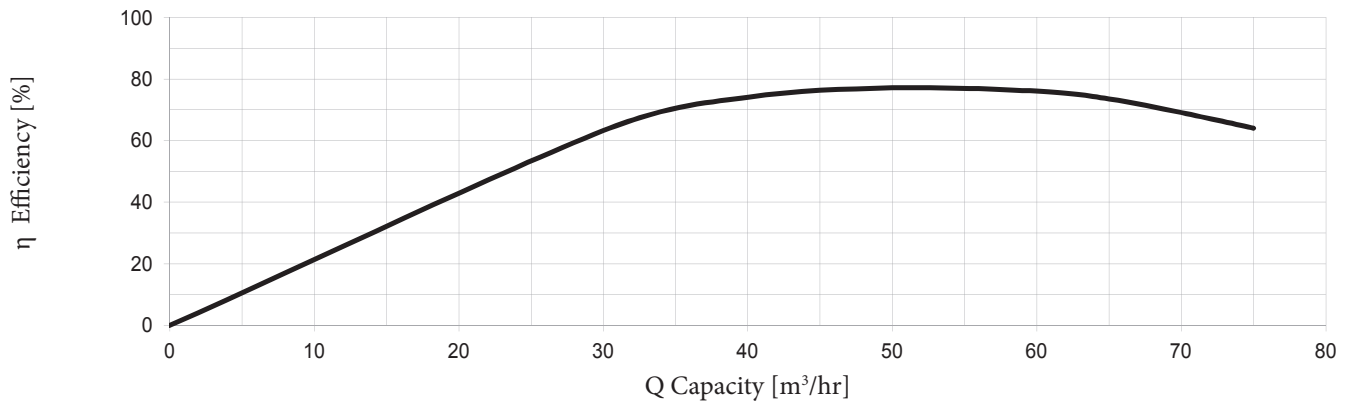
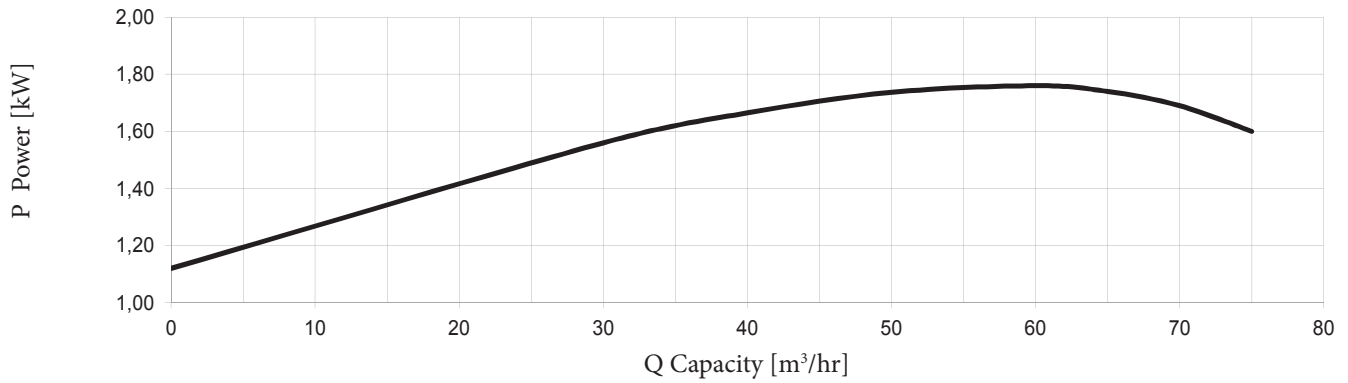
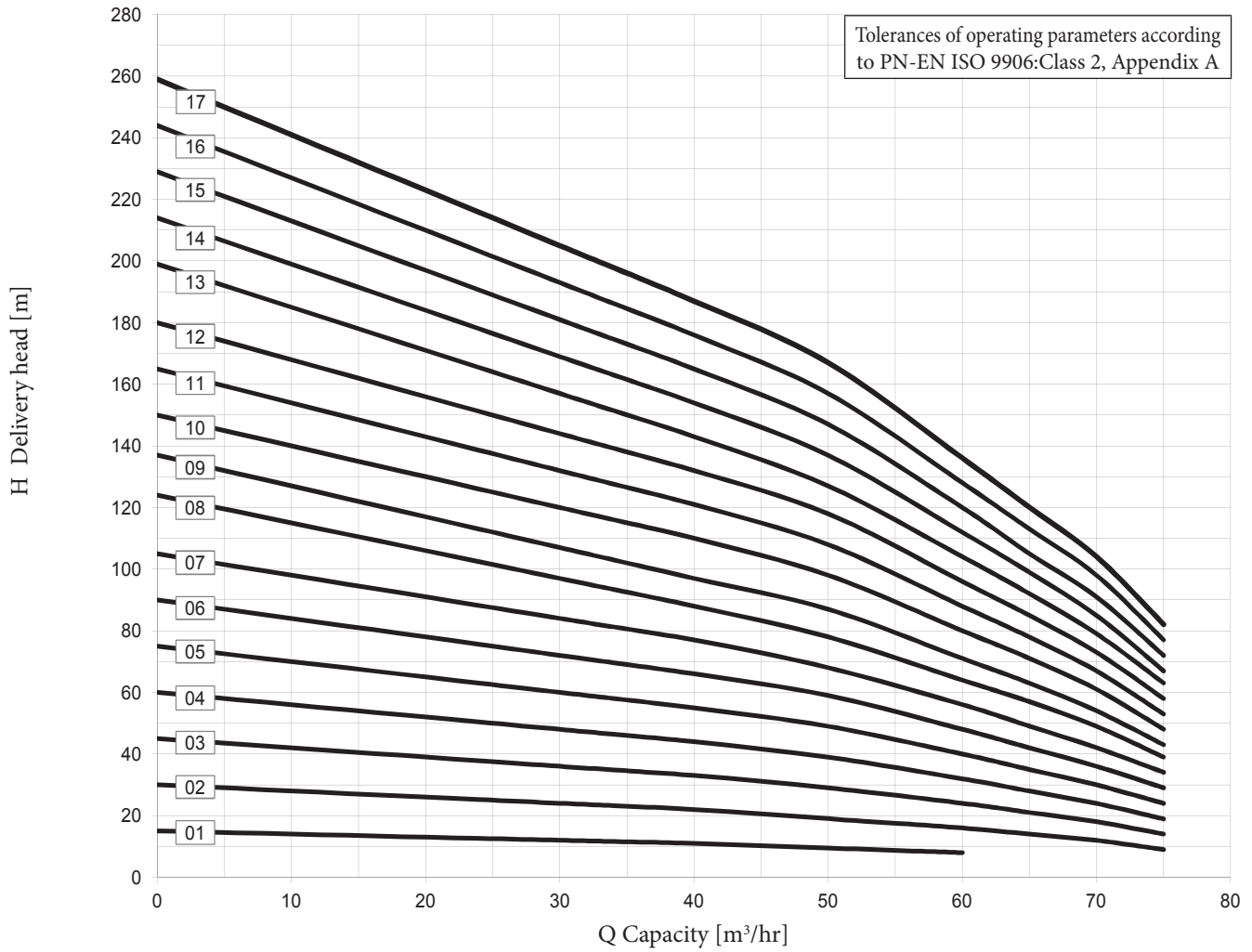


Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GBC.4.01	2,2	23,0	555	502	1057	3,0	59,0	555	630	1185	3,0	69,0
GBC.4.02	3,9	28,0	640	552	1192	5,5	72,0	640	630	1270	5,5	74,0
GBC.4.03	5,5	32,0	725	595	1320	7,5	81,0	725	652	1377	7,5	79,5
GBC.4.04	7,1	37,0	810	635	1445	9,2	91,0	810	693	1503	9,2	89,0
GBC.4.05	8,8	42,0	895	685	1580	11,0	102,0	895	730	1625	11,0	98,5
GBC.4.06	10,4	46,0	980	725	1705	13,0	108,0	980	781	1761	13,0	108,0
GBC.4.07	12,1	51,0	1065	725	1790	13,0	113,0	1065	781	1846	13,0	113,0
GBC.4.08	13,7	56,0	1150	775	1925	15,0	121,0	1150	831	1981	15,0	123,0
GBC.4.09	15,4	61,0	1235	875	2110	18,5	142,0	1235	882	2117	18,5	134,0
GBC.4.10	17,0	65,0	1320	875	2195	18,5	146,0	1320	882	2202	18,5	138,0
GBC.4.11	18,7	70,0	1405	965	2370	22,0	161,0	1405	981	2386	22,0	154,5
GBC.4.12	20,3	75,0	1490	965	2455	22,0	166,0	1490	981	2471	22,0	159,5
GBC.4.13	22,0	79,0	1575	1055	2630	26,0	182,0	1575	1031	2606	26,0	169,0
GBC.4.14	23,6	84,0	1660	1055	2715	26,0	187,0	1660	1031	2691	26,0	174,0
GBC.4.15	25,3	89,0	1745	1135	2880	30,0	198,0	1745	1111	2856	30,0	188,0
GBC.4.16	26,9	94,0	1830	1135	2965	30,0	203,0	1830	1111	2941	30,0	193,0
GBC.4.17	28,5	98,0	1915	1315	3230	37,0	228,0	1915	1195	3110	37,0	206,0
GBC.4.18	30,2	103,0	2000	1315	3315	37,0	233,0	2000	1195	3195	37,0	211,0
GBC.4.19	31,9	108,0	2085	1315	3400	37,0	238,0	2085	1195	3280	37,0	216,0
GBC.4.20	33,5	112,0	2170	1315	3485	37,0	243,0	2170	1195	3365	37,0	220,0

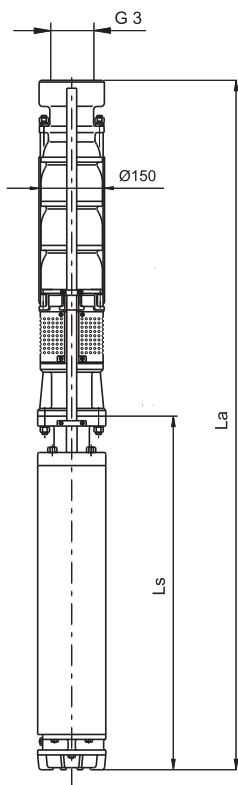
* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

Pump unit code	Q Capacity [m³/hr]							
	0	25	30	35	40	45	50	55
	Q Capacity [l/min]							
	0	416	500	583	667	750	883	917
	H [m]							
GBC.4.01	15	13,5	13	12	10,5	9	7,5	-
GBC.4.02	29	27	26	25	22	19	16	13
GBC.4.03	45	41	39	37	34	29	25	21
GBC.4.04	62	55	53	49	45	39	33	28
GBC.4.05	77	69	66	62	56	48	41	35
GBC.4.06	93	83	80	74	67	58	50	42
GBC.4.07	109	96	92	86	78	68	58	49
GBC.4.08	125	110	105	99	90	78	66	56
GBC.4.09	144	124	118	111	101	87	74	62
GBC.4.10	160	138	131	123	112	97	83	69
GBC.4.11	176	151	144	136	123	107	91	76
GBC.4.12	192	165	158	148	135	116	99	83
GBC.4.13	208	179	171	160	146	126	107	90
GBC.4.14	224	192	184	173	157	136	116	97
GBC.4.15	240	206	197	185	168	145	124	104
GBC.4.16	256	220	210	197	179	155	132	111
GBC.4.17	272	234	223	210	191	165	140	118
GBC.4.18	288	248	237	222	202	175	149	125
GBC.4.19	304	261	250	234	213	184	157	132
GBC.4.20	320	275	263	247	224	194	165	139

Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A



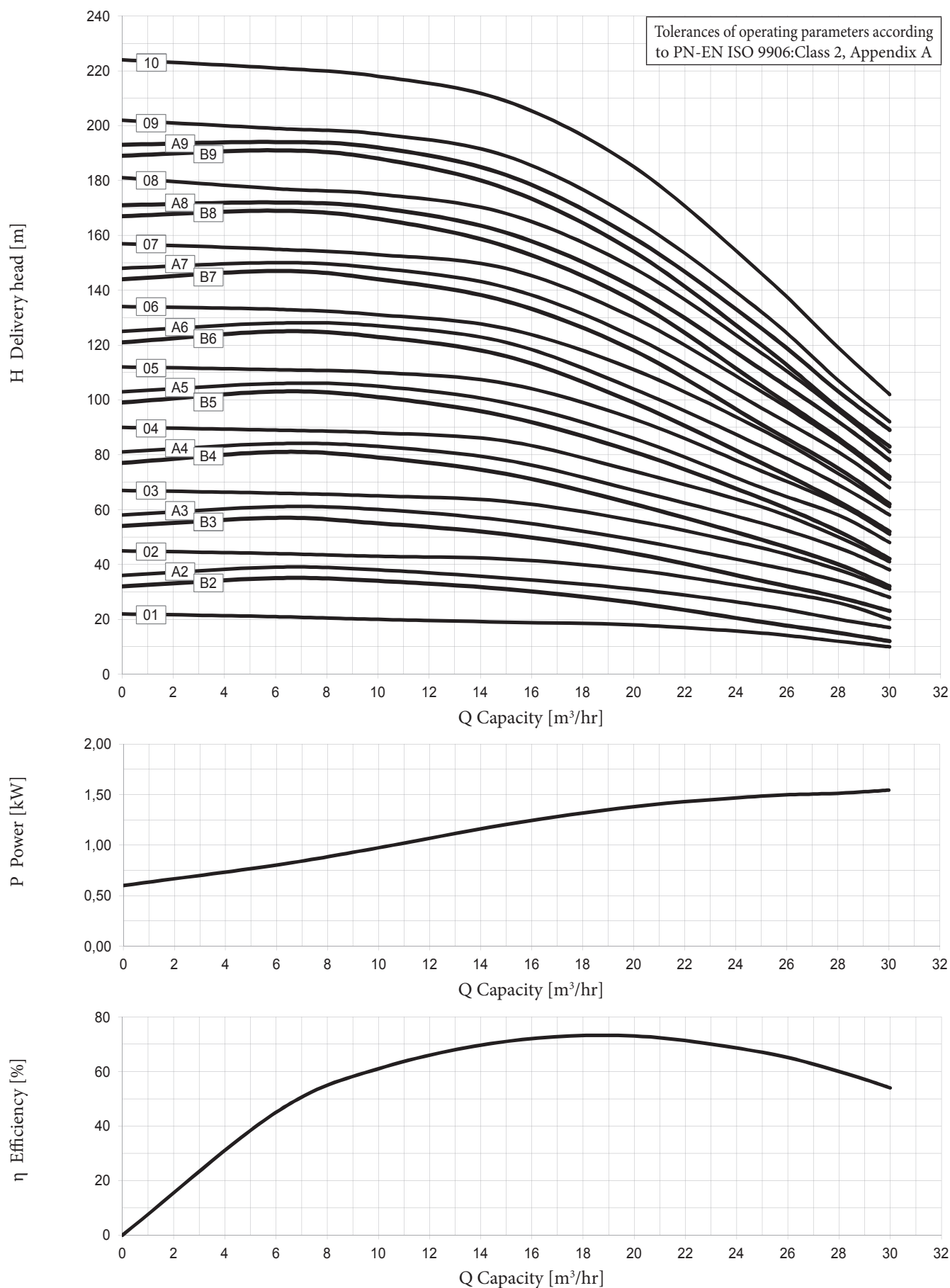
GBC.5

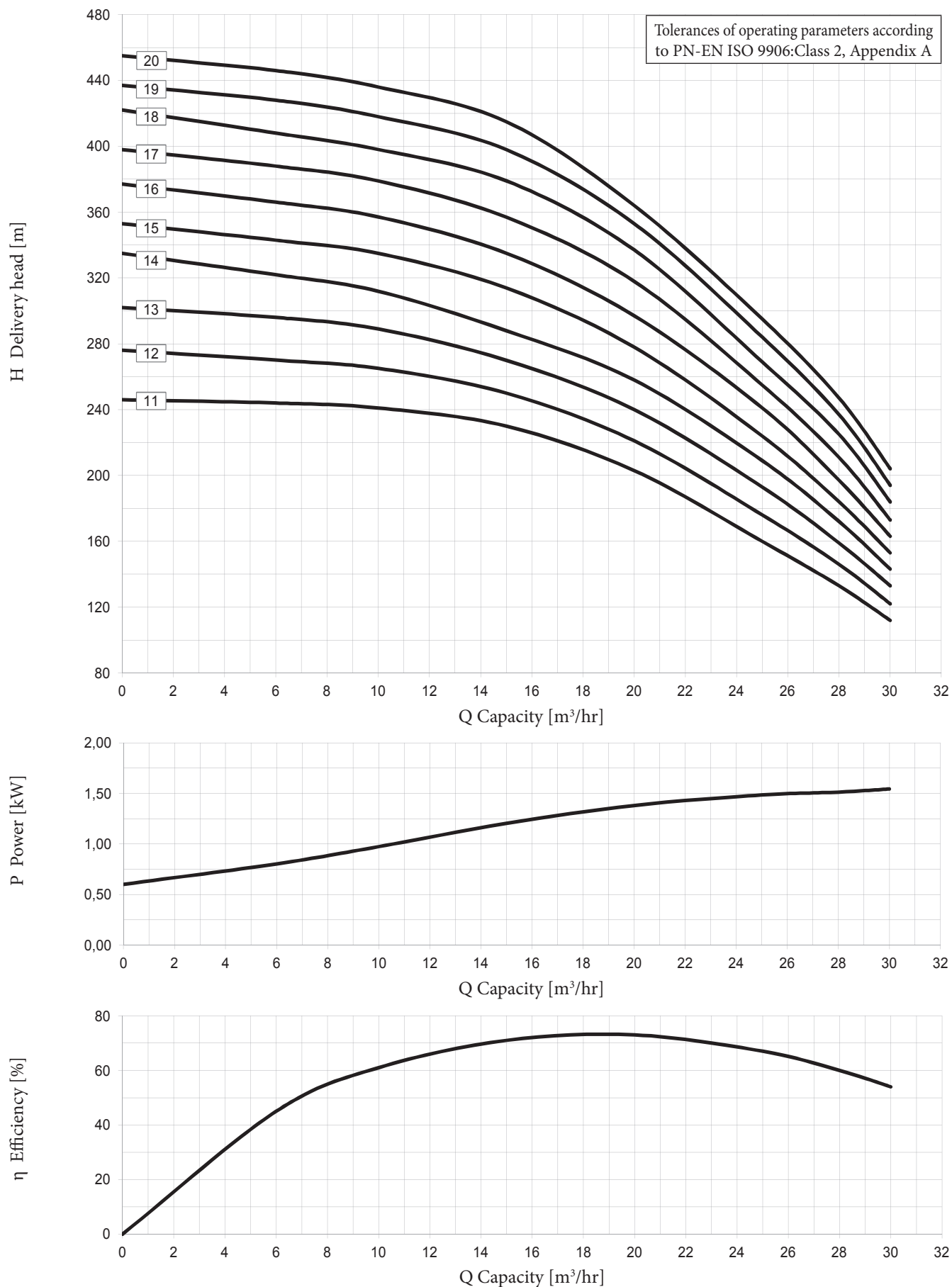


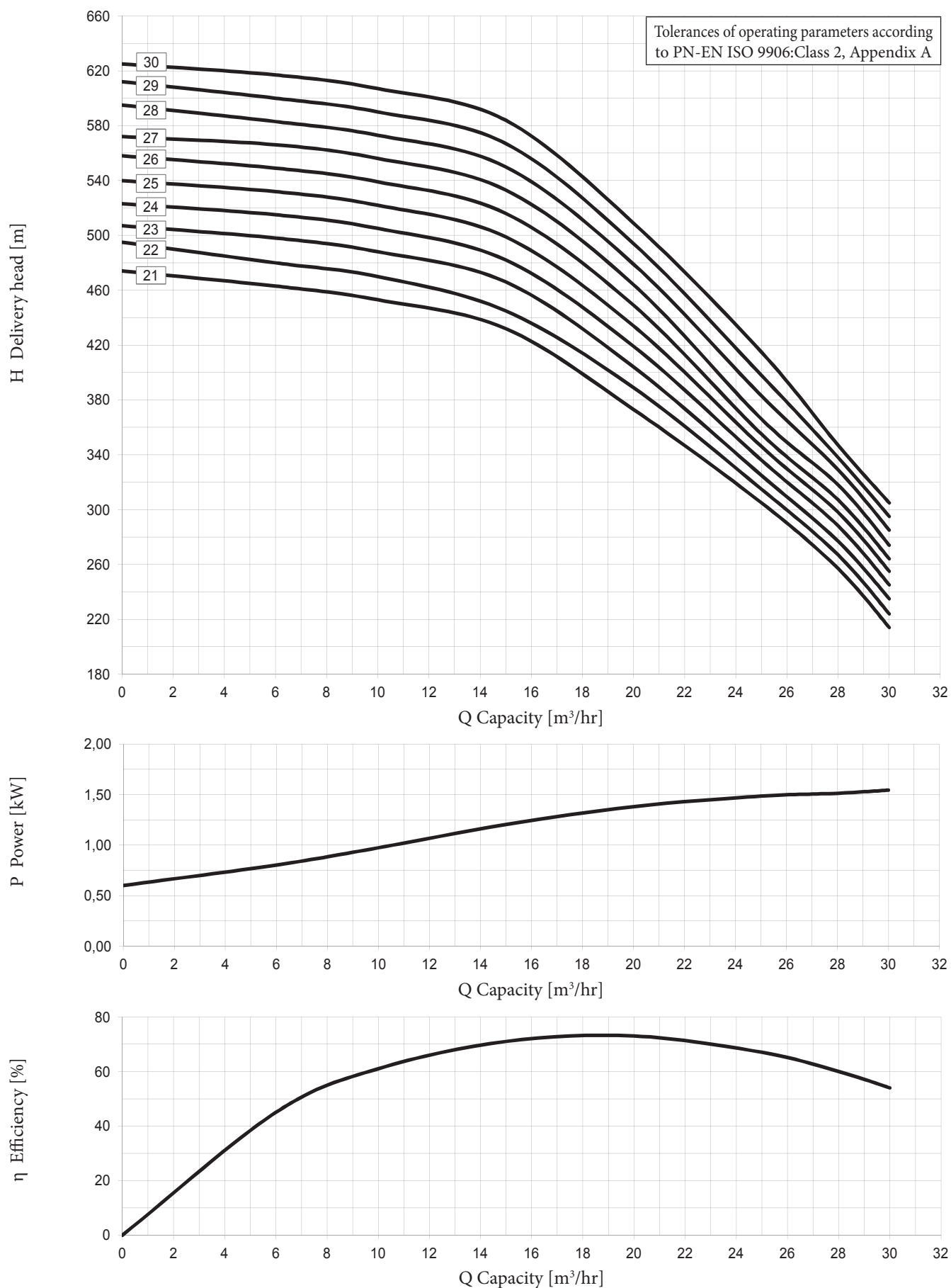
Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GBC.5.01	2,4	23,5	582	521	1103	3,5	63,5	582	630	1212	4,0	69,5
GBC.5.02	3,6	30,0	694	552	1246	5,5	74,0	694	630	1324	5,5	76,0
GBC.5.03	5,4	36,0	806	595	1401	7,5	85,0	806	652	1458	7,5	83,5
GBC.5.04	7,2	42,5	918	635	1553	9,2	96,5	918	693	1611	9,2	94,5
GBC.5.05	8,9	48,5	1030	685	1715	11,0	108,5	1030	730	1760	11,0	105,0
GBC.5.06	10,8	55,0	1142	725	1867	13,0	117,0	1142	781	1923	13,0	117,0
GBC.5.07	12,6	61,0	1254	775	2029	15,0	126,0	1254	831	2085	15,0	127,0
GBC.5.08	14,4	67,5	1366	875	2241	18,5	148,5	1366	882	2248	18,5	140,5
GBC.5.09	16,2	74,0	1478	875	2353	18,5	155,0	1478	882	2360	18,5	147,0
GBC.5.10	18,0	80,0	1590	965	2555	22,0	171,0	1590	981	2571	22,0	164,5
GBC.5.11	19,8	86,5	1702	965	2667	22,0	177,5	1702	981	2683	22,0	171,0
GBC.5.12	21,6	92,5	1814	1055	2869	26,0	195,5	1814	1031	2845	26,0	182,5
GBC.5.13	23,4	99,0	1926	1055	2981	26,0	202,0	1926	1031	2957	26,0	189,0
GBC.5.14	25,2	105,0	2038	1135	3173	30,0	214,0	2038	1111	3149	30,0	204,0
GBC.5.15	27,0	111,5	2150	1135	3285	30,0	220,5	2150	1111	3261	30,0	210,5
GBC.5.16	28,8	117,5	2262	1315	3577	37,0	247,5	2262	1195	3457	37,0	225,5
GBC.5.17	30,6	124,0	2374	1315	3689	37,0	254,0	2374	1195	3569	37,0	232,0

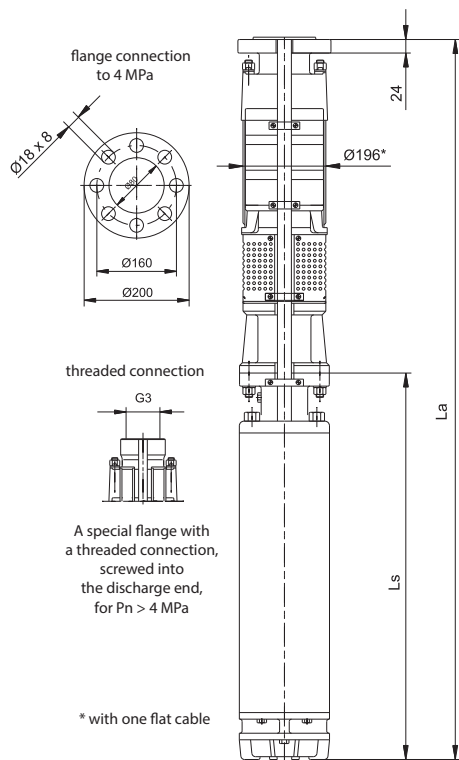
* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

Pump unit code	Q Capacity [m³/hr]							
	0	30	40	50	60	65	70	75
	Q Capacity [l/min]							
	0	500	667	833	1000	1083	1166	1250
H [m]								
GBC.5.01	15	12	11	10	8	-	-	-
GBC.5.02	30	24	22	19	16	13	9	4
GBC.5.03	45	36	33	29	24	20	16	11
GBC.5.04	60	48	44	39	32	27	24	19
GBC.5.05	75	60	55	49	40	35	30	24
GBC.5.06	90	72	66	59	48	42	36	29
GBC.5.07	105	84	77	68	56	49	42	34
GBC.5.08	124	97	88	78	64	57	49	39
GBC.5.09	137	107	97	87	71	63	54	43
GBC.5.10	150	120	110	98	80	71	61	48
GBC.5.11	165	132	121	108	88	78	67	53
GBC.5.12	180	144	132	118	96	85	73	58
GBC.5.13	199	157	143	127	104	92	79	63
GBC.5.14	214	169	154	137	112	99	85	67
GBC.5.15	229	181	165	147	120	105	91	72
GBC.5.16	244	193	176	157	128	113	98	77
GBC.5.17	259	205	187	167	136	120	104	82







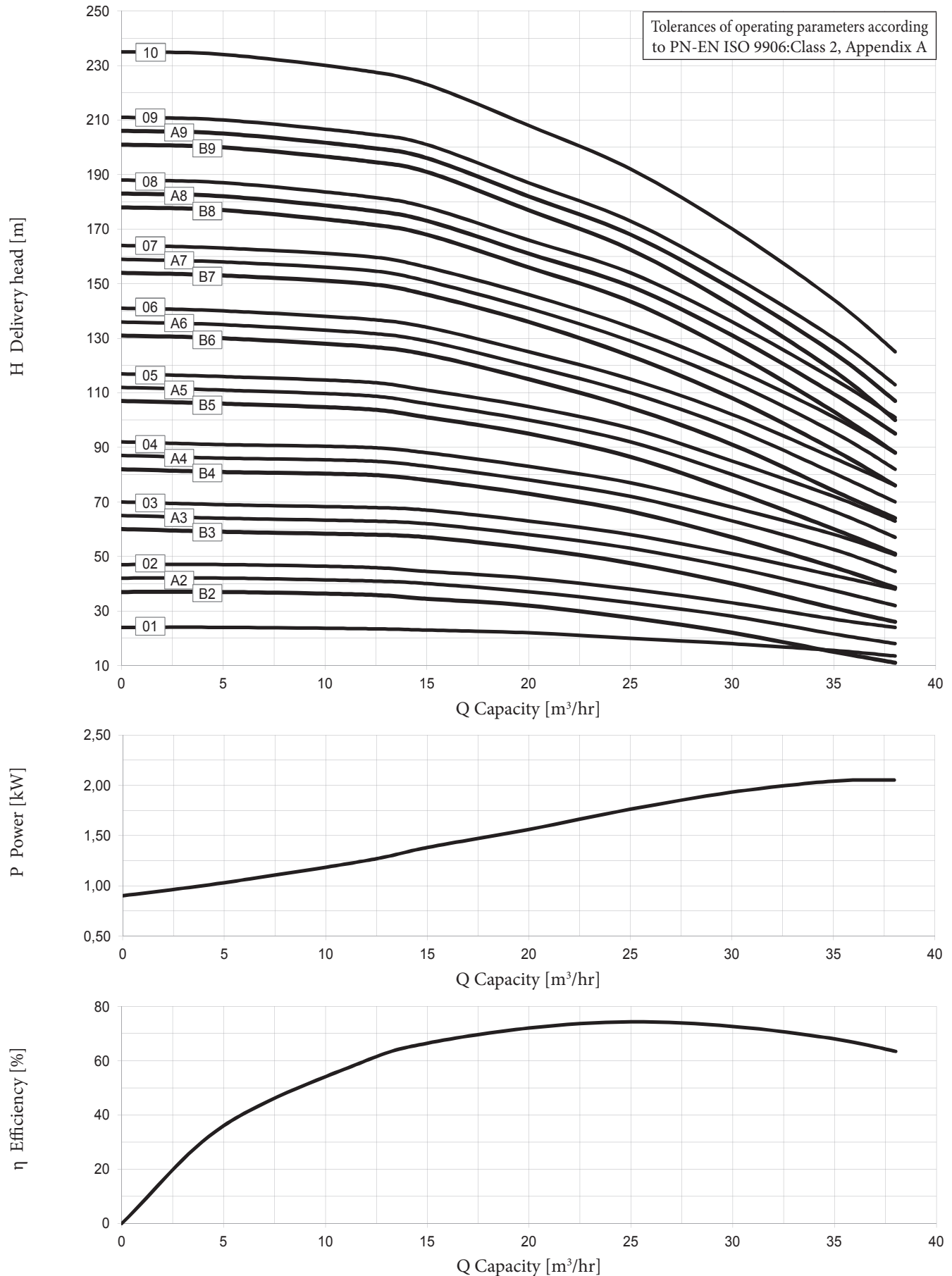


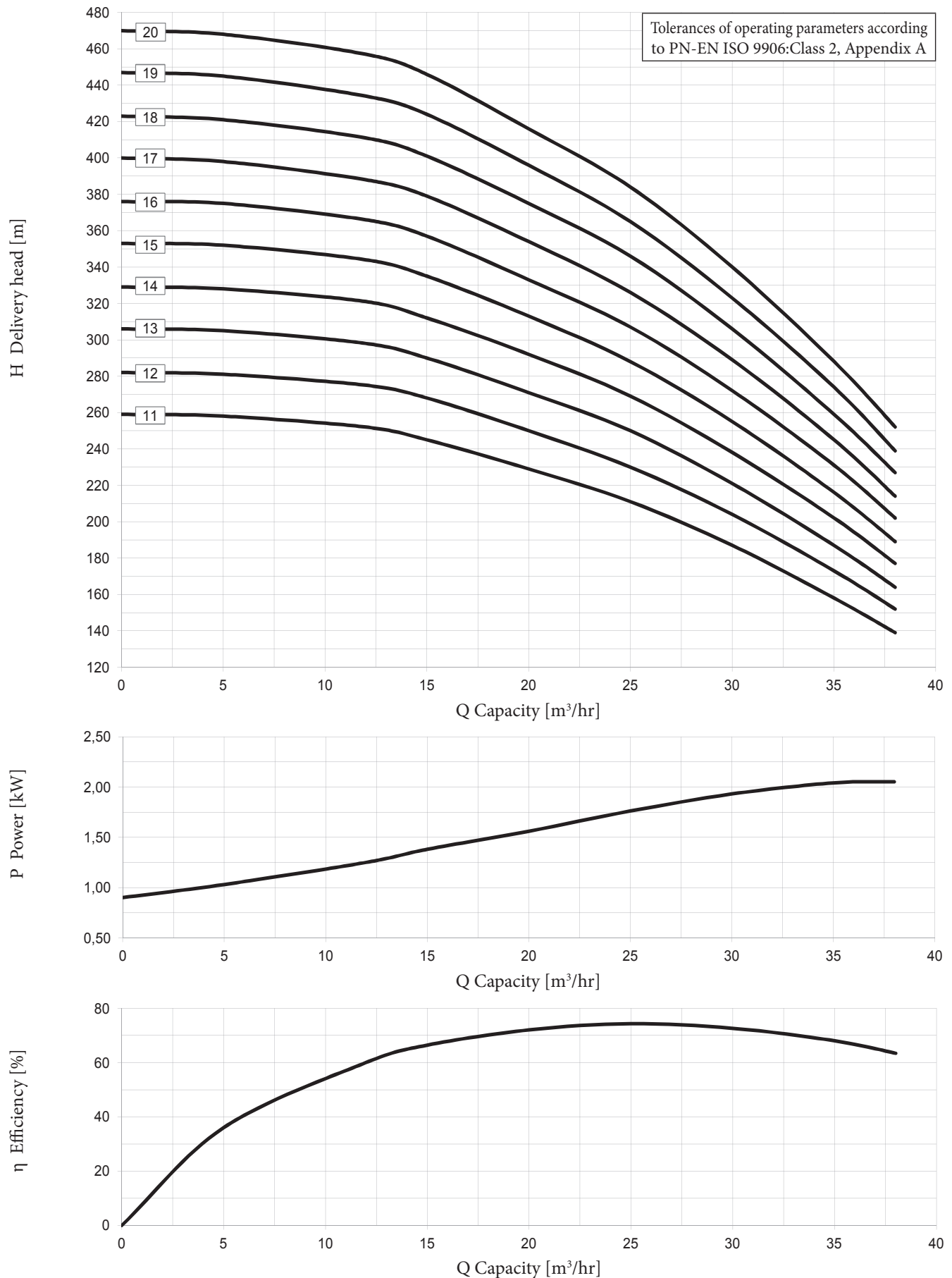
Pump unit code	Q Capacity [m³/hr]							
	0	6	10	15	20	25	28	30
	Q Capacity [l/min]							
	0	100	167	250	333	417	467	500
H [m]								
GC.0.01	22	21	20	19	18	15	12	10
GC.0.02	45	44	43	42	38	31	26	20
GC.0.03	67	66	64	63	56	46	38	31
GC.0.04	90	89	88	85	74	61	50	41
GC.0.05	112	111	110	104	93	74	62	51
GC.0.06	134	133	132	128	111	89	73	61
GC.0.07	157	155	153	148	130	103	85	71
GC.0.08	182	177	175	168	148	117	96	81
GC.0.09	204	199	197	189	166	132	107	92
GC.0.10	226	221	218	206	185	146	119	101
GC.0.11	248	244	241	230	203	160	133	112
GC.0.12	280	270	265	250	221	176	146	122
GC.0.13	305	296	289	270	240	193	156	133
GC.0.14	335	322	312	288	258	209	172	143
GC.0.15	353	343	335	314	278	224	184	153
GC.0.16	377	366	357	335	297	241	197	163
GC.0.17	398	388	379	357	318	255	211	173
GC.0.18	422	408	398	379	337	269	225	184
GC.0.19	439	428	418	398	353	284	237	194
GC.0.20	459	446	436	415	358	295	247	204
GC.0.21	478	463	453	432	373	305	257	214
GC.0.22	500	480	470	450	389	315	267	224
GC.0.23	510	498	488	466	404	325	277	235
GC.0.24	525	515	505	482	419	336	288	245
GC.0.25	543	532	522	499	434	346	298	255
GC.0.26	561	549	539	516	449	355	307	264
GC.0.27	579	566	556	533	464	366	318	274
GC.0.28	597	583	573	550	479	376	329	285
GC.0.29	615	600	590	567	494	385	338	295
GC.0.30	633	617	607	584	509	396	347	305

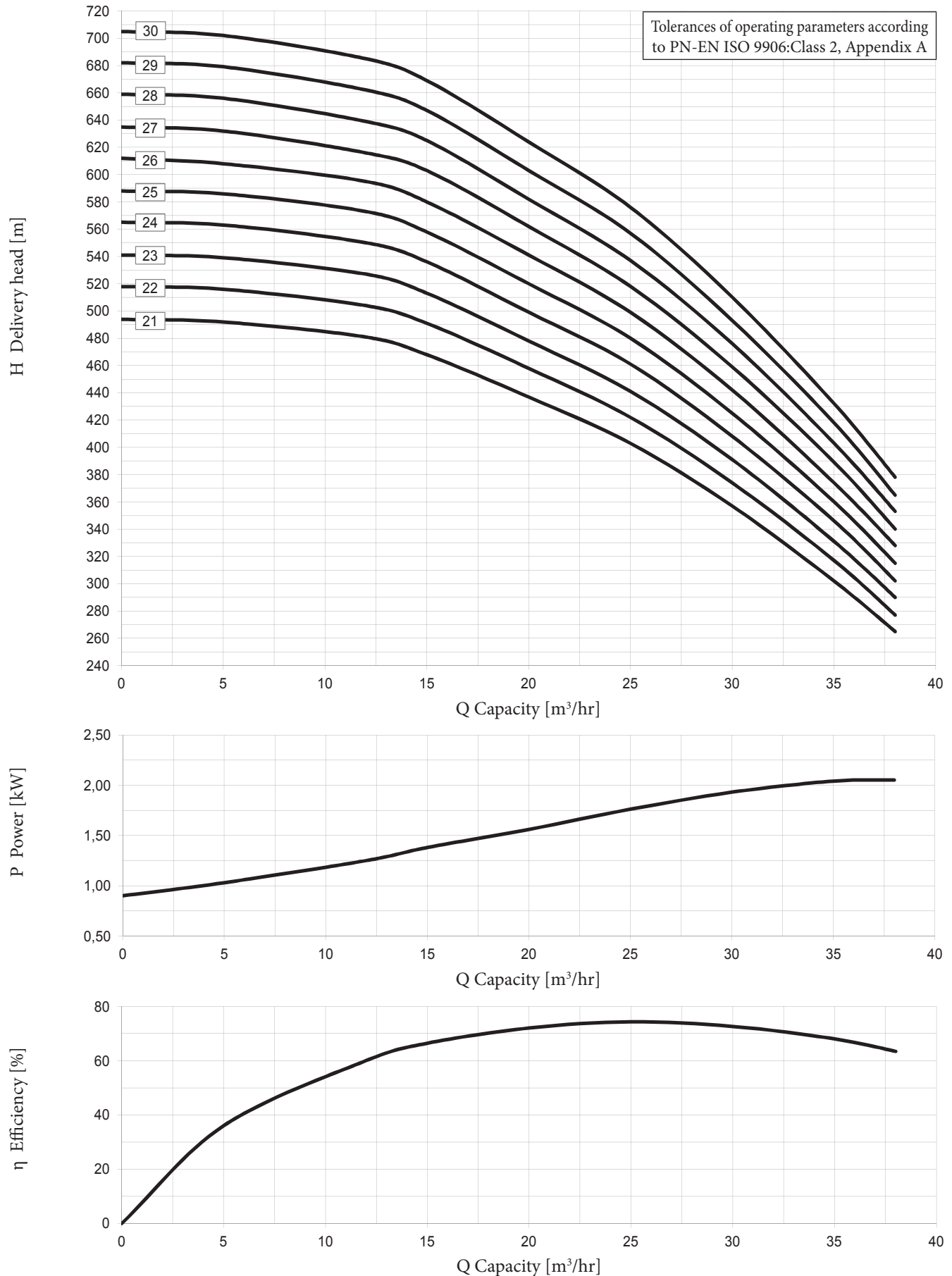
Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GC.0.01	1,7	40,5	670	485	1155	2,2	73,0	670	630	1300	2,2	86,5
GC.0.02	3,3	45,0	717	521	1238	3,7	85,0	717	630	1347	3,7	91,0
GC.0.03	5,0	49,5	764	552	1316	5,5	93,5	764	630	1394	5,5	95,5
GC.0.04	6,7	54,0	811	595	1406	7,5	103,0	811	652	1463	7,5	101,5
GC.0.05	8,4	58,5	858	635	1493	9,2	112,5	858	693	1551	9,2	110,5
GC.0.06	10,0	63,0	905	685	1590	11,0	123,0	905	730	1635	11,0	119,5
GC.0.07	11,7	67,5	952	725	1677	13,0	129,5	952	781	1733	13,0	129,5
GC.0.08	13,4	72,0	999	775	1774	15,0	137,0	999	831	1830	15,0	139,0
GC.0.09	15,0	76,5	1046	875	1921	18,5	157,5	1046	882	1928	18,5	149,5
GC.0.10	16,7	81,0	1093	875	1968	18,5	166,0	1093	882	1975	18,5	154,0
GC.0.11	18,4	85,5	1140	965	2105	22,0	176,5	1140	981	2121	22,0	170,0
GC.0.12	20,0	90,0	1187	965	2152	22,0	181,0	1187	981	2168	22,0	174,5
GC.0.13	21,7	94,5	1234	1055	2289	26,0	197,5	1234	1031	2265	26,0	184,5
GC.0.14	23,4	106,0	1419	1055	2474	26,0	209,0	1419	1031	2450	26,0	196,0
GC.0.15	25,1	110,5	1466	1135	2601	30,0	219,5	1466	1031	2497	26,0	200,5
GC.0.16	26,7	115,0	1513	1135	2648	30,0	224,0	1513	1111	2624	30,0	214,0
GC.0.17	28,4	118,5	1560	1135	2695	30,0	227,5	1560	1111	2671	30,0	217,5
GC.0.18	30,1	123,0	1607	1315	2922	37,0	253,0	1607	1195	2802	37,0	231,0
GC.0.19	31,7	127,5	1564	1315	2969	37,0	257,5	1654	1195	2849	37,0	235,5
GC.0.20	33,4	132,0	1701	1315	3016	37,0	262,0	1701	1195	2896	37,0	240,0
GC.0.21	35,1	136,5	1748	1315	3063	37,0	266,5	1748	1195	2943	37,0	244,5

* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

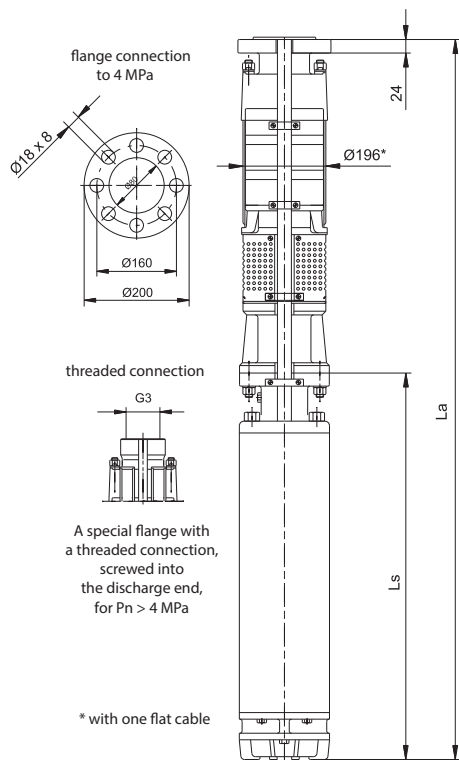
Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GC.0.07	11,7	77,5	1002	695	1697	13,0	174,5	-	-	-	-	-
GC.0.08	13,4	82,0	1049	695	1744	15,0	179,0	1049	930	1979	15,0	203,0
GC.0.09	15,0	86,5	1096	765	1861	18,5	196,5	1096	930	2026	18,5	207,5
GC.0.10	16,7	91,0	1143	765	1908	18,5	201,0	1143	930	2073	18,5	212,0
GC.0.11	18,4	95,5	1190	765	1955	22,0	205,5	1190	930	2120	22,0	216,5
GC.0.12	20,0	100,0	1237	765	2002	22,0	210,0	1237	930	2167	22,0	221,0
GC.0.13	21,7	104,5	1284	845	2129	26,0	230,5	1284	1029	2313	26,0	246,5
GC.0.14	23,4	116,0	1469	845	2314	26,0	242,5	1469	1029	2498	26,0	258,0
GC.0.15	25,1	120,5	1516	845	2361	30,0	246,5	1516	1029	2545	26,0	262,5
GC.0.16	26,7	125,0	1563	845	2408	30,0	251,0	1563	1075	2638	30,0	267,0
GC.0.17	28,4	128,5	1610	845	2455	30,0	254,5	1610	1075	2685	30,0	270,5
GC.0.18	30,1	133,0	1657	925	2582	37,0	275,0	1657	1102	2759	37,0	281,0
GC.0.19	31,7	137,5	1704	925	2629	37,0	279,5	1704	1102	2806	37,0	285,5
GC.0.20	33,4	142,0	1751	925	2676	37,0	284,0	1751	1102	2853	37,0	290,0
GC.0.21	35,1	146,5	1798	925	2723	37,0	288,5	1798	1102	2900	37,0	294,5
GC.0.22	36,7	151,0	1845	995	2840	45,0	307,0	1845	1162	3007	45,0	310,0
GC.0.23	38,4	155,5	1892	995	2887	45,0	311,5	1892	1162	3054	45,0	314,5
GC.0.24	40,1	160,0	1939	995	2934	45,0	316,0	1939	1162	3101	45,0	319,0
GC.0.25	41,8	164,5	1986	995	2981	45,0	320,5	1986	1162	3148	45,0	323,5
GC.0.26	43,5	169,0	2033	1065	3098	52,0	339,0	2033	1162	3195	45,0	328,0
GC.0.27	45,2	173,5	2080	1065	3145	52,0	343,5	2080	1242	3322	52,0	351,5
GC.0.28	46,9	178,0	2127	1065	3192	52,0	348,0	2127	1242	3369	52,0	356,0
GC.0.29	48,6	182,5	2174	1065	3269	55,0	525,5	2174	1282	3456	55,0	365,5
GC.0.30	50,3	187,0	2221	1065	3286	55,0	537,0	2221	1282	3503	55,0	370,0







GCA.2

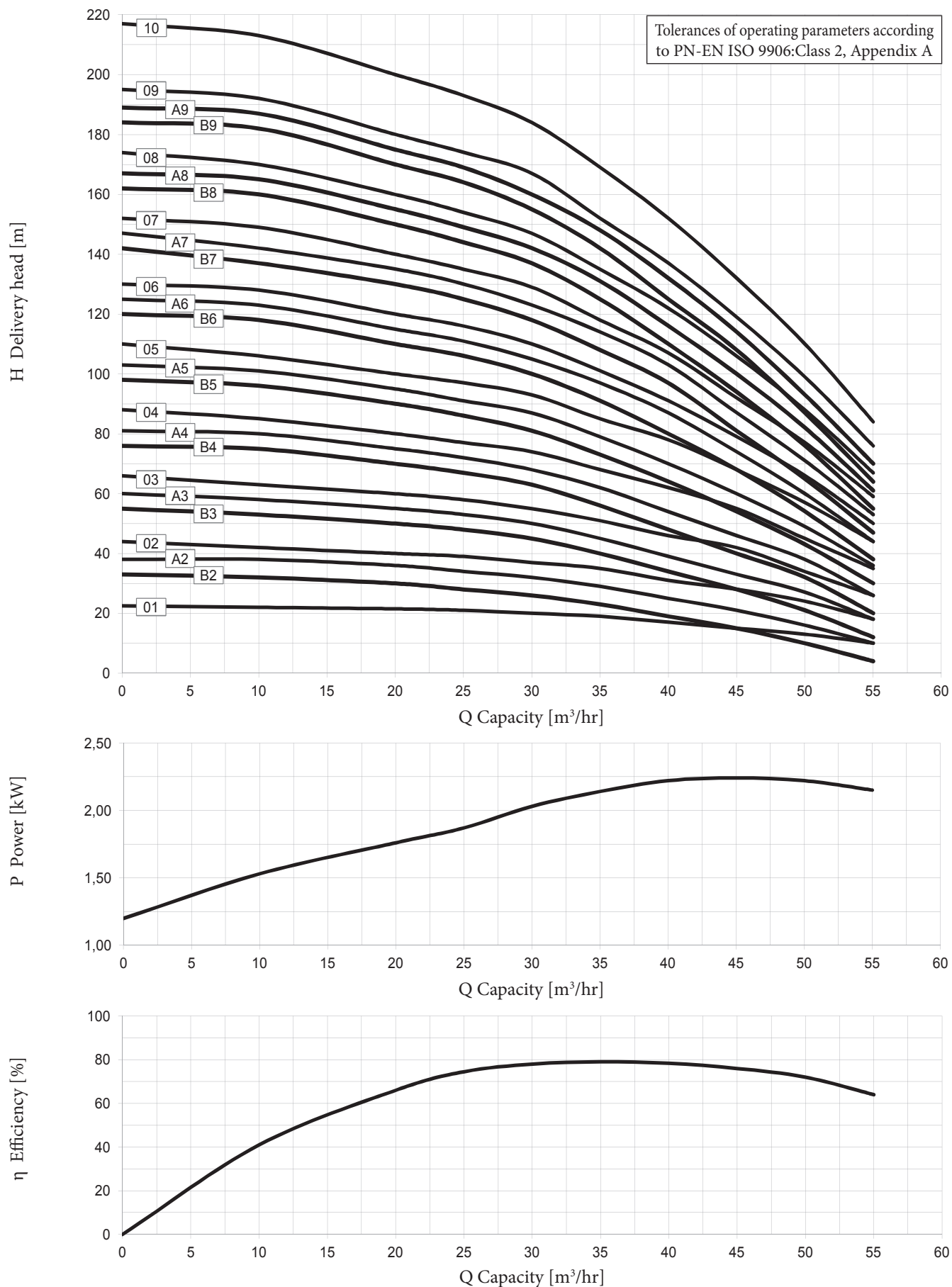


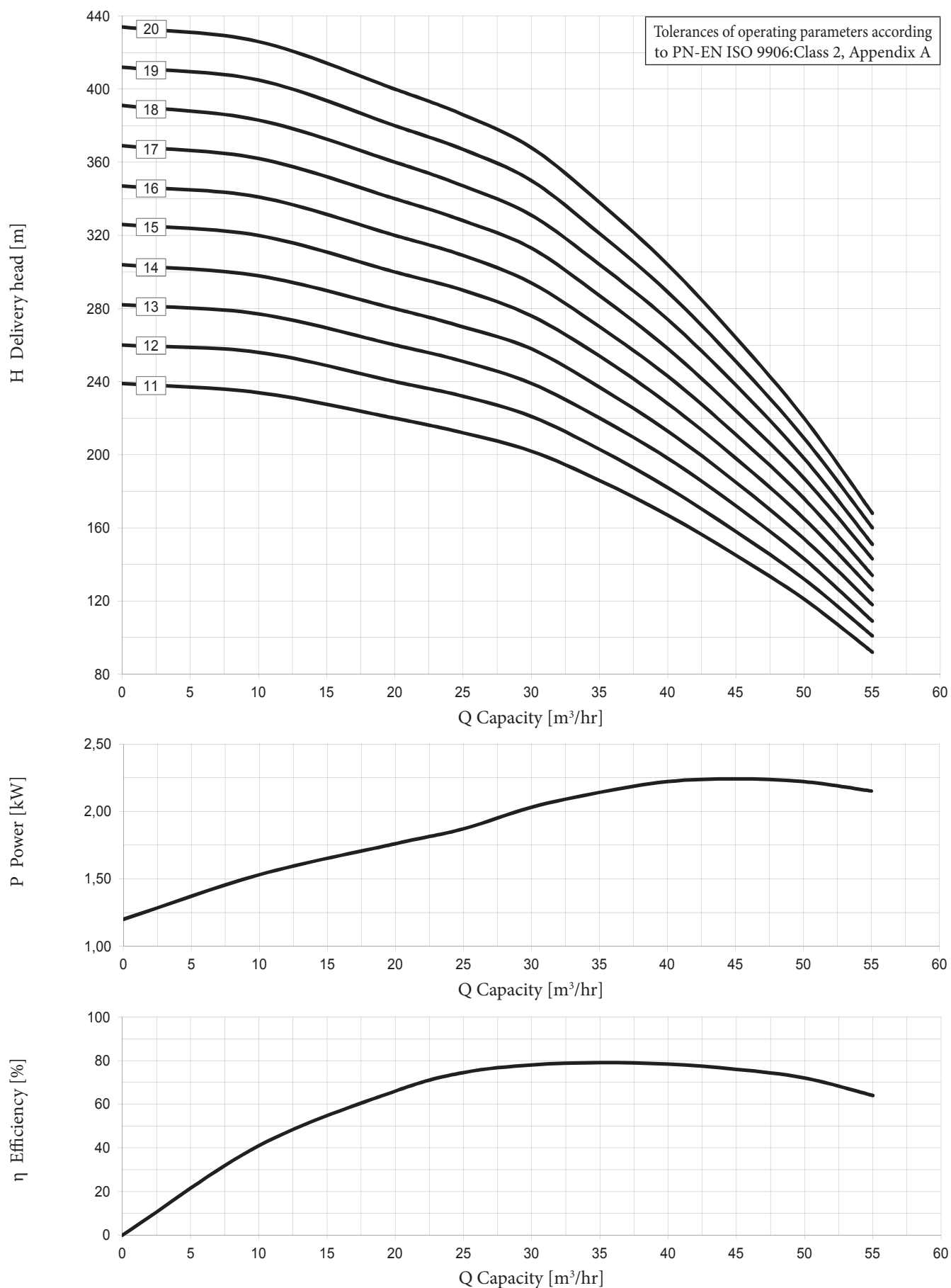
Pump unit code	Q Capacity [m³/hr]							
	0	12	15	20	25	30	35	38
	Q Capacity [l/min]							
	0	200	250	333	417	500	583	633
H [m]								
GCA.2.01	24	23,5	23	22	20	18	15,5	13,5
GCA.2.02	47	46	45	42	38	33	27	24
GCA.2.03	70	68	67	63	58	51	43	38
GCA.2.04	92	90	88	83	77	68	58	50,5
GCA.2.05	117	114	111	105	97	85	72	63
GCA.2.06	141	137	134	125	115	102	86	76
GCA.2.07	164	160	156	146	134	119	101	88
GCA.2.08	188	182	178	166	154	136	115	101
GCA.2.09	211	205	201	187	173	153	130	113
GCA.2.10	235	228	223	208	192	170	144	125
GCA.2.11	259	252	245	229	211	187	158	139
GCA.2.12	282	275	268	250	230	204	173	152
GCA.2.13	306	298	290	271	250	221	187	164
GCA.2.14	329	321	312	292	269	238	202	177
GCA.2.15	352	344	335	313	288	255	216	189
GCA.2.16	376	366	357	333	307	272	231	202
GCA.2.17	400	388	379	354	326	289	245	214
GCA.2.18	423	411	401	375	346	306	259	227
GCA.2.19	447	434	424	396	365	323	274	239
GCA.2.20	470	457	446	416	384	340	288	252
GCA.2.21	494	481	468	437	403	357	302	265
GCA.2.22	518	504	491	458	422	374	317	277
GCA.2.23	541	527	513	478	441	391	331	290
GCA.2.24	565	550	536	499	461	408	346	302
GCA.2.25	588	573	558	520	480	425	360	315
GCA.2.26	612	595	580	541	499	442	374	328
GCA.2.27	635	616	603	562	518	459	389	340
GCA.2.28	659	639	625	582	537	476	403	353
GCA.2.29	682	662	647	603	557	493	418	365
GCA.2.30	705	685	669	624	576	510	432	378

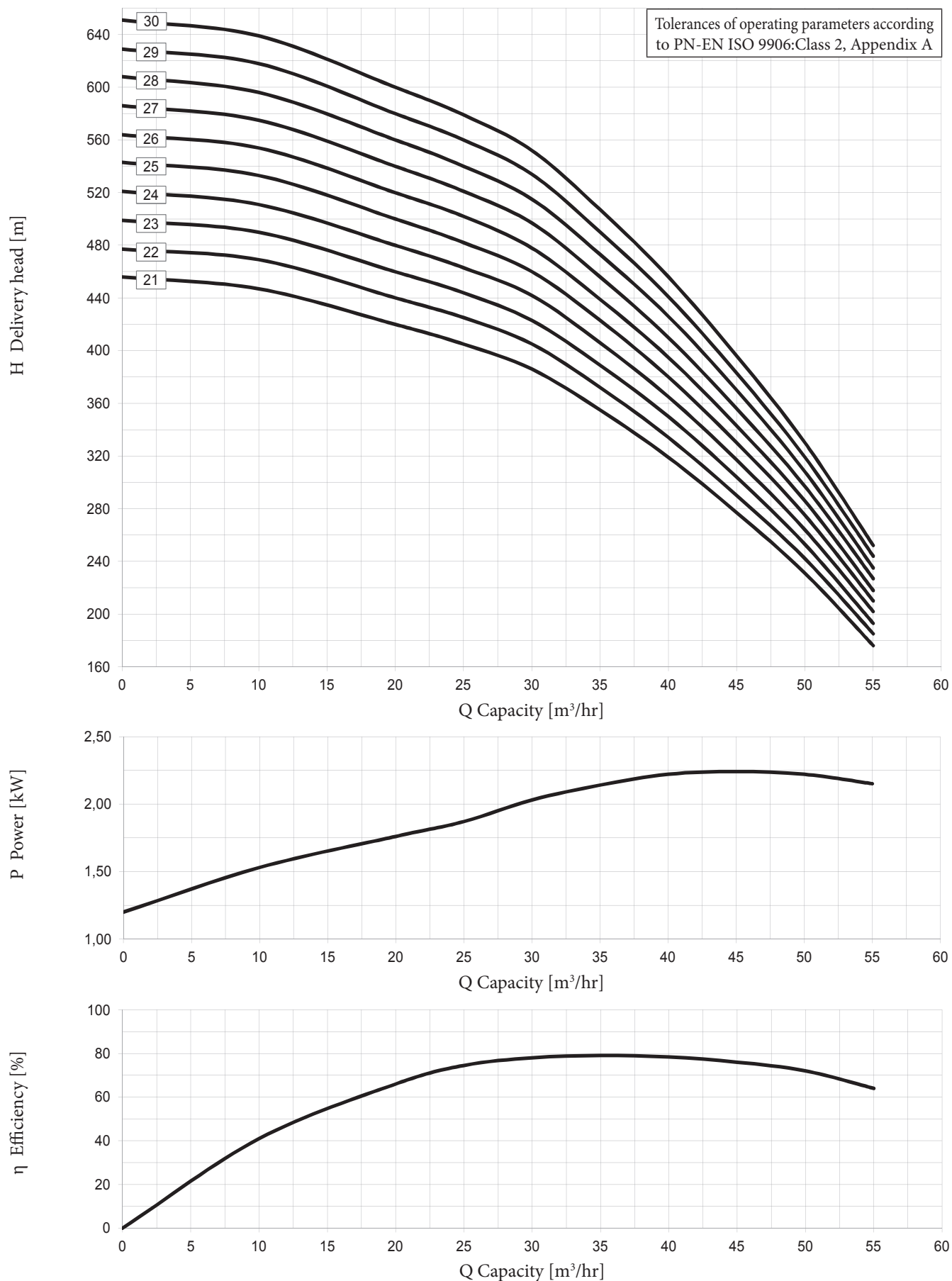
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.2.01	2,3	42,0	699	502	1201	3,0	78,0	699	630	1329	3,0	88,0
GCA.2.02	4,1	47,0	754	552	1306	5,5	91,0	754	630	1384	5,5	93,0
GCA.2.03	6,4	52,0	809	595	1404	7,5	101,0	809	652	1461	7,5	99,5
GCA.2.04	8,4	57,0	864	635	1499	9,2	111,0	864	693	1557	9,2	109,0
GCA.2.05	10,4	62,0	919	685	1604	11,0	122,0	919	730	1649	11,0	118,0
GCA.2.06	12,6	67,0	974	775	1749	15,0	132,0	974	781	1735	13,0	129,0
GCA.2.07	14,5	72,0	1029	775	1804	15,0	137,0	1029	831	1860	15,0	145,0
GCA.2.08	16,6	77,0	1084	875	1959	18,5	158,0	1084	882	1966	18,5	150,0
GCA.2.09	18,6	82,0	1139	965	2104	22,0	173,0	1139	981	2120	22,0	166,5
GCA.2.10	20,5	87,0	1194	965	2159	22,0	178,0	1194	981	2175	22,0	171,5
GCA.2.11	22,8	92,0	1249	1055	2304	26,0	195,0	1249	1031	2280	26,0	182,0
GCA.2.12	25,0	97,0	1304	1055	2359	26,0	200,0	1304	1031	2335	26,0	187,0
GCA.2.13	27,0	102,0	1359	1135	2494	30,0	211,0	1359	1111	2470	30,0	201,0
GCA.2.14	29,0	107,0	1414	1135	2549	30,0	216,0	1414	1111	2525	30,0	214,0
GCA.2.15	31,0	112,0	1469	1315	2784	37,0	232,0	1469	1195	2664	37,0	228,0
GCA.2.16	33,1	117,0	1524	1315	2839	37,0	237,0	1524	1195	2719	37,0	233,0
GCA.2.17	35,1	122,0	1579	1315	2894	37,0	242,0	1579	1195	2774	37,0	238,0

* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

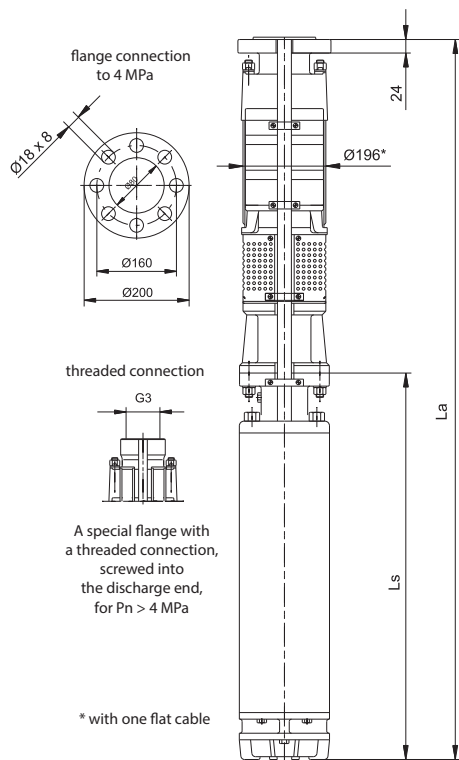
Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.2.06	12,6	72,0	1003	695	1698	15,0	169,0	-	-	-	-	-
GCA.2.07	14,5	77,0	1058	695	1753	15,0	187,0	1058	930	1988	15,0	198,0
GCA.2.08	16,6	82,0	1113	765	1878	18,5	192,0	1113	930	2043	18,5	203,0
GCA.2.09	18,6	87,0	1168	765	1933	22,0	197,0	1168	930	2098	22,0	208,0
GCA.2.10	20,5	92,0	1223	765	1988	22,0	202,0	1223	930	2153	22,0	213,0
GCA.2.11	22,8	97,0	1278	845	2123	26,0	213,0	1278	1029	2307	26,0	239,0
GCA.2.12	25,0	102,0	1333	845	2178	26,0	228,0	1333	1029	2362	26,0	244,0
GCA.2.13	27,0	107,0	1388	845	2233	30,0	233,0	1388	1075	2463	30,0	249,0
GCA.2.14	29,0	112,0	1443	845	2288	30,0	238,0	1443	1075	2518	30,0	254,0
GCA.2.15	31,0	117,0	1498	925	2423	37,0	259,0	1498	1102	2600	37,0	265,0
GCA.2.16	33,1	122,0	1553	925	2478	37,0	264,0	1553	1102	2655	37,0	270,0
GCA.2.17	35,1	127,0	1608	925	2533	37,0	269,0	1608	1102	2710	37,0	275,0
GCA.2.18	37,2	132,0	1663	995	2658	45,0	288,0	1663	1162	2825	45,0	291,0
GCA.2.19	39,1	137,0	1718	995	2713	45,0	293,0	1718	1162	2880	45,0	296,0
GCA.2.20	41,2	142,0	1773	995	2768	45,0	298,0	1773	1162	2965	45,0	301,0
GCA.2.21	43,3	147,0	1828	995	2823	45,0	303,0	1828	1162	2990	45,0	306,0
GCA.2.22	45,2	152,0	1883	1065	2948	52,0	322,0	1883	1242	3125	52,0	330,0
GCA.2.23	47,4	157,0	1938	1065	3003	52,0	327,0	1938	1242	3180	52,0	335,0
GCA.2.24	49,3	162,0	1993	1065	3058	55,0	332,0	1993	1242	3235	52,0	340,0
GCA.2.25	51,4	167,0	2048	1065	3113	55,0	337,0	2048	1242	3290	52,0	345,0
GCA.2.26	53,5	172,0	2103	1135	3238	60,0	356,0	2103	1282	3385	55,0	355,0
GCA.2.27	55,4	177,0	2158	1135	3293	60,0	361,0	2158	1315	3473	59,0	365,0
GCA.2.28	57,5	182,0	2213	1235	3448	67,0	386,0	2213	1315	3528	59,0	370,0
GCA.2.29	59,4	187,0	2268	1235	3503	67,0	391,0	2268	1393	3661	66,0	390,0
GCA.2.30	61,5	192,0	2323	1235	3558	67,0	396,0	2323	1393	3716	66,0	395,0







GCA.3

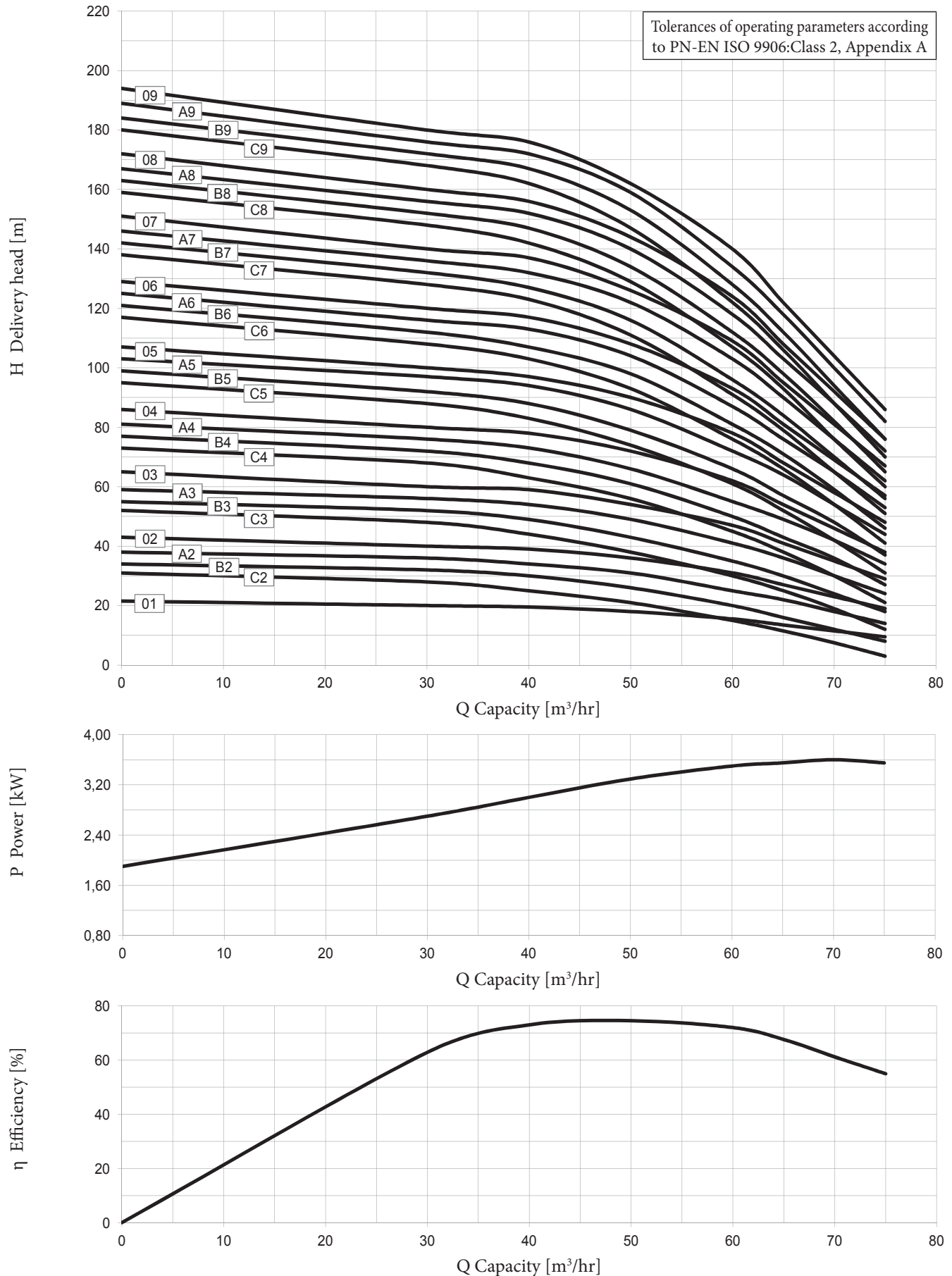


Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.3.01	3,2	42,0	699	521	1220	4,0	82,0	699	630	1329	3,7	88,0
GCA.3.02	5,1	47,0	754	552	1306	5,5	81,0	754	630	1384	5,5	93,0
GCA.3.03	7,4	52,0	809	595	1404	7,5	101,0	809	652	1461	7,5	99,5
GCA.3.04	9,6	57,0	864	685	1549	11,0	117,0	864	730	1594	11,0	113,5
GCA.3.05	11,7	62,0	919	725	1644	13,0	124,0	919	781	1699	13,0	124,0
GCA.3.06	13,5	67,0	974	775	1749	15,0	132,0	974	831	1805	15,0	134,0
GCA.3.07	15,7	72,0	1029	875	1904	18,5	153,0	1029	882	1918	18,5	145,0
GCA.3.08	18,1	77,0	1084	965	2049	22,0	168,0	1084	981	2065	22,0	161,5
GCA.3.09	20,2	82,0	1139	965	2104	22,0	173,0	1139	981	2120	22,0	166,5
GCA.3.10	22,4	87,0	1194	1055	2249	26,0	190,0	1194	1031	2225	26,0	177,0
GCA.3.11	24,5	92,0	1249	1055	2304	26,0	195,0	1249	1031	2280	26,0	182,0
GCA.3.12	26,7	97,0	1304	1135	2439	30,0	206,0	1304	1111	2415	30,0	196,0
GCA.3.13	29,2	102,0	1359	1315	2674	37,0	222,0	1359	1111	2470	30,0	201,0
GCA.3.14	31,2	107,0	1414	1315	2729	37,0	227,0	1414	1195	2609	37,0	215,0
GCA.3.15	33,4	112,0	1469	1315	2784	37,0	232,0	1469	1195	2664	37,0	220,0
GCA.3.16	35,6	117,0	1524	1315	2839	37,0	237,0	1524	1195	2719	37,0	225,0

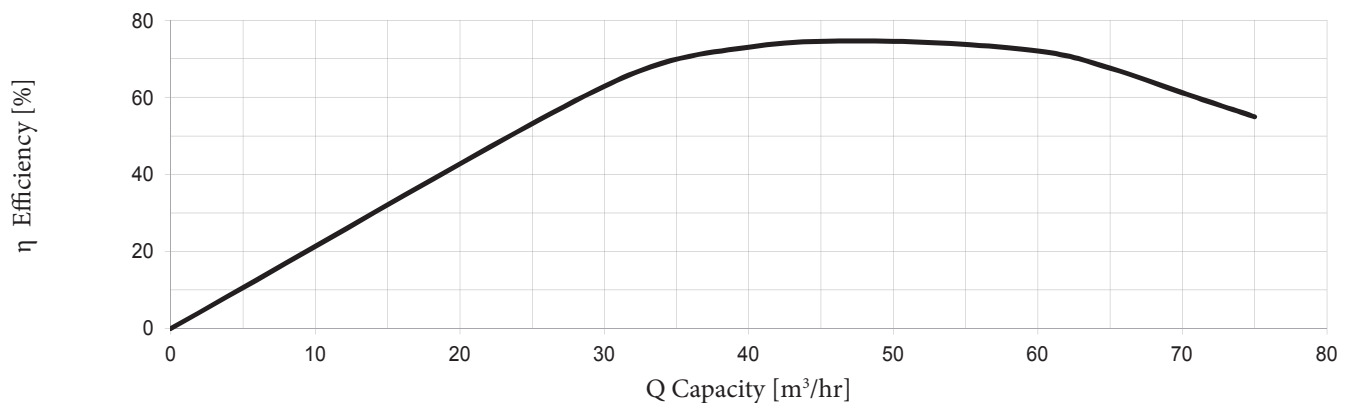
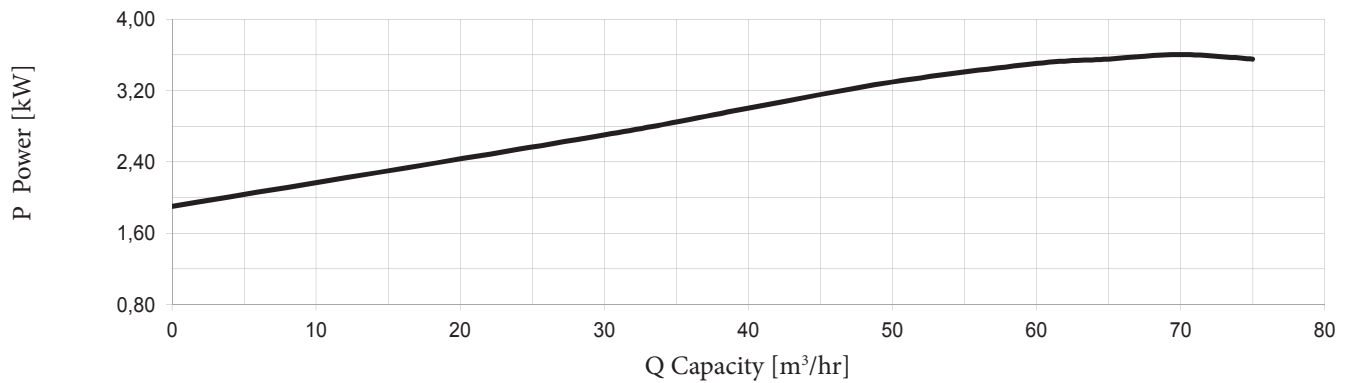
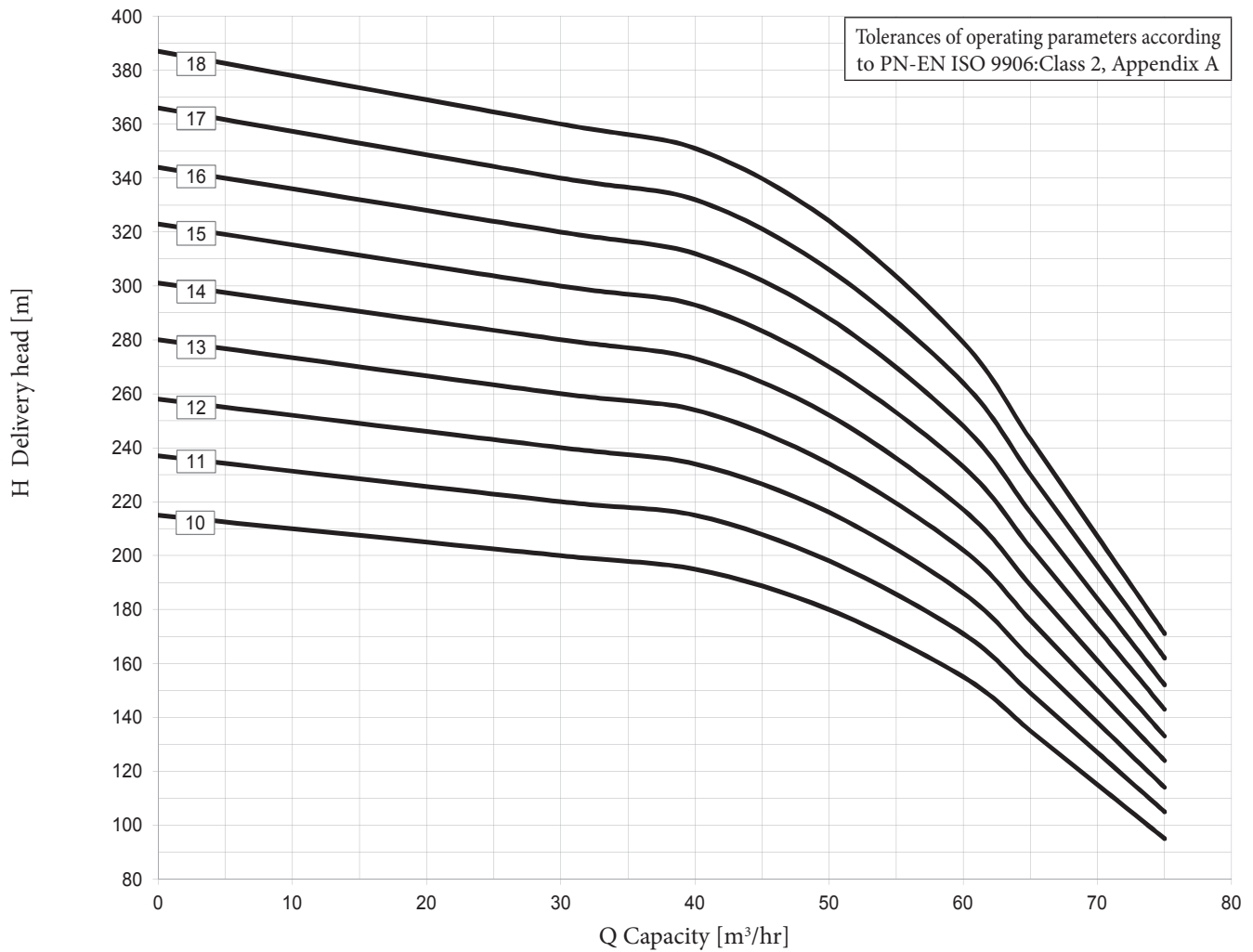
* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

Pump unit code	Pump power [kW]	Pump weight (kg)	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.3.05	11,7	67,0	948	695	1643	13,0	164,0	-	-	-	-	-
GCA.3.06	13,5	72,0	1003	695	1698	15,0	169,0	1003	930	1933	15,0	193,0
GCA.3.07	15,7	77,0	1058	765	1823	18,5	187,0	1058	930	1988	18,5	198,0
GCA.3.08	18,1	82,0	1113	765	1878	22,0	192,0	1113	930	2043	22,0	203,0
GCA.3.09	20,2	87,0	1168	765	1933	22,0	197,0	1168	930	2098	22,0	208,0
GCA.3.10	22,4	92,0	1223	845	2068	26,0	218,0	1223	1029	2252	26,0	234,0
GCA.3.11	24,5	97,0	1278	845	2123	26,0	223,0	1278	1029	2307	26,0	239,0
GCA.3.12	26,7	102,0	1333	845	2178	30,0	228,0	1333	1075	2408	30,0	244,0
GCA.3.13	29,2	107,0	1388	925	2313	37,0	249,0	1388	1075	2463	30,0	249,0
GCA.3.14	31,2	112,0	1443	925	2368	37,0	254,0	1443	1102	2545	37,0	260,0
GCA.3.15	33,4	117,0	1498	925	2423	37,0	259,0	1498	1102	2600	37,0	265,0
GCA.3.16	35,6	122,0	1553	925	2478	37,0	264,0	1553	1102	2655	37,0	270,0
GCA.3.17	37,8	127,0	1608	995	2603	45,0	283,0	1608	1162	2770	45,0	286,0
GCA.3.18	40,1	132,0	1663	995	2658	45,0	288,0	1663	1162	2825	45,0	291,0
GCA.3.19	42,3	137,0	1718	995	2713	45,0	293,0	1718	1162	2880	45,0	296,0
GCA.3.20	44,5	142,0	1773	1065	2838	52,0	312,0	1773	1242	3015	52,0	320,0
GCA.3.21	46,7	147,0	1828	1065	2893	52,0	317,0	1828	1242	3070	52,0	325,0
GCA.3.22	48,8	152,0	1883	1065	2948	52,0	322,0	1883	1242	3125	52,0	330,0
GCA.3.23	51,2	157,0	1938	1065	3003	55,0	327,0	1938	1282	3220	55,0	340,0
GCA.3.24	53,3	162,0	1993	1065	3058	55,0	332,0	1993	1282	3275	55,0	345,0
GCA.3.25	55,5	167,0	2048	1135	3183	60,0	351,0	2048	1315	3363	59,0	355,0
GCA.3.26	57,7	172,0	2103	1135	3238	60,0	356,0	2103	1315	3418	59,0	360,0
GCA.3.27	59,9	177,0	2158	1235	3395	67,0	381,0	2158	1393	3551	66,0	380,0
GCA.3.28	62,1	182,0	2213	1235	3448	67,0	386,0	2213	1393	3606	66,0	385,0
GCA.3.29	64,3	187,0	2268	1235	3503	67,0	391,0	2268	1393	3661	66,0	390,0
GCA.3.30	66,5	192,0	2323	1335	3658	75,0	415,0	2323	1464	3787	75,0	409,0

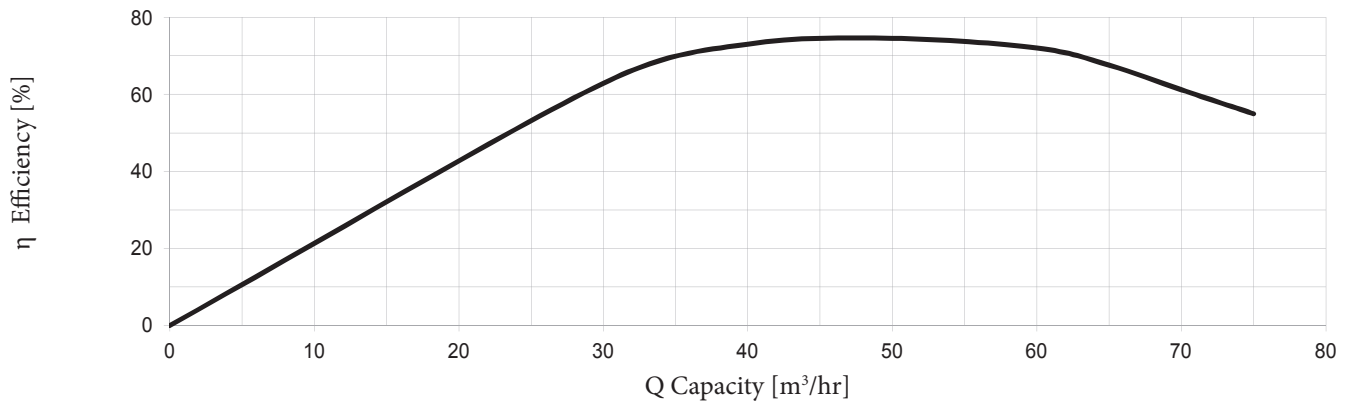
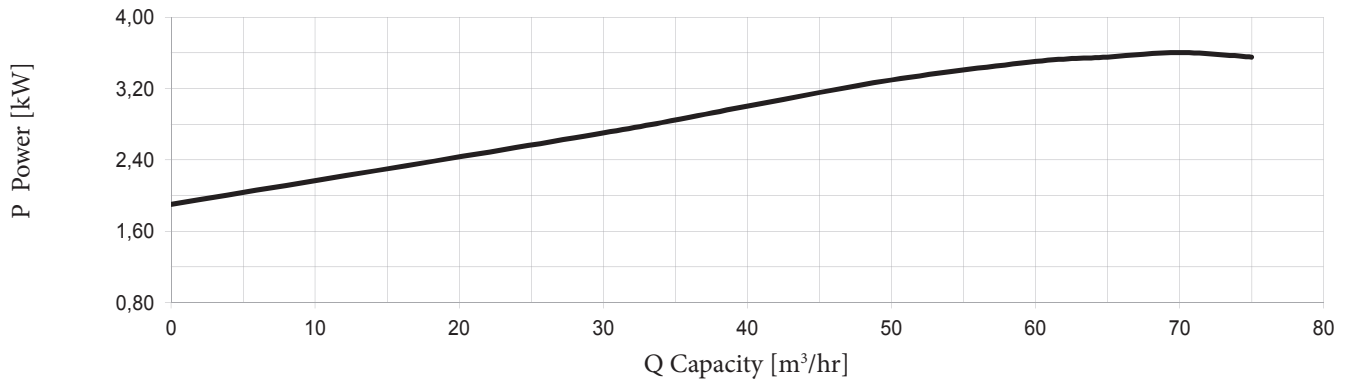
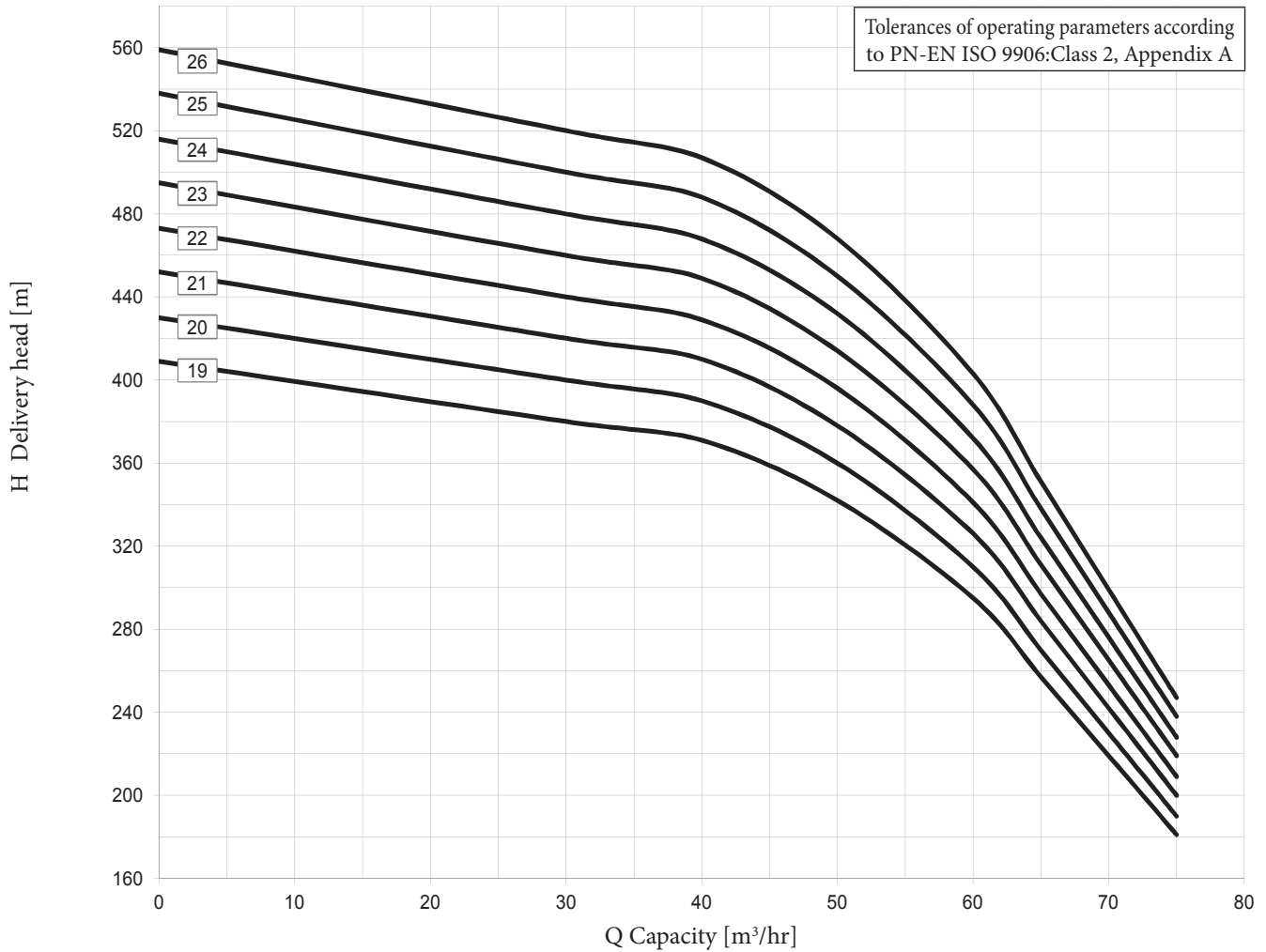
Pump unit code	Q Capacity [m³/hr]								
	0	20	25	30	35	40	45	50	55
	Q Capacity [l/min]								
	0	333	417	500	583	667	750	833	917
H [m]									
GCA.3.01	22,5	21,5	21	20	19	17	15	13	10
GCA.3.02	44	40	39	37	35	31	28	24	18
GCA.3.03	66	60	58	55	51	46	42	34	26
GCA.3.04	88	80	77	74	68	62	55	45	35
GCA.3.05	110	100	97	93	85	78	68	57	44
GCA.3.06	130	120	116	110	101	91	79	66	50
GCA.3.07	152	140	135	129	118	107	92	77	59
GCA.3.08	174	160	154	147	135	122	106	88	67
GCA.3.09	195	180	174	167	152	137	119	99	76
GCA.3.10	217	200	193	184	169	152	132	110	84
GCA.3.11	239	220	212	202	186	167	145	121	92
GCA.3.12	260	240	232	221	203	182	158	132	101
GCA.3.13	282	260	251	239	220	198	172	143	109
GCA.3.14	304	280	270	258	237	213	185	154	118
GCA.3.15	326	300	290	276	254	228	198	165	126
GCA.3.16	347	320	309	294	270	243	211	176	134
GCA.3.17	369	340	328	313	287	258	224	187	143
GCA.3.18	391	360	347	331	304	274	258	198	151
GCA.3.19	412	380	367	350	321	289	251	209	160
GCA.3.20	434	400	386	368	338	304	264	220	168
GCA.3.21	456	420	405	386	355	319	277	231	176
GCA.3.22	477	440	425	405	372	334	290	242	185
GCA.3.23	499	460	444	423	389	350	304	253	193
GCA.3.24	521	480	463	442	406	365	317	264	202
GCA.3.25	543	500	482	460	423	380	330	275	210
GCA.3.26	564	520	502	478	439	395	343	286	218
GCA.3.27	586	540	521	497	456	410	356	297	227
GCA.3.28	608	560	540	515	473	426	370	308	235
GCA.3.29	629	580	560	534	490	441	383	319	244
GCA.3.30	651	600	579	552	507	456	396	330	252



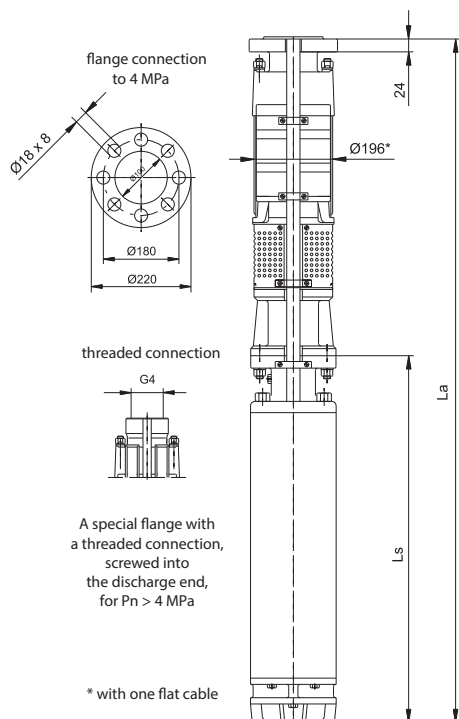
Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A



Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A



GCA.5

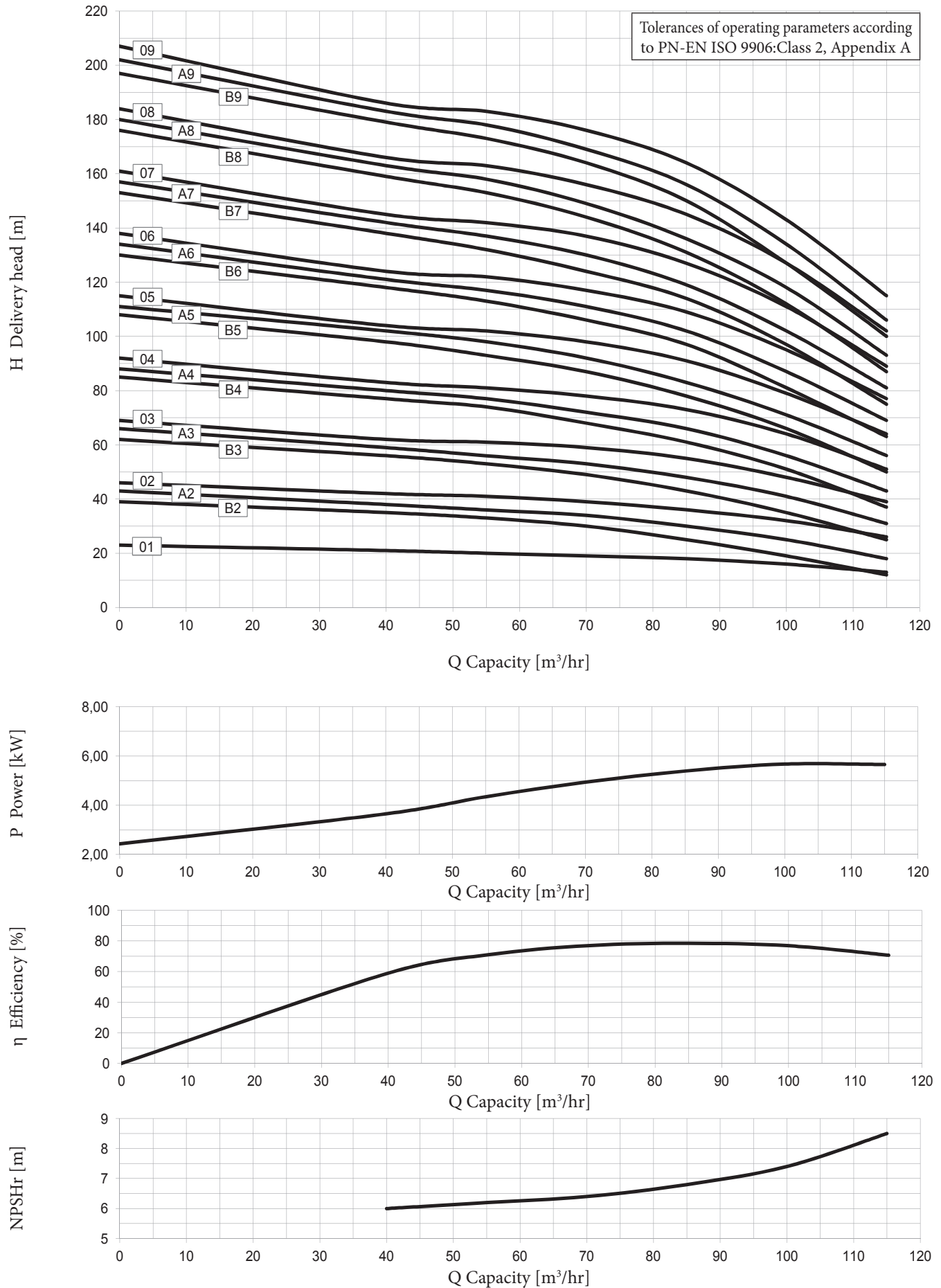


Pump unit code	Q Capacity [m³/hr]							
	0	30	40	50	60	65	70	75
	Q Capacity [l/min]							
	0	500	667	833	1000	1083	1166	1250
H [m]								
GCA.5.01	21,5	20	19,5	18	15,5	13,5	11,5	9,5
GCA.5.02	43	40	39	36	31	27	23	19
GCA.5.03	65	60	59	54	47	41	35	29
GCA.5.04	86	80	78	72	62	54	46	38
GCA.5.05	107	100	97	90	78	68	58	48
GCA.5.06	129	120	117	108	93	81	69	57
GCA.5.07	151	140	137	126	109	95	81	67
GCA.5.08	172	160	156	144	124	108	92	76
GCA.5.09	194	180	176	162	140	122	104	86
GCA.5.10	215	200	195	180	155	135	115	95
GCA.5.11	237	220	215	198	171	149	127	105
GCA.5.12	259	240	234	216	186	162	138	114
GCA.5.13	280	260	254	234	202	176	150	124
GCA.5.14	301	280	273	252	217	189	161	133
GCA.5.15	323	300	293	270	233	203	173	143
GCA.5.16	344	320	312	288	248	216	184	152
GCA.5.17	366	340	332	306	264	230	196	162
GCA.5.18	387	360	351	324	279	243	207	171
GCA.5.19	409	380	371	342	295	257	219	181
GCA.5.20	430	400	390	360	310	270	230	190
GCA.5.21	452	420	410	378	326	284	242	200
GCA.5.22	473	440	429	396	341	297	253	209
GCA.5.23	495	460	449	414	357	311	265	219
GCA.5.24	516	480	468	432	372	324	276	228
GCA.5.25	538	500	488	450	388	338	288	238
GCA.5.26	559	520	507	468	403	351	299	247

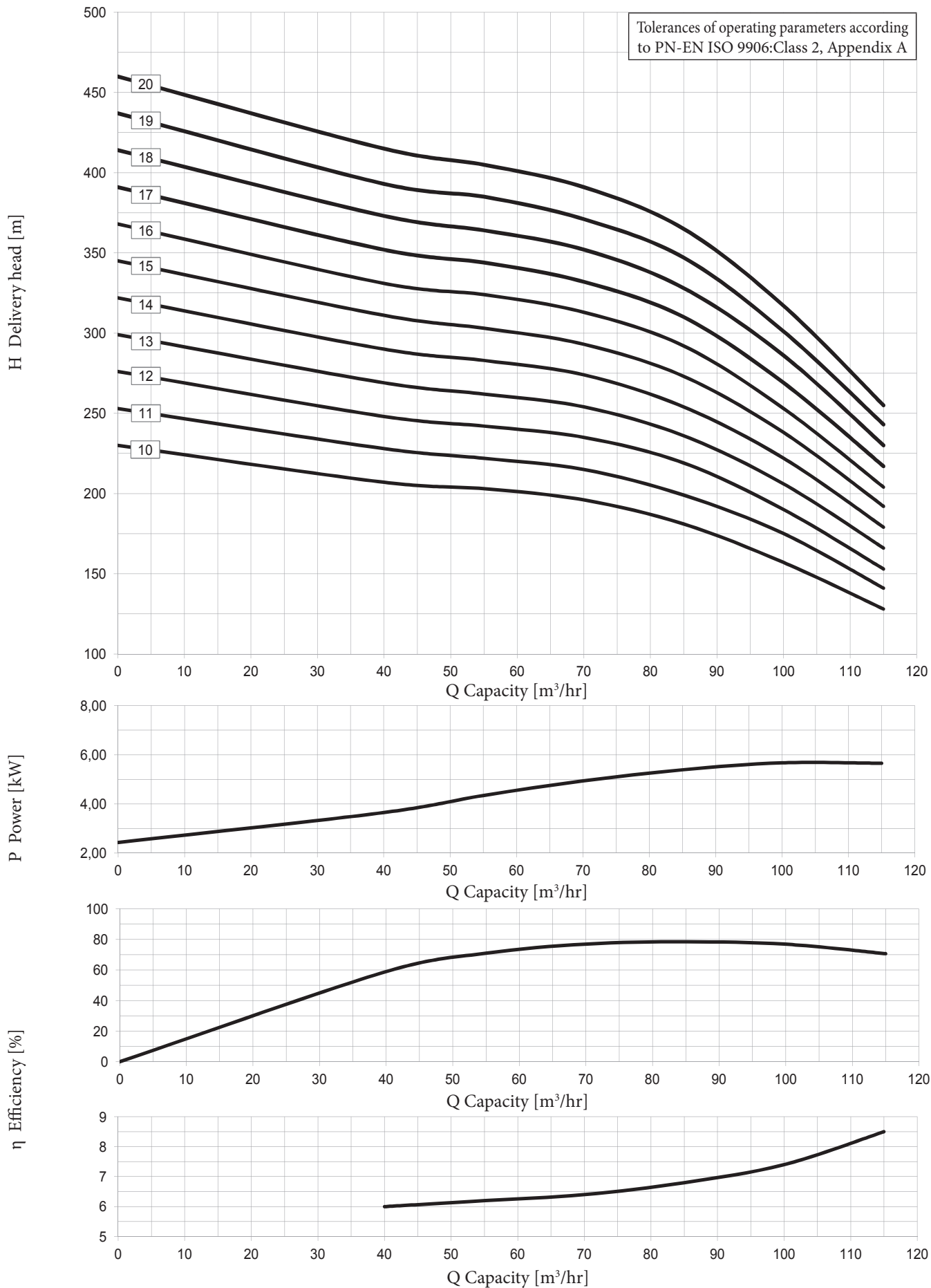
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.5.01	4,3	45,0	712	552	1264	5,5	89,0	712	630	1342	5,5	91,0
GCA.5.02	7,2	51,0	780	595	1375	7,5	100,0	780	652	1432	7,5	98,5
GCA.5.03	10,8	57,0	848	685	1533	11,0	117,0	848	730	1578	11,0	113,5
GCA.5.04	14,4	62,0	916	775	1691	15,0	127,0	916	831	1747	15,0	129,0
GCA.5.05	18,0	69,0	984	875	1859	18,5	150,0	984	882	1866	18,5	142,0
GCA.5.06	21,6	75,0	1052	965	2017	22,0	166,0	1052	981	2033	22,0	159,5
GCA.5.07	25,2	82,0	1120	1055	2175	26,0	185,0	1120	1031	2151	26,0	172,0
GCA.5.08	28,8	87,0	1188	1135	2323	30,0	196,0	1188	1111	2299	30,0	186,0
GCA.5.09	32,4	93,0	1256	1315	2571	37,0	223,0	1256	1195	2451	37,0	201,0
GCA.5.10	36,0	110,0	1324	1315	2639	37,0	240,0	1324	1195	2519	37,0	218,0

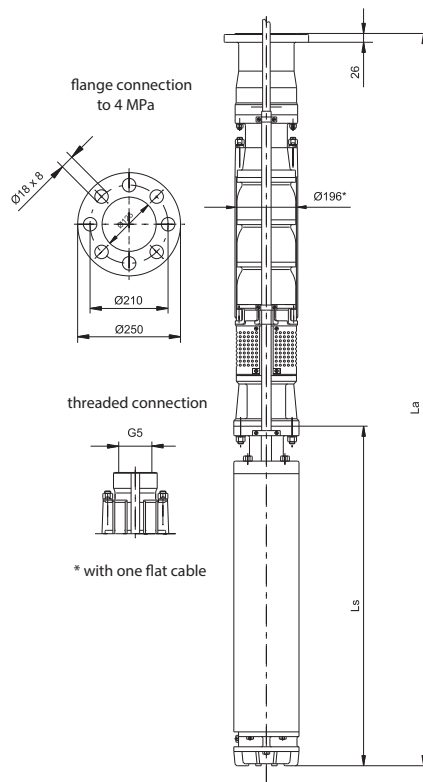
* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.5.04	14,4	67	945	695	1640	15,0	164	945	930	1875	15,0	188
GCA.5.05	18,0	74	1013	765	1778	18,5	184	1013	930	1943	18,5	195
GCA.5.06	21,6	79	1081	765	1846	22,0	189	1081	930	2011	22,0	200
GCA.5.07	25,2	86	1149	845	1994	26,0	212	1149	1029	2178	26,0	228
GCA.5.08	28,8	92	1217	845	2062	30,0	218	1217	1075	2292	30,0	234
GCA.5.09	32,4	97	1285	925	2210	37,0	239	1285	1102	2387	37,0	245
GCA.5.10	36,0	103	1353	925	2278	37,0	245	1353	1102	2455	37,0	251
GCA.5.11	39,6	109	1421	995	2416	45,0	265	1421	1162	2583	45,0	268
GCA.5.12	43,2	114	1489	995	2484	45,0	270	1489	1162	2651	45,0	273
GCA.5.13	46,8	120	1557	1065	2622	52,0	290	1557	1242	2799	52,0	298
GCA.5.14	50,4	126	1625	1065	2690	52,0	296	1625	1242	2867	52,0	304
GCA.5.15	54,0	132	1693	1065	2758	55,0	302	1693	1282	2975	55,0	315
GCA.5.16	57,6	137	1761	1135	2896	60,0	321	1761	1315	3076	59,0	325
GCA.5.17	61,2	143	1829	1235	3064	67,0	347	1829	1393	3222	66,0	346
GCA.5.18	64,8	149	1897	1235	3132	67,0	353	1897	1393	3290	66,0	352
GCA.5.19	68,4	154	1965	1335	3300	75,0	377	1965	1464	3429	75,0	371
GCA.5.20	72,0	160	2033	1335	3368	75,0	383	2033	1464	3497	75,0	377
GCA.5.21	75,6	166	2101	1415	3516	83,0	405	2101	1535	3636	81,0	398
GCA.5.22	79,2	171	2169	1415	3584	83,0	410	2169	1535	3704	81,0	403
GCA.5.23	82,8	177	2237	1415	3652	83,0	416	2237	1650	3887	92,0	433
GCA.5.24	86,4	183	2305	1485	3790	92,0	438	2305	1650	3955	92,0	439
GCA.5.25	90,0	189	2373	1485	3858	92,0	444	2373	1650	4023	92,0	445
GCA.5.26	93,6	204	2441	1585	4026	110,0	477	2441	1844	4285	110,0	499



Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A





Pump unit code	Q Capacity [m³/hr]						
	0	40	55	70	85	100	115
	Q Capacity [l/min]						
	0	667	917	1166	1417	1666	1917
	H [m]						
GCA.6.01	23	21	20	19	18	16	13
GCA.6.02	46	42	41	39	36	32	26
GCA.6.03	69	62	61	59	55	48	39
GCA.6.04	92	83	81	78	73	64	51
GCA.6.05	115	104	102	98	91	79	62
GCA.6.06	138	124	122	117	109	95	75
GCA.6.07	161	145	142	137	127	111	89
GCA.6.08	184	166	163	156	145	127	102
GCA.6.09	207	186	183	176	164	143	115
GCA.6.10	230	207	203	196	181	157	128
GCA.6.11	253	228	222	215	199	175	141
GCA.6.12	276	248	242	235	219	190	153
GCA.6.13	299	269	262	254	236	206	166
GCA.6.14	322	290	283	274	254	222	179
GCA.6.15	345	311	303	293	273	238	192
GCA.6.16	368	331	324	313	292	253	204
GCA.6.17	391	352	344	332	310	269	217
GCA.6.18	414	373	364	352	328	286	230
GCA.6.19	437	393	385	371	347	301	243
GCA.6.20	460	415	405	391	365	317	255

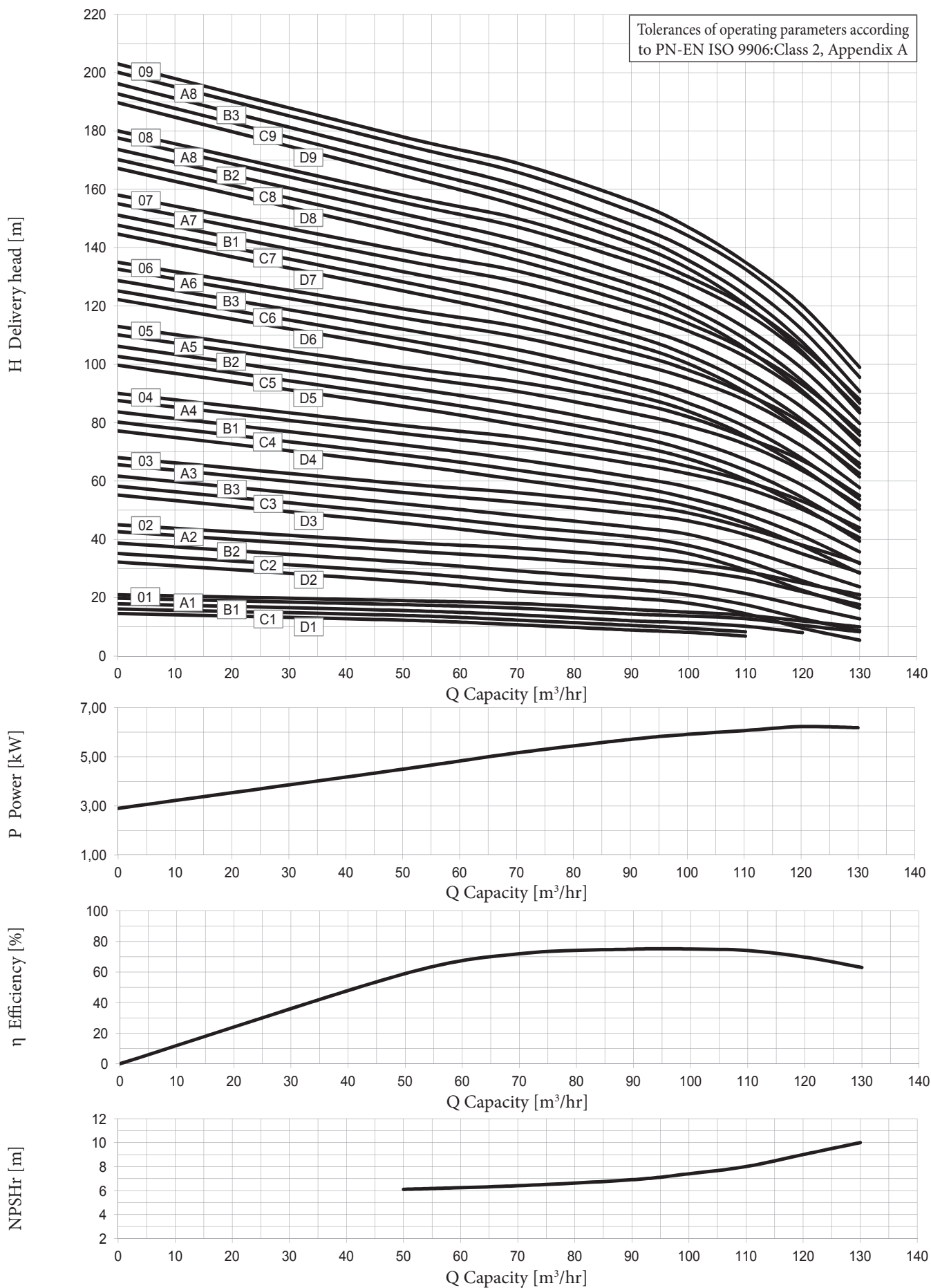
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.6.01	5,6	62	860	595	1455	7,5	111	860	652	1512	7,5	109,5
GCA.6.02	11,3	72	985	745	1730	13,0	134	985	781	1766	13,0	134,0
GCA.6.03	17,5	82	1110	875	1985	18,5	163	1110	882	1992	18,5	155,0
GCA.6.04	23,4	92	1235	1055	2290	26,0	195	1235	1031	2266	26,0	182,0
GCA.6.05	28,0	102	1360	1135	2495	30,0	211	1360	1111	2471	30,0	201,0

* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

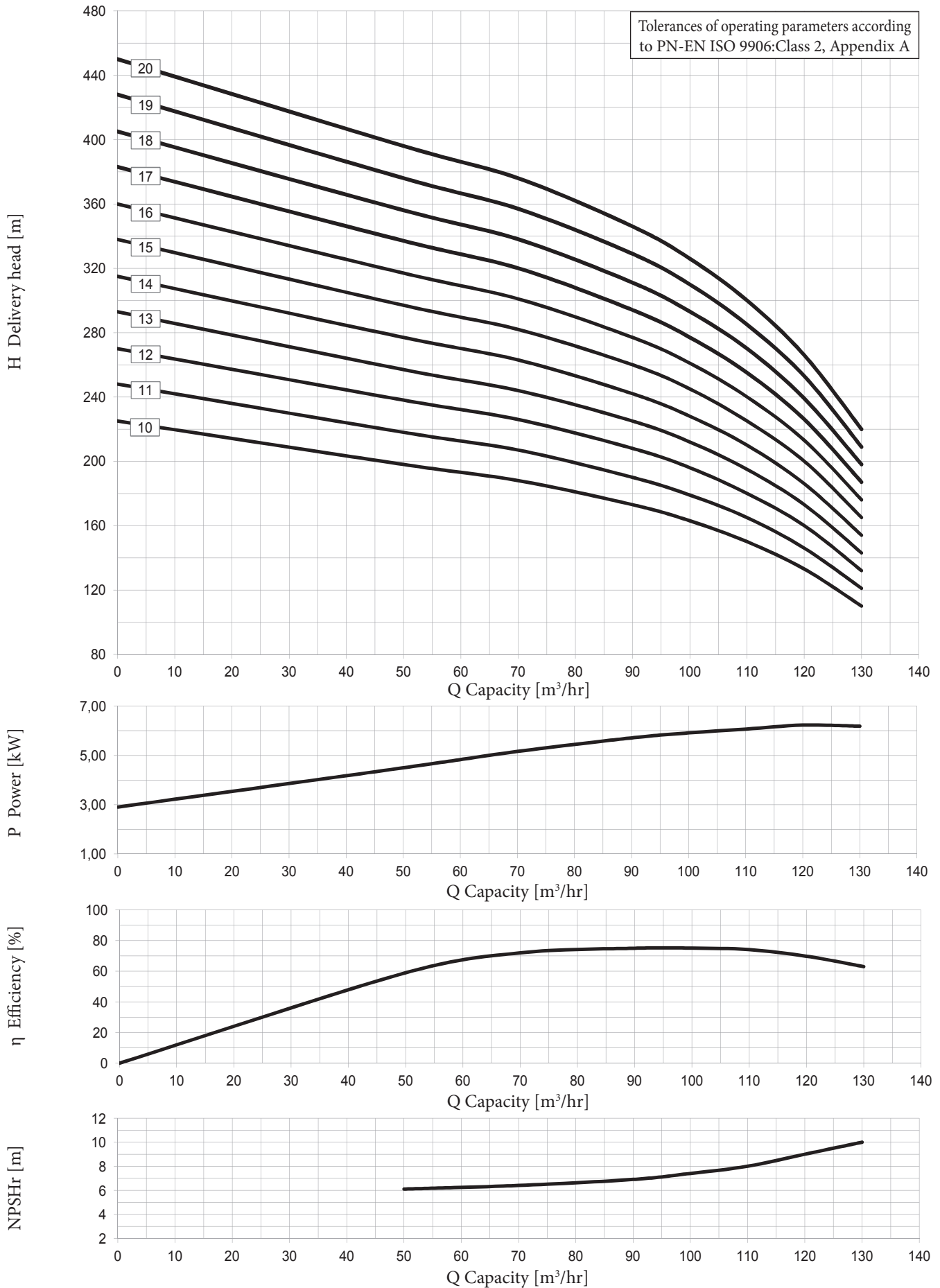
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.6.02	11,3	75	1035	695	1730	13,0	172	-	-	-	-	-
GCA.6.03	17,5	85	1160	765	1925	18,5	195	1160	930	2090	18,5	206
GCA.6.04	23,4	95	1285	845	2130	26,0	221	1285	1029	2314	26,0	237
GCA.6.05	28,0	105	1410	845	2255	30,0	231	1410	1075	2485	30,0	247
GCA.6.06	34,0	115	1535	925	2460	37,0	257	1535	1102	2637	37,0	263
GCA.6.07	39,7	125	1660	995	2655	45,0	281	1660	1162	2822	45,0	284
GCA.6.08	45,3	145	1785	1065	2850	52,0	315	1785	1242	3027	52,0	323
GCA.6.09	51,0	155	1910	1065	2975	55,0	325	1910	1282	3192	55,0	338
GCA.6.10	56,7	165	2035	1135	3170	60,0	349	2035	1315	3350	59,0	353
GCA.6.11	62,3	175	2160	1235	3395	67,0	379	2160	1393	3553	66,0	378
GCA.6.12	68,0	185	2285	1355	3620	75,0	408	2285	1464	3749	75,0	402
GCA.6.13	73,7	195	2410	1415	3825	83,0	434	2410	1535	3945	81,0	427
GCA.6.14	79,3	205	2635	1415	3950	83,0	444	2535	1650	4185	92,0	461
GCA.6.15	85,0	215	2660	1495	4155	92,0	470	2660	1650	4310	92,0	471
GCA.6.16	90,7	225	-	-	-	-	-	2785	1844	4629	110,0	520
GCA.6.17	96,4	235	-	-	-	-	-	2910	1844	4754	110,0	530
GCA.6.18	102,0	245	-	-	-	-	-	3035	1844	4879	110,0	540

Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-10					SMP-10				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.6.12	68,0	190	2318	1190	3508	75	496	2318	1400	3718	75	485
GCA.6.13	73,7	200	2443	1310	3753	92	535	2443	1455	3898	81	520
GCA.6.14	79,3	210	2568	1310	3878	92	545	2568	1530	4098	92	557
GCA.6.15	85,0	220	2693	1310	4003	92	555	2693	1530	4223	92	567
GCA.6.16	90,7	230	2818	1430	4248	110	594	2818	1615	4433	110	609
GCA.6.17	96,4	240	2943	1430	4373	110	604	2943	1615	4558	110	619
GCA.6.18	102,0	250	3068	1430	4498	110	614	3068	1615	4683	110	629
GCA.6.19	107,7	260	3193	1570	4763	132	658	3193	1815	5008	132	700
GCA.6.20	113,4	270	3318	1570	4888	132	668	3318	1815	5133	132	710

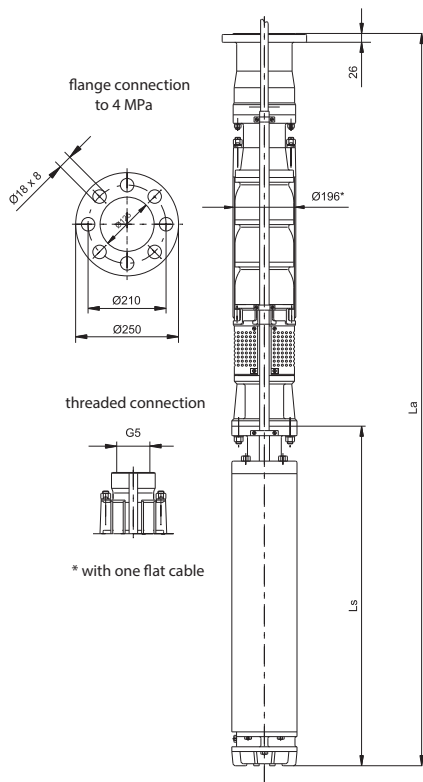
Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A



Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A



GCA.7



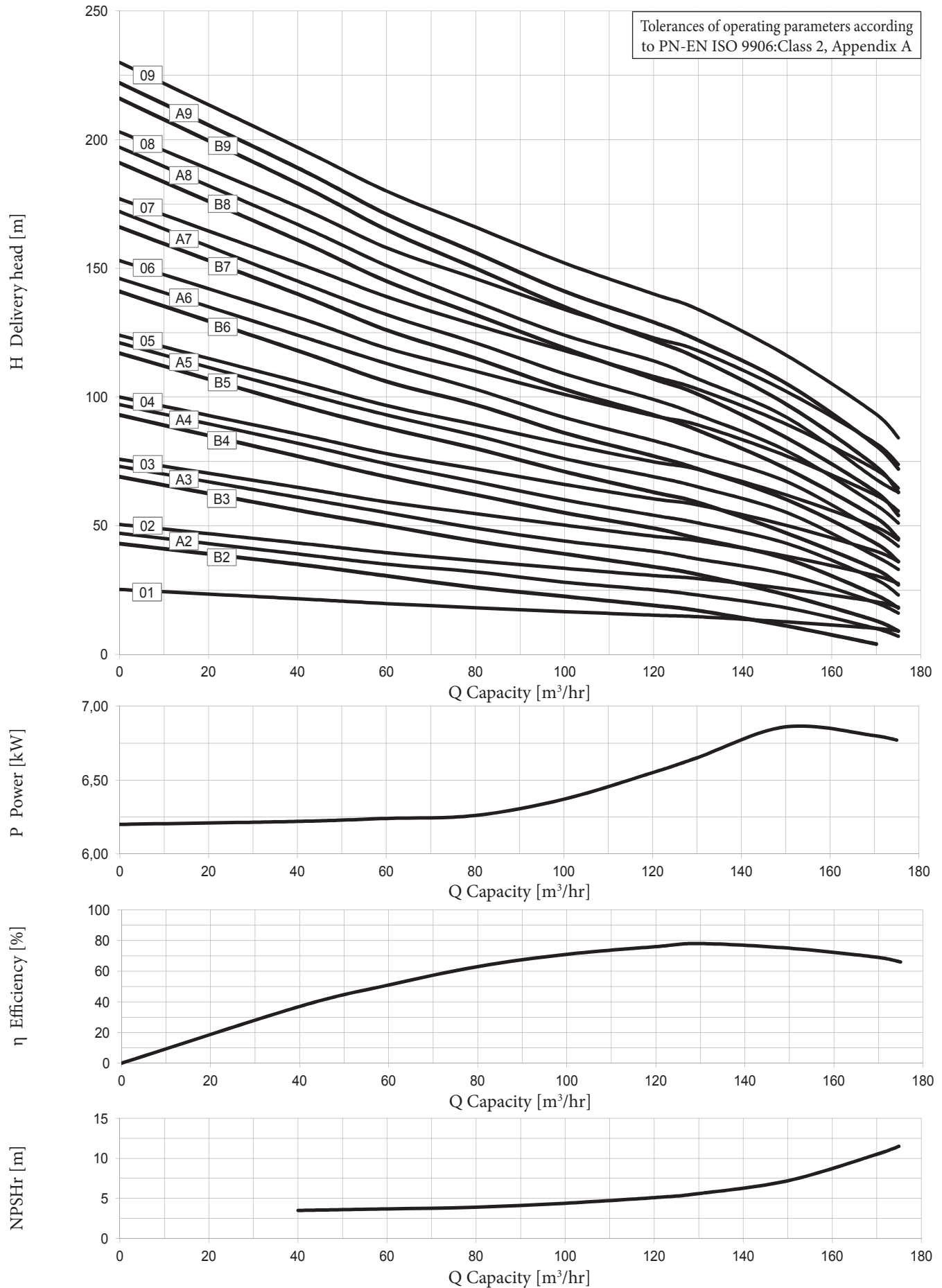
Pump unit code	Q Capacity [m³/hr]							
	0	50	70	90	100	110	120	130
	Q Capacity [l/min]							
	0	833	1166	1500	1666	1833	2000	2166
H [m]								
GCA.7.01	21	19	18	16	15	14	12	10
GCA.7.02	45	39	37	34	32	29	25	21
GCA.7.03	68	59	56	52	49	44	38	32
GCA.7.04	90	79	75	69	65	60	53	44
GCA.7.05	113	99	94	87	82	75	67	55
GCA.7.06	135	119	113	104	98	90	80	66
GCA.7.07	158	139	132	121	114	105	93	77
GCA.7.08	180	158	150	138	130	120	106	88
GCA.7.09	203	178	169	156	147	135	120	99
GCA.7.10	225	198	188	173	163	150	133	110
GCA.7.11	248	218	207	190	179	165	146	121
GCA.7.12	270	238	226	208	196	180	160	132
GCA.7.13	293	257	244	225	212	195	173	143
GCA.7.14	315	277	263	242	228	210	186	154
GCA.7.15	338	297	282	260	245	225	200	165
GCA.7.16	360	317	301	277	261	240	213	176
GCA.7.17	383	337	320	294	277	255	226	187
GCA.7.18	405	356	338	311	293	270	239	198
GCA.7.19	428	376	357	329	310	285	253	209
GCA.7.20	450	396	376	346	326	300	266	220

Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.7.01	6,4	62	860	595	1455	7,5	111	860	652	1512	7,5	109,5
GCA.7.02	12,6	72	985	775	1760	15,0	137	985	831	1816	15	139,0
GCA.7.03	18,8	82	1110	965	2075	22,0	173	1110	981	2091	22	166,5
GCA.7.04	25,9	92	1235	1055	2290	26,0	195	1235	1031	2266	26	182,0
GCA.7.05	32,0	102	1360	1315	2675	37,0	232	1360	1195	2555	37	210,0

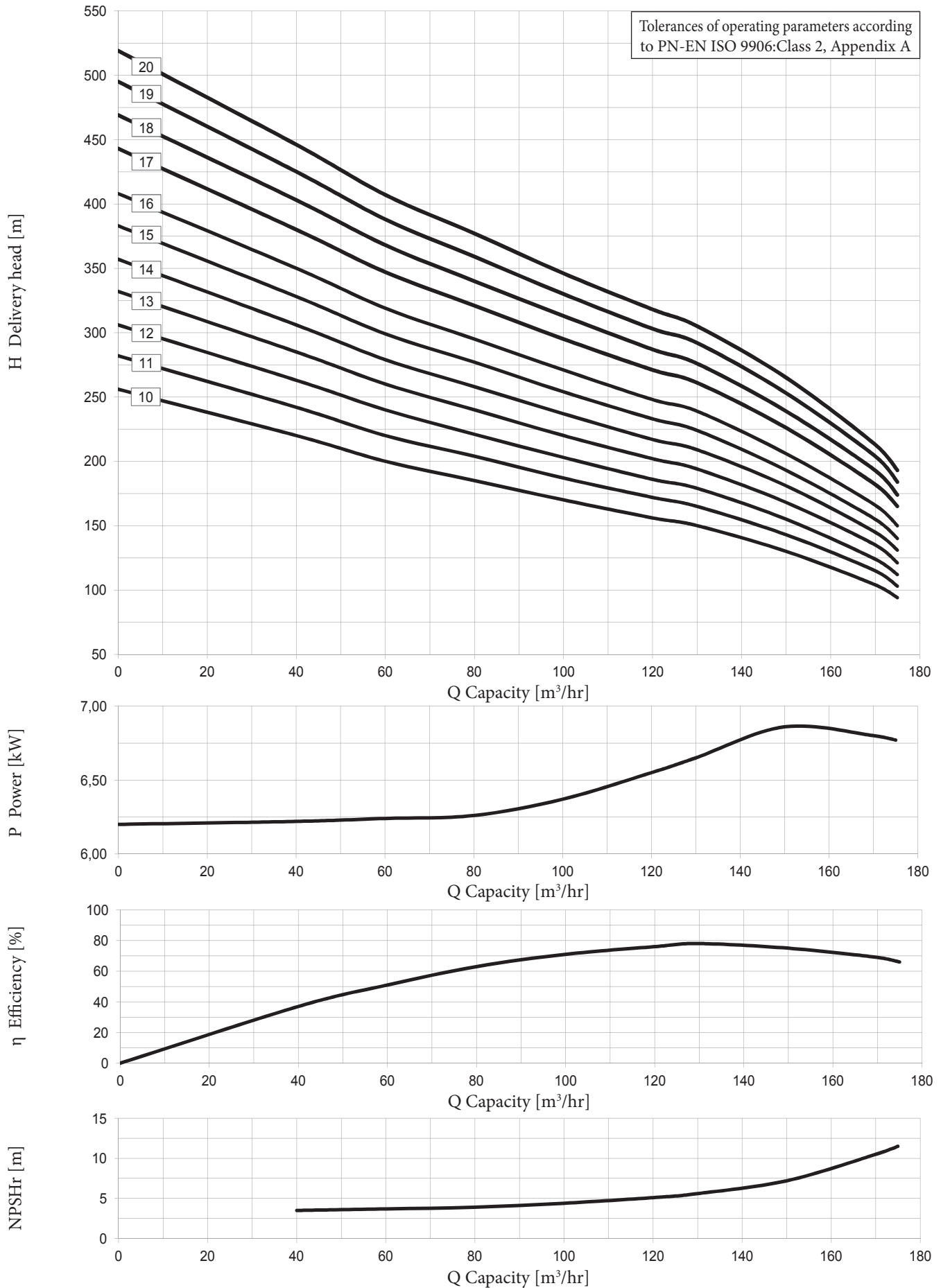
* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

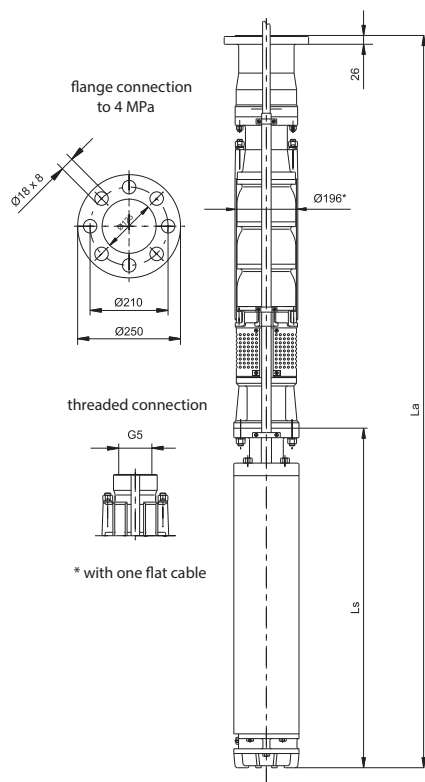
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.7.02	12,6	75	1035	695	1730	15	172	1035	930	1965	15	196
GCA.7.03	18,8	85	1160	765	1925	22	195	1160	930	2090	22	206
GCA.7.04	25,9	95	1285	845	2130	26	221	1285	1029	2314	26	238
GCA.7.05	32,0	105	1410	925	2335	37	247	1410	1102	2512	37	253
GCA.7.06	38,1	115	1535	995	2530	45	271	1535	1162	2697	45	274
GCA.7.07	44,4	125	1660	1065	2725	52	295	1660	1242	2902	52	303
GCA.7.08	50,7	135	1785	1065	2850	52	315	1785	1242	3027	52	313
GCA.7.09	57,0	145	1910	1135	3045	60	339	1910	1315	3225	59	333
GCA.7.10	63,2	155	2035	1235	3270	67	369	2035	1393	3428	66	358
GCA.7.11	69,3	165	2160	1335	3495	75	398	2160	1464	3624	75	382
GCA.7.12	75,6	175	2285	1415	3700	83	424	2285	1535	3820	81	407
GCA.7.13	81,8	185	2410	1495	3905	92	450	2410	1650	4060	92	441
GCA.7.14	88,0	195	-	-	-	-	-	2535	1884	4419	110	490
GCA.7.15	94,1	205	-	-	-	-	-	2660	1884	4544	110	500
GCA.7.16	100,3	215	-	-	-	-	-	2785	1884	4669	110	510
GCA.7.17	106,4	225	-	-	-	-	-	2910	1884	4794	110	520

Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-10					SMP-10				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.7.11	69,3	170	2193	1190	3383	75	486	2193	1400	3593	75	465
GCA.7.12	75,6	180	2318	1310	3628	92	525	2318	1455	3773	81	500
GCA.7.13	81,8	190	2443	1310	3753	92	535	2443	1530	3973	92	537
GCA.7.14	88,0	200	2568	1430	3998	110	574	2568	1615	4183	110	579
GCA.7.15	94,1	210	2693	1430	4123	110	584	2693	1615	4308	110	589
GCA.7.16	100,3	220	2818	1430	4248	110	594	2818	1615	4433	110	599
GCA.7.17	106,4	230	2943	1430	4373	110	604	2943	1615	4558	110	609
GCA.7.18	112,5	240	3068	1570	4638	132	648	3068	1815	4883	132	680
GCA.7.19	118,5	250	3193	1570	4763	132	658	3193	1815	5008	132	690
GCA.7.20	124,6	260	3318	1570	4888	132	668	3318	1815	5133	132	700



Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A





Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-6					SMS-6 / SMP-6 *				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.8.01	6,9	62	860	595	1455	7,5	111	860	652	1512	7,5	104,5
GCA.8.02	13,8	72	985	775	1760	15,0	137	985	831	1816	15,0	139,0
GCA.8.03	20,7	82	1110	965	2075	22,0	173	1110	981	2091	22,0	166,5
GCA.8.04	27,2	92	1235	1135	2370	30,0	201	1235	1111	2346	30,0	191,0
GCA.8.05	33,6	102	1360	1315	2675	37,0	232	1360	1195	2555	37,0	210,0

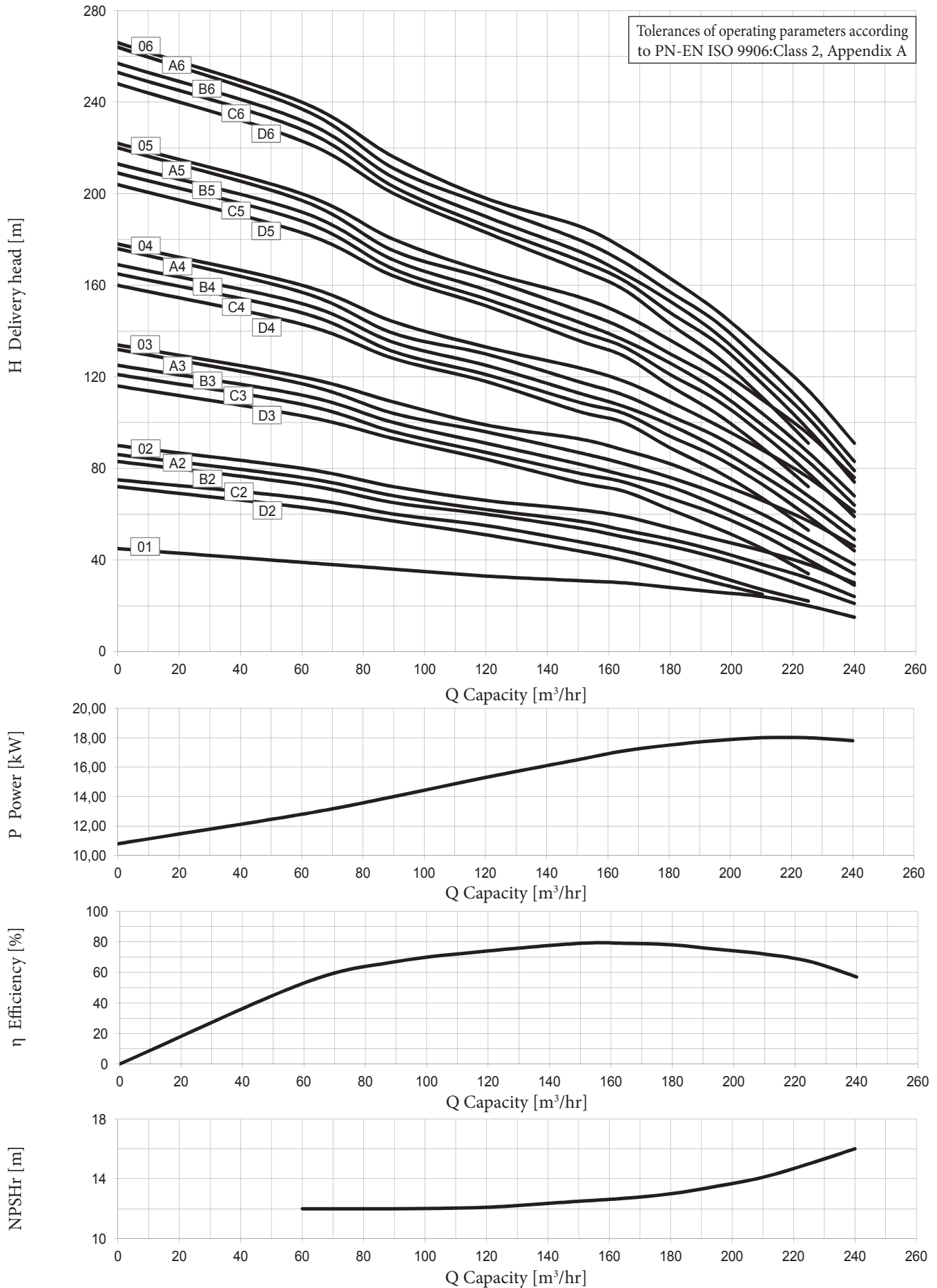
* power up to 9,2 kW motor of SMS type
over power 11 kW motor of SMP type

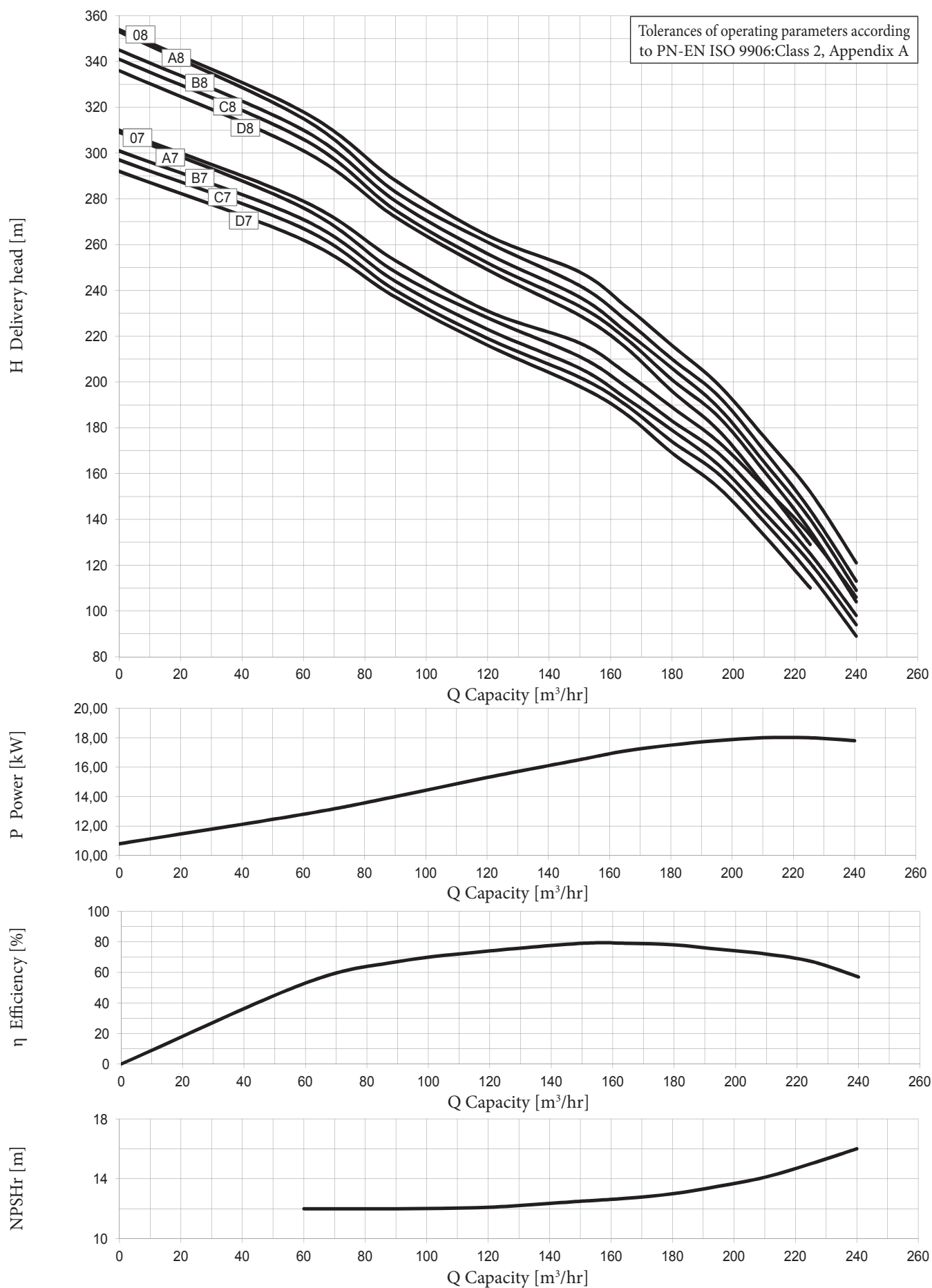
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.8.02	13,8	75	1035	695	1730	15	172	1035	930	1965	15	196
GCA.8.03	20,7	85	1160	765	1925	22	195	1160	930	2090	22	206
GCA.8.04	27,2	95	1285	845	2130	30	221	1285	1075	2360	30	237
GCA.8.05	33,6	105	1410	925	2335	37	247	1410	1102	2512	37	253
GCA.8.06	41,9	115	1535	995	2530	45	271	1535	1162	2697	45	274
GCA.8.07	48,6	150	1660	1065	2725	52	320	1660	1242	2902	52	328
GCA.8.08	55,5	160	1785	1135	2920	60	344	1785	1315	3100	59	348
GCA.8.09	63,1	170	1910	1235	3145	67	374	1910	1393	3303	66	373
GCA.8.10	70,5	180	2035	1335	3370	75	403	2035	1464	3499	75	397
GCA.8.11	77,6	190	2160	1415	3575	83	429	2160	1535	3695	81	422
GCA.8.12	84,2	200	2285	1495	3780	92	455	2285	1650	3935	92	456
GCA.8.13	91,2	210	2410	1495	3905	92	465	2410	1650	4060	92	466
GCA.8.14	98,2	220	2535	1585	4120	110	493	2535	1844	4379	110	515
GCA.8.15	105,2	230	2660	1585	4245	110	503	2660	1844	4504	110	525

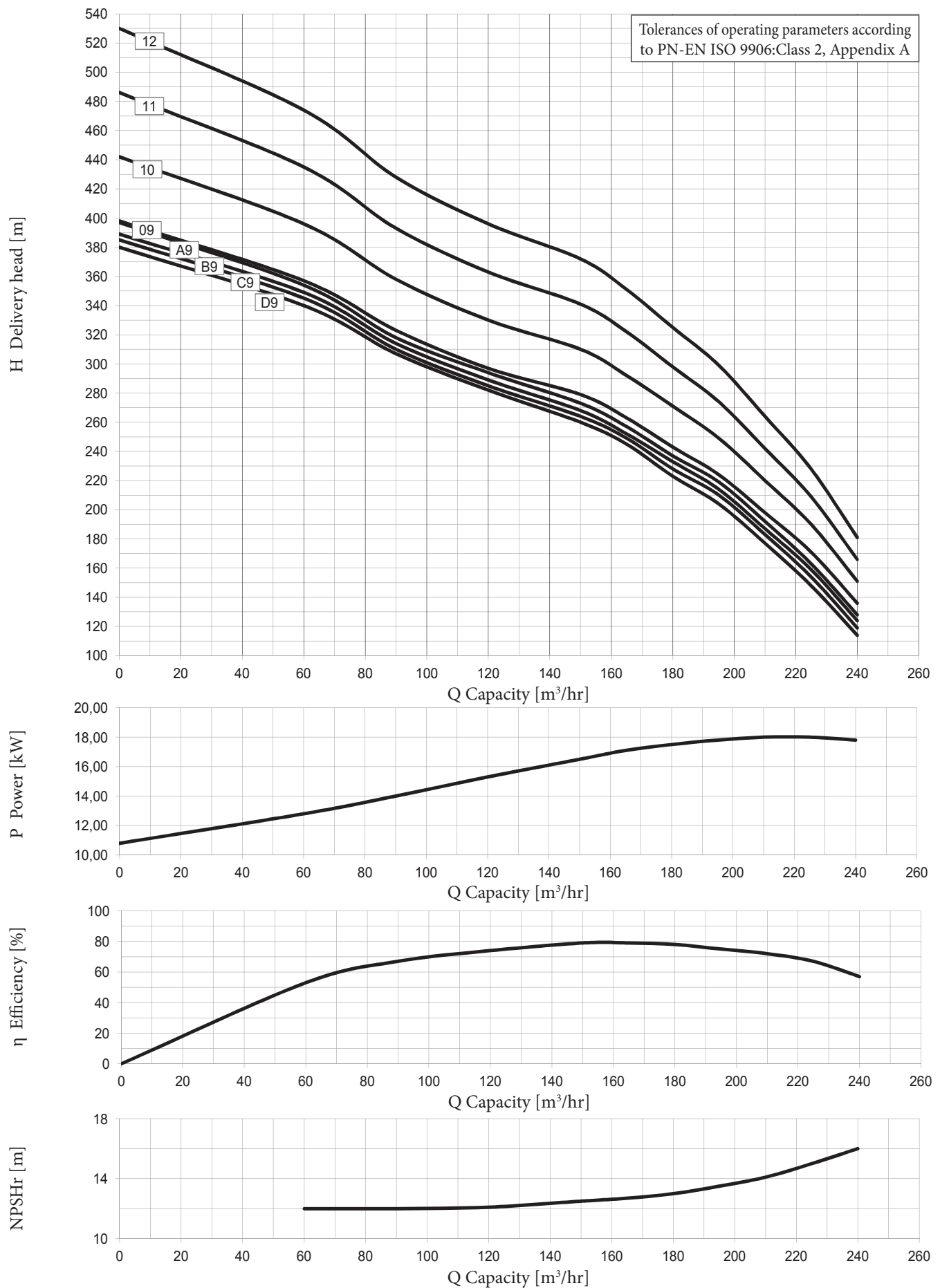
Pump unit code	Q Capacity [m³/hr]									
	0	40	60	80	100	120	130	150	170	175
	Q Capacity [l/min]									
Pump unit code	0	666	1000	1333	1666	2000	2166	2500	2833	2916
	H [m]									
GCA.8.01	25	22	20	18	16	15	14	12	10	9
GCA.8.02	50	43	40	36	33	30	29	25	20	18
GCA.8.03	75	65	59	55	50	46	44	38	30	27
GCA.8.04	100	86	78	72	66	60	58	50	40	36
GCA.8.05	124	106	97	89	82	75	72	62	50	45
GCA.8.06	153	131	119	110	101	93	89	77	62	55
GCA.8.07	177	152	139	128	118	108	103	89	72	64
GCA.8.08	203	174	158	146	134	123	118	102	82	74
GCA.8.09	230	197	180	166	152	140	134	116	93	84
GCA.8.10	258	220	200	185	170	156	150	130	104	94
GCA.8.11	282	242	220	204	187	172	165	143	115	103
GCA.8.12	306	263	240	221	203	186	179	155	124	112
GCA.8.13	332	285	260	240	220	202	194	168	135	121
GCA.8.14	357	306	279	258	237	217	209	181	145	131
GCA.8.15	383	328	299	277	254	233	224	193	155	140
GCA.8.16	408	350	319	295	271	248	239	206	166	150
GCA.8.17	443	380	347	321	295	271	261	226	182	165
GCA.8.18	469	403	368	340	313	287	276	239	193	174
GCA.8.19	495	425	388	359	330	303	292	253	204	184
GCA.8.20	519	446	407	377	346	318	305	265	213	193

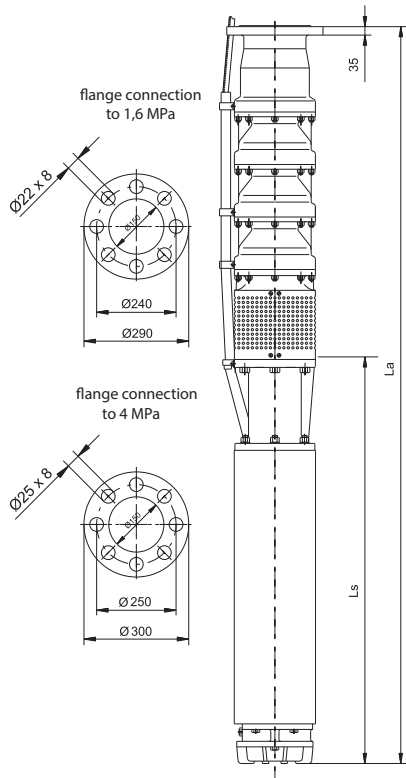
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-10					SMP-10				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GCA.8.11	77,6	180	2193	1310	3503	92	515	2193	1530	3723	92	527
GCA.8.12	84,2	190	2318	1310	3628	92	525	2318	1530	3848	92	537
GCA.8.13	91,2	200	2443	1430	3873	110	564	2443	1530	3973	92	547
GCA.8.14	98,2	210	2568	1430	3998	110	574	2568	1615	4183	110	589
GCA.8.15	105,2	220	2693	1430	4123	110	584	2693	1615	4308	110	599
GCA.8.16	112,2	230	2818	1570	4388	132	628	2818	1815	4633	132	670
GCA.8.17	123,0	240	2943	1570	4513	132	638	2943	1815	4758	132	680
GCA.8.18	130,2	250	3068	1660	4728	150	670	3068	1890	4958	147	712
GCA.8.19	137,5	260	3193	1660	4853	150	680	3193	1890	5083	147	727
GCA.8.20	144,0	270	3318	1660	4978	150	690	3318	1890	5208	147	737

Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A







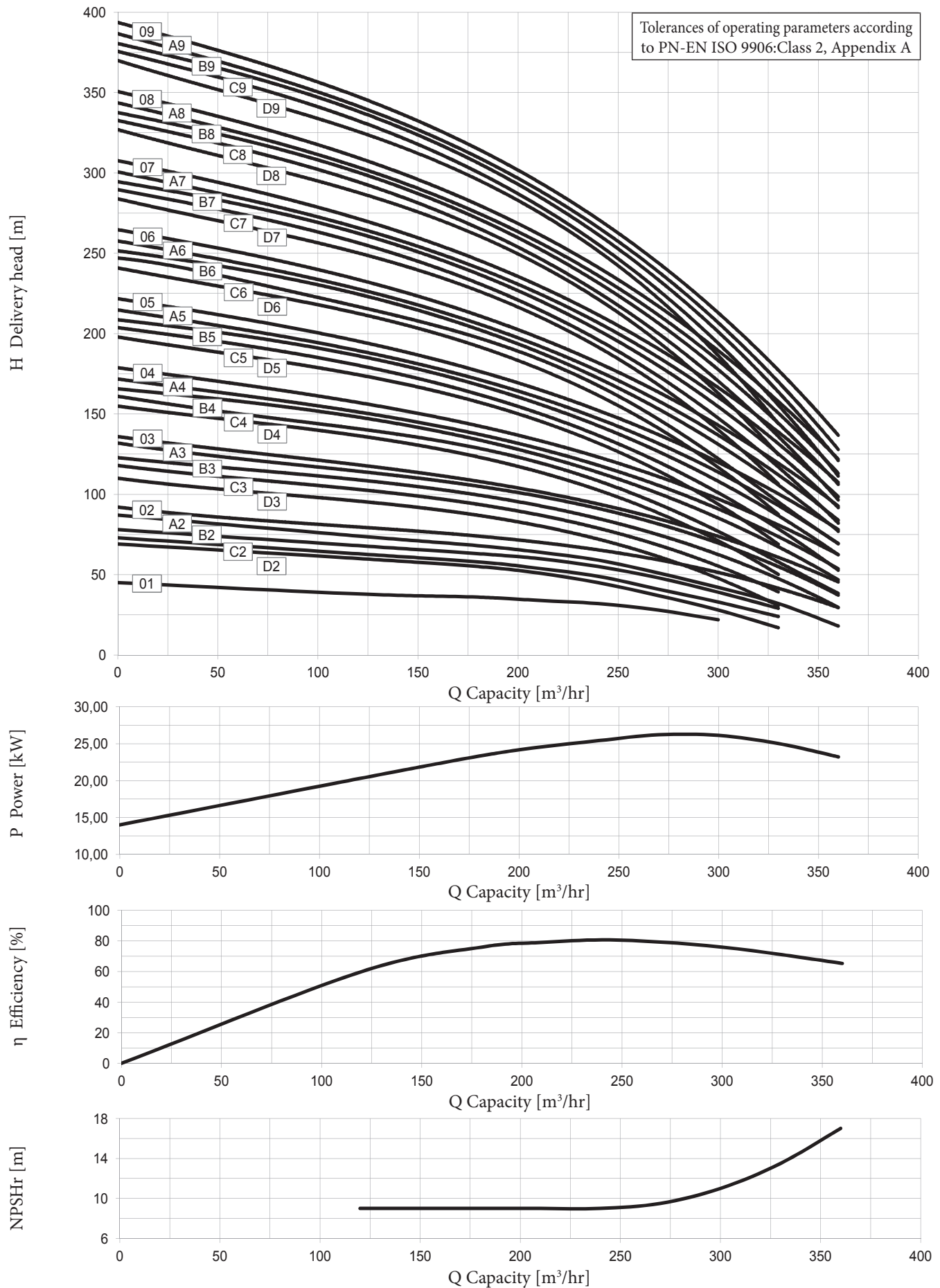


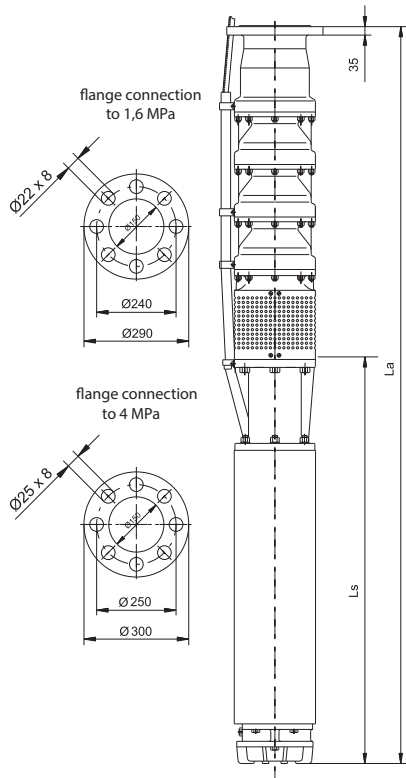
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GDC.2.01	19,5	105	831	765	1596	22	215	831	930	1761	22	226
GDC.2.02	36,0	125	986	925	1910	37	267	986	1102	2088	37	273
GDC.2.03	53,0	145	1141	1065	2206	55	315	1141	1282	2423	55	328
GDC.2.04	71,0	165	1296	1335	2631	75	388	1296	1464	2760	75	382
GDC.2.05	88,0	185	1451	1495	2946	92	440	1451	1650	3101	92	441

Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-10					SMP-10				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GDC.2.03	53,0	147	1160	1190	2350	75	453	1160	1400	2560	75	442
GDC.2.04	71,0	167	1315	1190	2505	75	473	1315	1400	2715	75	462
GDC.2.05	88,0	187	1470	1310	2780	92	522	1470	1530	3000	92	534
GDC.2.06	106,0	207	1625	1430	3055	110	571	1625	1615	3240	110	586
GDC.2.07	123,0	227	1780	1570	3350	132	625	1780	1815	3595	132	667
GDC.2.08	141,0	247	1935	1660	3595	150	667	1935	1890	3825	147	709
GDC.2.09	158,0	267	2090	1800	3890	170	721	2090	1915	4005	165	745
GDC.2.10	176,0	287	2245	1910	4155	185	768	2245	1985	4230	185	777

Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-12				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GDC.2.11	193	312	2448	1760	4208	220	942
GDC.2.12	211	337	2603	1760	4363	220	967

Pump unit code	Q Capacity [m³/hr]										
	0	60	90	120	150	165	180	195	210	225	240
	Q Capacity [l/min]										
	0	1000	1500	2000	2500	2750	3000	3250	3500	3750	4000
	H [m]										
GDC.2.01	45	39	36	33	31	30	28	26	24	20	15
GDC.2.02	90	80	72	66	62	59	54	49	44	38	30
GDC.2.03	134	120	109	99	93	88	82	74	66	57	46
GDC.2.04	178	160	144	133	124	118	109	99	88	76	61
GDC.2.05	222	200	180	166	155	147	136	124	110	95	76
GDC.2.06	266	240	216	198	186	176	163	149	132	114	91
GDC.2.07	310	279	253	231	217	204	189	174	154	133	106
GDC.2.08	354	318	288	264	248	233	216	199	176	152	121
GDC.2.09	398	357	323	297	279	263	243	224	198	171	136
GDC.2.10	442	396	358	330	310	292	271	249	220	190	151
GDC.2.11	486	435	393	363	341	322	298	274	242	209	166
GDC.2.12	530	474	428	396	372	351	325	299	264	228	181





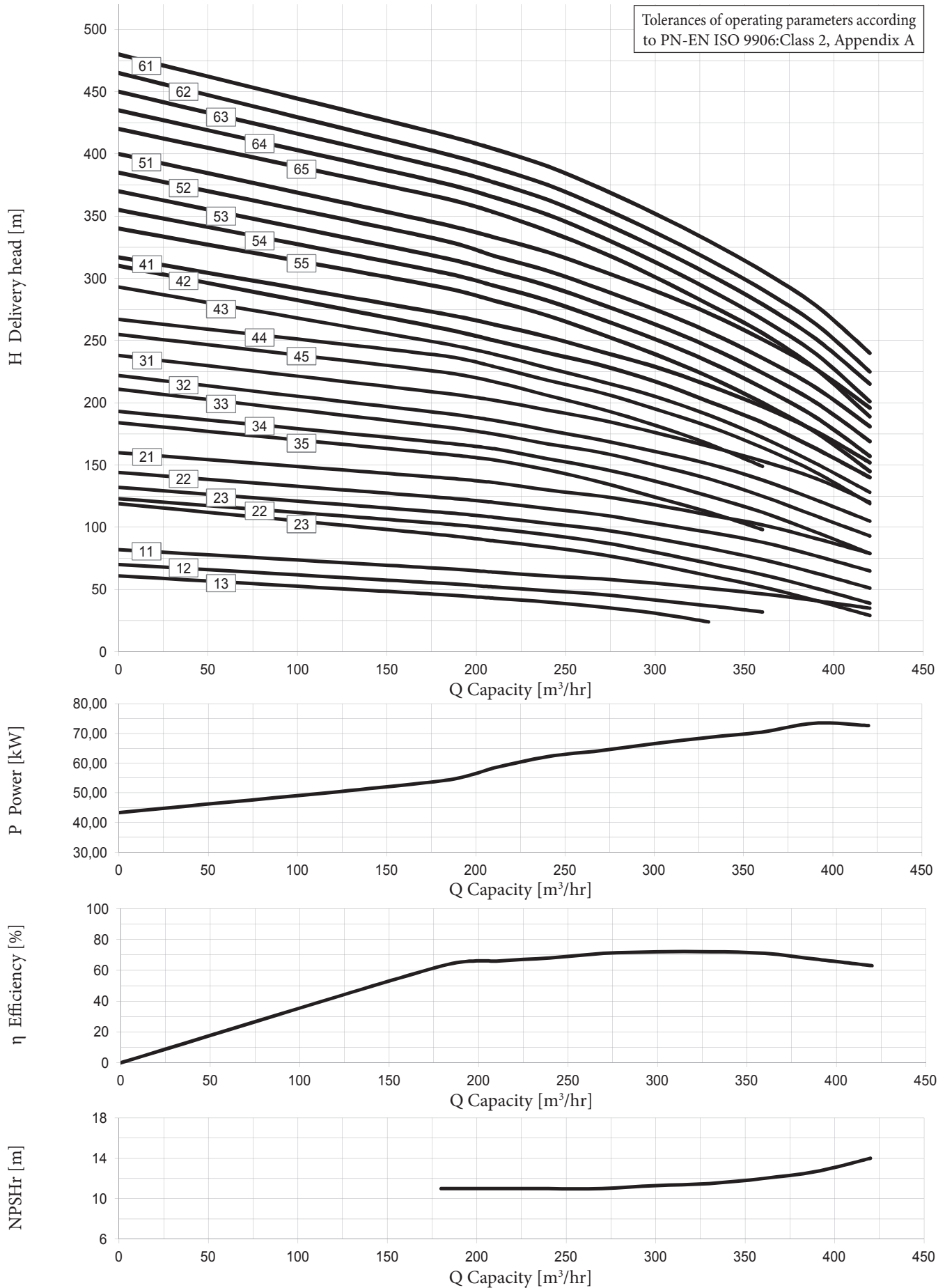
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GDC.4.01	27,7	110	841	845	1686	30	236	841	1075	1916	30	252
GDC.4.02	56,8	141	1006	1135	2141	60	325	1006	1393	2399	66	344
GDC.4.03	80,0	172	1171	1415	2586	83	411	1171	1650	2821	92	428
GDC.4.04	104,2	203	1336	1585	2921	110	476	1336	1844	3180	110	498

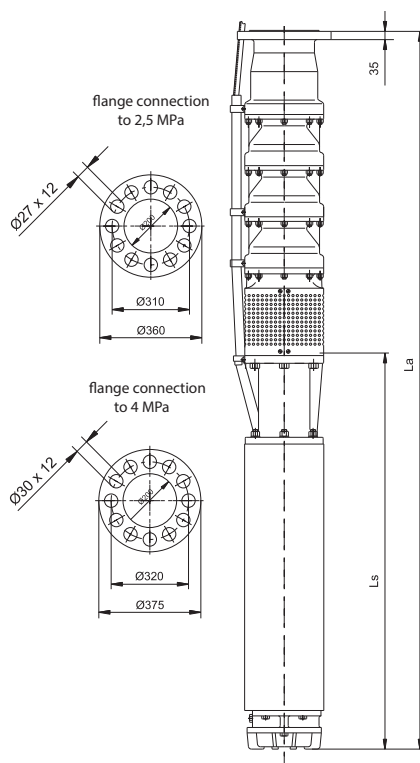
Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-10					SMP-10				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GDC.4.02	56,8	134	1025	1190	2215	75	440	1025	1400	2425	75	429
GDC.4.03	80,0	165	1190	1310	2500	92	500	1190	1530	2720	92	512
GDC.4.04	104,2	196	1355	1430	2785	110	560	1355	1615	2970	110	575
GDC.4.05	128,2	227	1520	1570	3090	132	625	1520	1815	3335	132	667
GDC.4.06	153,5	258	1685	1800	3485	170	712	1685	1915	3600	165	736
GDC.4.07	178,5	289	1850	1910	3760	185	770	1850	1985	3835	185	779

Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-12				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GDC.4.05	128,2	227	1520	1440	2960	150	612
GDC.4.06	153,5	258	1685	1610	3295	185	773
GDC.4.07	178,5	289	1850	1610	3460	185	804
GDC.4.08	203,8	320	2015	1760	3775	220	950
GDC.4.09	228,5	351	2180	1910	4090	260	1048

Pump unit code	Q Capacity [m³/hr]									
	0	120	150	180	210	240	270	300	330	360
	Q Capacity [l/min]									
	0	2000	2500	3000	3500	4000	4500	5000	5500	6000
H [m]										
GDC.4.01	45	38	37	36	34	32	28	22	-	-
GDC.4.02	92	80	77	74	70	65	59	52	42	29
GDC.4.03	136	118	113	108	102	95	84	74	60	46
GDC.4.04	179	156	150	144	134	125	112	96	79	64
GDC.4.05	222	194	187	177	166	154	138	118	98	80
GDC.4.06	265	232	224	212	198	184	165	140	117	95
GDC.4.07	308	270	261	246	230	215	192	163	136	110
GDC.4.08	351	308	298	280	262	245	219	186	154	125
GDC.4.09	394	346	335	315	294	275	246	210	173	140

Tolerances of operating parameters according to PN-EN ISO 9906:Class 2, Appendix A





Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-8					SMP-8				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GFB.1.13	45	285	1113	1065	2178	55	455	1113	1242	2355	52	463
GFB.1.12	55	285	1113	1135	2248	60	469	1113	1315	2428	59	473
GFB.1.11	72	285	1113	1335	2448	75	508	1113	1464	2577	75	502

Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-10					SMP-10				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)	L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GFB.1.13	45	265	1127	1190	2317	75	571	1127	1400	2527	75	560
GFB.1.12	55	265	1127	1190	2317	75	571	1127	1400	2527	75	560
GFB.1.11	72	265	1127	1190	2317	75	571	1127	1400	2527	75	560
GFB.1.25	89	325	1327	1430	2757	110	689	1327	1530	2857	92	672
GFB.1.24	98	325	1327	1430	2757	110	689	1327	1615	2942	110	704
GFB.1.23	109	325	1327	1570	2897	132	723	1327	1815	3142	132	765
GFB.1.22	127	325	1327	1570	2897	132	723	1327	1815	3142	132	765
GFB.1.21	142	325	1327	1660	2987	150	745	1327	1890	3217	147	787
GFB.1.35	153	385	1527	1800	3327	170	839	1527	1915	3442	165	863
GFB.1.34	162	385	1527	1800	3327	170	839	1527	1915	3442	165	863
GFB.1.33	180	385	-	-	-	-	-	1527	1985	3512	185	875

Pump unit code	Pump power [kW]	Pump weight [kg]	SMV-12				
			L _p	L _s	L _a	Motor power (kW)	Unit weight (kg)
GFB.1.25	89	325	-	-	-	-	-
GFB.1.24	98	325	-	-	-	-	-
GFB.1.23	109	325	-	-	-	-	-
GFB.1.22	127	325	-	-	-	-	-
GFB.1.21	142	325	1330	1440	2770	150	710
GFB.1.35	153	400	1529	1610	3139	185	915
GFB.1.34	162	400	1529	1610	3139	185	915
GFB.1.33	180	400	1529	1760	3289	220	1030
GFB.1.32	198	400	1529	1760	3289	220	1030
GFB.1.31	216	400	1529	1910	3439	260	1097
GFB.1.45	220	460	1729	1910	3439	260	1157
GFB.1.44	238	460	1729	1910	3439	260	1157
GFB.1.43	252	460	1729	1910	3439	260	1157
GFB.1.42	272	460	1729	2060	3789	300	1225
GFB.1.41	292	460	1729	2060	3789	300	1225
GFB.1.55	288	520	1929	2060	3989	300	1285

Pump unit code	Q Capacity [m³/hr]									
	0	180	210	240	270	300	330	360	390	420
	Q Capacity [l/min]									
	0	3000	3500	4000	4500	5000	5500	6000	6500	7000
	H [m]									
GFB.1.13	61	46	43	40	36	31	24	-	-	-
GFB.1.12	70	55	52	49	46	42	37	32	-	-
GFB.1.11	82	67	64	62	58	55	51	46	41	35
GFB.1.25	119	94	89	84	78	70	61	52	41	29
GFB.1.24	123	103	99	94	88	80	71	62	51	39
GFB.1.23	132	112	108	103	98	91	83	74	63	51
GFB.1.22	144	124	120	115	110	103	96	88	77	65
GFB.1.21	160	140	136	130	125	118	110	102	91	79
GFB.1.35	184	159	154	146	136	124	112	98	-	-
GFB.1.34	193	168	163	155	147	137	125	112	96	79
GFB.1.33	211	181	175	167	160	150	139	125	109	93
GFB.1.32	222	192	186	178	170	161	151	138	122	105
GFB.1.31	238	208	202	194	186	176	165	153	139	120
GFB.1.45	255	225	217	206	195	182	167	149	-	-
GFB.1.44	267	238	229	218	208	195	181	164	144	119
GFB.1.43	293	248	239	228	217	205	190	172	151	128
GFB.1.42	310	260	250	240	230	217	201	184	163	140
GFB.1.41	317	272	263	253	241	229	214	197	177	152
GFB.1.55	340	293	282	270	255	239	221	200	176	145
GFB.1.54	355	305	294	282	267	251	233	212	188	157
GFB.1.53	370	317	306	294	279	263	245	224	200	169
GFB.1.52	385	331	318	306	291	275	257	236	212	181
GFB.1.51	400	344	333	321	306	290	272	251	227	196
GFB.1.65	420	365	353	349	321	301	270	256	227	189
GFB.1.64	435	377	365	351	333	313	291	267	239	201
GFB.1.63	450	389	377	363	345	325	303	279	251	215
GFB.1.62	465	401	389	375	357	337	315	291	263	225
GFB.1.61	480	416	404	390	372	352	330	306	278	240

Explanation to the GFB.1 pump structure code:

GBF.1.2.3

- number of impellers trimming

- number of hydraulic stages in the pump

- type size

SMV/SMK - 4"

	Motor type	Power rating P_n	Voltage rating U_n	Current rating I_n	Power factor rating $\cos \phi$	Efficiency η	Rotational speed n	Starting current multiple action factor I_s/I_n	Motor length L	Diameter ds	Motor weight	Type of motor safety device		Capacitor	
		kW	V	A	-	%	min ⁻¹	-	mm	mm	kg	UZS.4	UZS.5	μF	V
three-phase motors	SMV4*	0,37	400	1,1	0,71	66	2830	4,5	308	95,2	7,1	UZS.4.01	-		
	SMV4*	0,55	400	1,5	0,77	68	2825	5,0	328	95,2	8,0	UZS.4.01	-		
	SMV4*	0,75	400	2,0	0,76	73	2835	5,7	358	95,2	9,2	UZS.4.02	-		
	SMV4*	1,10	400	2,8	0,76	76	2820	4,8	388	95,2	10,5	UZS.4.02	-		
	SMV4*	1,50	400	3,8	0,76	76	2820	4,8	428	95,2	12,0	UZS.4.03	-		
	SMV4*	2,20	400	5,9	0,71	77	2840	5,5	488	95,2	14,8	UZS.4.04	UZS.5.01		
	SMV4*	3,00	400	7,5	0,73	80	2825	4,5	529	95,2	16,3	UZS.4.05	UZS.5.02		
	SMV4*	4,00	400	9,4	0,76	81	2805	4,4	609	95,2	20,1	UZS.4.06	UZS.5.03		
	SMV4	5,50	400	13,3	0,75	80	2810	4,5	719	95,2	25,7	UZS.4.07	UZS.5.04		
single-phase motors	SMV4	7,50	400	18,2	0,73	82	2830	4,7	859	95,2	32,6	UZS.4.08	UZS.5.05		
	SMV4*	0,37	230	4,8	0,74	51	2840	2,9	328	95,2	7,9			16	450
	SMV4*	0,55	230	5,7	0,77	60	2850	3,0	358	95,2	9,1			20	450
	SMV4*	0,75	230	7,0	0,85	62	2840	3,2	388	95,2	10,5			30	450
	SMV4*	1,10	230	9,6	0,85	64	2850	3,5	428	95,2	12,0			40	450
	SMV4*	1,50	230	11,5	0,87	68	2850	4,3	488	95,2	14,6			50	450
	SMV4*	2,20	230	14,7	0,93	71	2840	3,7	508	95,2	18,1			70	450
	SMV4*	3,00	230	19,1	0,98	72	2825	5,3	609	95,2	20,5			100	450
	SMV4	4,00	230	23,9	0,98	76	2850	3,6	719	95,2	25,0			130	450
three-phase motors	SMK4*	0,55	400	1,7	0,71	66	2800	4,8	384	95,2	9,4	UZS.4.01	-		
	SMK4*	0,75	400	2,1	0,73	71	2800	4,8	384	95,2	9,6	UZS.4.02	-		
	SMK4*	1,10	400	3,2	0,72	69	2800	5,1	414	95,2	10,8	UZS.4.02	-		
	SMK4*	1,50	400	4,0	0,76	71	2800	5,3	444	95,2	12,0	UZS.4.03	-		
	SMK4*	2,20	400	5,5	0,82	70	2830	5,0	506	95,2	15,8	UZS.4.04	UZS.5.01		
	SMK4*	3,00	400	7,2	0,82	73	2850	5,2	554	95,2	18,4	UZS.4.05	UZS.5.02		
	SMK4*	4,00	400	9,1	0,83	76	2850	5,1	615	95,2	20,4	UZS.4.06	UZS.5.03		
	SMK4	5,50	400	13,1	0,81	75	2860	5,2	705	95,2	25,2	UZS.4.07	UZS.5.04		
single-phase motors	SMK4*	0,55	230	4,6	0,94	55	2800	3,1	440	95,2	8,5	Typ CB		20	450
	SMK4*	0,75	230	6,3	0,95	55	2800	3,2	460	95,2	9,8	Typ CB		35	450
	SMK4*	1,10	230	9,5	0,89	57	2820	3,5	490	95,2	11,0	Typ CB		40	450
	SMK4*	1,50	230	11,9	0,91	63	2820	3,7	530	95,2	12,3	Typ CB		50	450
	SMK4*	2,20	230	17,0	0,90	61	2830	4,2	600	95,2	15,0	Typ CB		80	450

ATTENTION!

The permissible number of start-ups: 20/h, at intervals of minimum 3 minutes. Insulation class B, protection degree IP68

* Operation in a horizontal arrangement is permissible

FRANKLIN Elektric GmbH 4"

Motor type	Power rating P_n	Voltage rating U_n	Current rating I_n	Power factor rating $\cos \phi$	Efficiency η	Rotational speed n	Starting current multiple action factor I_s/I_n	Motor length L	Diameter ds	Motor weight
	kW	V	A	-	%	min ⁻¹	-	mm	mm	kg
234 561 3016*	0,37	400	1,2	0,76	66	2870	3,91	223,0	92,25	7,3
234 562 3016*	0,55	400	1,6	0,80	68	2855	4,19	242,1	92,25	8,3
234 563 3016*	0,75	400	2,1	0,80	70	2860	4,24	270,8	92,25	9,5
234 524 1616*	1,10	400	3,1	0,77	75	2865	5,13	298,5	92,25	10,8
234 525 1616*	1,50	400	3,9	0,81	73	2840	4,80	327,2	92,25	12,1
234 526 1616*	2,20	400	5,8	0,81	75	2815	4,95	355,9	92,25	13,5
234 591 1616*	3,00	400	7,5	0,81	76	2830	5,32	422,8	92,25	16,0
234 527 3603*	3,70	400	9,0	0,84	77	2830	5,11	551,7	92,25	22,5
234 593 3603*	4,00	400	9,8	0,84	77	2835	5,61	589,8	92,25	23,5
234 528 3603	5,50	400	13,5	0,84	76	2830	5,33	704,1	92,25	29,0
234 595 3403	7,50	400	19,0	0,79	77	2820	5,45	774,0	92,25	32,5

ATTENTION!

The permissible number of start-ups: 20/h, at intervals of minimum 3 minutes. Insulation class B, protection degree IP68

* Operation in a horizontal arrangement is permissible

SMV - three-phase motors

Motor type	Power rating P_n	Voltage rating U_n	Current rating I_n	Power factor rating $\cos \varnothing$	Efficiency η	Rotational speed n_n	Starting current multiple action factor I/I_n	Motor length L	Diameter ds	Motor weight	Type of motor safety device	
	kW	V	A	-	%	min ⁻¹	-	mm	mm	kg	UZS.4	UZS.5
SMV 6*	1,5	400	3,6	0,85	69,0	2880	4,70	485	144	32,4	UZS.4.03	
SMV 6*	2,2	400	5,7	0,83	67,5	2880	4,70	485	144	32,5	UZS.4.04	UZS.5.01
SMV 6*	3,0	400	7,6	0,79	72,0	2900	5,38	502	144	36,0	UZS.4.05	UZS.5.02
SMV 6*	4,0	400	9,3	0,84	74,0	2890	5,46	521	144	40,0	UZS.4.06	UZS.5.03
SMV 6*	5,5	400	12,2	0,83	78,0	2885	5,37	552	144	44,0	UZS.4.07	UZS.5.04
SMV 6*	7,5	400	16,3	0,84	80,0	2880	5,47	595	144	49,0	UZS.4.08	UZS.5.05
SMV 6*	9,0	400	19,9	0,82	81,0	2890	5,65	635	144	54,0	UZS.4.09	UZS.5.06
SMV 6*	11,0	400	23,7	0,83	81,5	2890	5,96	685	144	60,0	-	UZS.5.07
SMV 6*	13,0	400	27,7	0,83	82,0	2885	6,27	725	144	62,0	-	UZS.5.08
SMV 6*	15,0	400	30,4	0,86	83,5	2885	6,44	775	144	65,0	-	UZS.5.08
SMV 6*	18,5	400	38,0	0,82	84,0	2885	6,50	875	144	81,0	-	UZS.5.09
SMV 6*	22,0	400	43,7	0,85	86,0	2885	6,74	965	144	91,0	-	UZS.5.10
SMV 6*	26,0	400	53,3	0,84	84,0	2880	6,54	1055	144	103,0	-	UZS.5.11
SMV 6*	30,0	400	60,2	0,85	84,5	2870	6,55	1135	144	109,0	-	UZS.5.12
SMV 6	37,0	400	70,5	0,88	86,0	2860	6,67	1225	144	120,0	-	UZS.5.13
SMV 8*	13,0	400	29,0	0,83	77,0	2880	4,60	695	193	97,0	-	UZS.5.08
SMV 8*	15,0	400	34,0	0,83	78,0	2870	4,60	695	193	97,0	-	UZS.5.08
SMV 8*	18,5	400	39,0	0,84	80,0	2890	4,60	765	193	110,0	-	UZS.5.09
SMV 8*	22,0	400	47,0	0,84	81,0	2895	4,80	765	193	110,0	-	UZS.5.10
SMV 8*	26,0	400	54,0	0,84	81,8	2900	5,10	845	193	126,0	-	UZS.5.11
SMV 8*	30,0	400	61,0	0,85	84,0	2880	5,33	845	193	126,0	-	UZS.5.12
SMV 8*	37,0	400	74,0	0,85	85,0	2900	5,41	925	193	142,0	-	UZS.5.13
SMV 8*	45,0	400	89,0	0,86	86,0	2895	5,28	995	193	156,0	-	UZS.5.14
SMV 8*	52,0	400	103,0	0,85	86,0	2890	5,50	1065	193	170,0	-	UZS.5.14
SMV 8*	55,0	400	111,0	0,86	86,0	2880	5,10	1065	193	170,0	-	UZS.5.14
SMV 8*	60,0	400	118,0	0,85	86,5	2890	5,41	1135	193	184,0	-	UZS.5.14
SMV 8*	67,0	400	131,0	0,84	87,0	2900	5,89	1235	193	204,0	-	UZS.5.14
SMV 8*	75,0	400	147,0	0,84	87,7	2905	6,12	1335	193	223,0	-	UZS.5.15
SMV 8*	83,0	400	166,0	0,84	87,5	2900	6,10	1415	193	239,0	-	UZS.5.15
SMV 8*	92,0	400	177,0	0,86	88,0	2900	6,13	1485	193	255,0	-	UZS.5.15
SMV 8	110,0	400	214,0	0,85	87,6	2900	6,20	1585	193	273,0	-	UZS.5.16
SMV 10*	75,0	400	143,0	0,88	85,2	2920	5,00	1190	236	306,0	-	UZS.5.15
SMV 10*	92,0	400	168,0	0,88	87,6	2926	6,32	1310	236	335,0	-	UZS.5.15
SMV 10*	110,0	400	200,0	0,89	89,4	2936	6,43	1430	236	364,0	-	UZS.5.16
SMV 10*	132,0	400	245,0	0,88	88,5	2930	6,65	1570	236	398,0	-	UZS.5.16
SMV 10*	150,0	400	270,0	0,90	89,2	2925	6,99	1660	236	420,0	-	UZS.5.16
SMV 10*	170,0	400	308,0	0,89	90,0	2930	6,83	1800	236	454,0	-	UZS.5.16
SMV 10	185,0	400	325,0	0,90	91,0	2930	6,74	1910	236	481,0	-	UZS.5.16
SMV 12*	150,0	400	282,0	0,87	88,3	2920	6,20	1440	288	385,0	-	UZS.5.16
SMV 12*	185,0	400	335,0	0,88	90,0	2940	6,50	1610	288	515,0	-	UZS.5.16
SMV 12*	220,0	400	390,0	0,89	91,0	2945	6,70	1760	288	630,0	-	
SMV 12*	260,0	400	458,0	0,90	92,0	2950	6,60	1910	288	697,0	-	
SMV 12	300,0	400	528,0	0,89	91,0	2950	6,50	2060	288	765,0	-	

UWAGA!

The permissible number of start-ups per hour: SMV6-15x, SMV8-15x, SMV10-15x, SMV12-5x. At equal, minimum 6-minute intervals.

* Operation in a horizontal arrangement is permissible

The UZS.4 or UZS.5 safety device may be used, as required. UZS.5 provides extensive motor protection, with programmable logic controller, without having to use water level indicators. Refer to technical and operating documentation of the safety devices for details.

UZS.4 or UZS.5, please specify motor type and power output.

TECHNICAL DATA

SMS, SMP

Motor type	Power rating P_n	Voltage rating U_n	Current rating I_n	Starting current I_a	Rotational speed n	Efficiency η	Power factor rating $\cos \phi$	Condenser capacity	Water temperature	Cable		Type of motor safety device
										Cross-section	Length	
	kW	V	A	-	%	min ⁻¹	-	μF	°C	mm ²	m	
SMS-4	0,37	230	3,7	12	2840	53	0,95	16	35	4x1,5	1,7	1PC
SMS-4	0,55	230	4,3	15	2840	62	0,90	20	35	4x1,5	1,7	1PC
SMS-4	0,75	230	5,7	20	2840	64	0,90	25	35	4x1,5	1,7	1PC
SMS-4	1,10	230	7,8	32	2850	68	0,90	35	35	4x1,5	1,7	1PC
SMS-4	1,50	230	9,8	38	2850	73	0,90	40	35	4x1,5	1,7	1PC
SMS-4	2,20	230	15,0	46	2820	72	0,88	55	35	4x1,5	2,5	2PC

Motor type	Power rating P_n	Voltage rating U_n	Current rating I_n	Starting current I_a	Rotational speed n	Efficiency η	Power factor rating $\cos \phi$	Water temperature	Cable		Type of motor safety device
									Cross-section	Length	
	kW	V	A	-	%	min ⁻¹	-	°C	mm ²	m	
SMS-4	0,37	400	1,2	5	2820	60	0,75	35	4x1,5	1,7	UZS.-4
SMS-4	0,55	400	1,6	7	2830	64	0,78	35	4x1,5	1,7	UZS.-4
SMS-4	0,75	400	2,1	9	2830	66	0,78	35	4x1,5	1,7	UZS.-4
SMS-4	1,10	400	2,7	12	2840	70	0,84	35	4x1,5	1,7	UZS.-4
SMS-4	1,50	400	3,6	14	2840	72	0,84	35	4x1,5	1,7	UZS.-4
SMS-4	2,20	400	5,4	22	2840	71	0,83	35	4x1,5	2,5	UZS.-4
SMS-4	3,00	400	7,5	43	2850	73	0,80	35	4x1,5	2,5	UZS.-4
SMS-4	4,00	400	9,9	49	2855	75	0,80	35	4x1,5	2,5	UZS.-4
SMS-4	5,50	400	13,8	65	2850	75	0,80	35	4x1,5	2,5	UZS.-4
SMS-4	7,50	400	19,0	87	2850	76	0,80	35	4x1,5	2,5	UZS.-4

Motor type	Power rating P_n	Voltage rating U_n	Current rating I_n	Power factor rating $\cos \phi$	Efficiency η	Rotational speed n	Motor length L	Motor weight	Type of motor safety device	
									UZS.4	UZS.5
	kW	V	A	-	%	min ⁻¹	mm	kg		
SMS-6*	1,5	400	5,0	0,87	-	2827	630	46,0	-	-
SMS-6*	2,2	400	7,7	0,70	66,2	2950	630	46,0	-	-
SMS-6*	3,0	400	9,2	0,78	68,5	2950	630	46,0	-	-
SMS-6*	4,0	400	10,3	0,84	70,6	2890	630	46,0	UZS.4.05	UZS.5.03
SMS-6*	5,5	400	12,9	0,87	73,3	2868	630	46,0	UZS.4.07	UZS.5.04
SMS-6*	7,5	400	17,5	0,83	75,9	2863	652	47,5	UZS.4.08	UZS.5.05
SMS-6*	9,2	400	21,8	0,84	76,1	2850	693	52,0	UZS.4.09	UZS.5.06
SMS-6*	11,0	400	25,2	0,84	78,2	2856	730	56,5	-	UZS.5.07
SMS-6*	13,0	400	28,5	0,86	79,3	2860	781	62,0	-	UZS.5.08
SMS-6*	15,0	400	33,4	0,83	80,5	2867	831	67,0	-	UZS.5.08
SMS-6*	18,5	400	39,9	0,82	83,2	2863	882	73,0	-	UZS.5.09
SMS-6*	22,0	400	47,6	0,84	83,7	2852	981	84,5	-	UZS.5.10
SMS-6	26,0	400	54,2	0,85	83,2	2841	1031	90,0	-	UZS.5.11
SMS-6	30,0	400	62,0	0,86	84,0	2853	1111	99,0	-	UZS.5.12
SMS-6	37,0	400	73,1	0,89	84,7	2831	1195	108,0	-	UZS.5.12
SMP-8*	15,0	400	35,0	0,81	-	2933	930	121,0	-	-
SMP-8*	18,5	400	40,0	0,82	-	2905	930	121,0	-	-
SMP-8*	22,0	400	47,8	0,85	82,6	2905	930	121,0	-	UZS.5.10
SMP-8*	26,0	400	55,0	0,86	80,0	2887	1029	143,0	-	UZS.5.14
SMP-8*	30,0	400	63,2	0,85	84,1	2928	1075	142,0	-	UZS.5.12
SMP-8*	37,0	400	77,1	0,86	84,2	2902	1102	128,0	-	UZS.5.13
SMP-8*	45,0	400	87,4	0,87	88,8	2907	1162	159,0	-	UZS.5.14
SMP-8*	52,0	400	99,0	0,87	91,7	2915	1242	178,0	-	UZS.5.14
SMP-8*	55,0	400	110,0	0,86	89,5	2916	1282	183,0	-	UZS.5.14
SMP-8*	59,0	400	114,0	0,85	89,9	2915	1315	188,0	-	UZS.5.14
SMP-8*	66,0	400	129,0	0,87	90,7	2914	1393	203,0	-	UZS.5.14
SMP-8*	75,0	400	143,0	0,87	91,4	2916	1464	217,0	-	UZS.5.15
SMP-8	81,0	400	160,0	0,86	90,8	2920	1535	232,0	-	UZS.5.15
SMP-8	92,0	400	183,0	0,85	91,6	2932	1650	256,0	-	UZS.5.16
SMP-8	110,0	400	216,0	0,87	87,0	2852	1844	295,0	-	UZS.5.16
SMP-10	75,0	400	145,0	0,90	87,0	2886	1400	295,0	-	UZS.5.15
SMP-10	81,0	400	161,0	0,87	86,0	2885	1455	320,0	-	UZS.5.15
SMP-10	92,0	400	184,0	0,88	87,0	2889	1530	347,0	-	UZS.5.16
SMP-10	110,0	400	212,0	0,90	87,0	2888	1615	379,0	-	UZS.5.16
SMP-10	132,0	400	242,0	0,91	87,0	2838	1815	440,0	-	UZS.5.16
SMP-10	147,0	400	295,0	0,92	87,0	2920	1890	462,0	-	UZS.5.16
SMP-10	165,0	400	327,0	0,89	88,0	2920	1915	478,0	-	UZS.5.16
SMP-10	185,0	400	350,0	0,90	88,0	2932	1985	490,0	-	UZS.5.16

* Operation in a horizontal arrangement is permissible

SMS - motor winded with conductor in PVC insulation

SMP - motor winded with conductor in PE2 insulation

NOTES

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