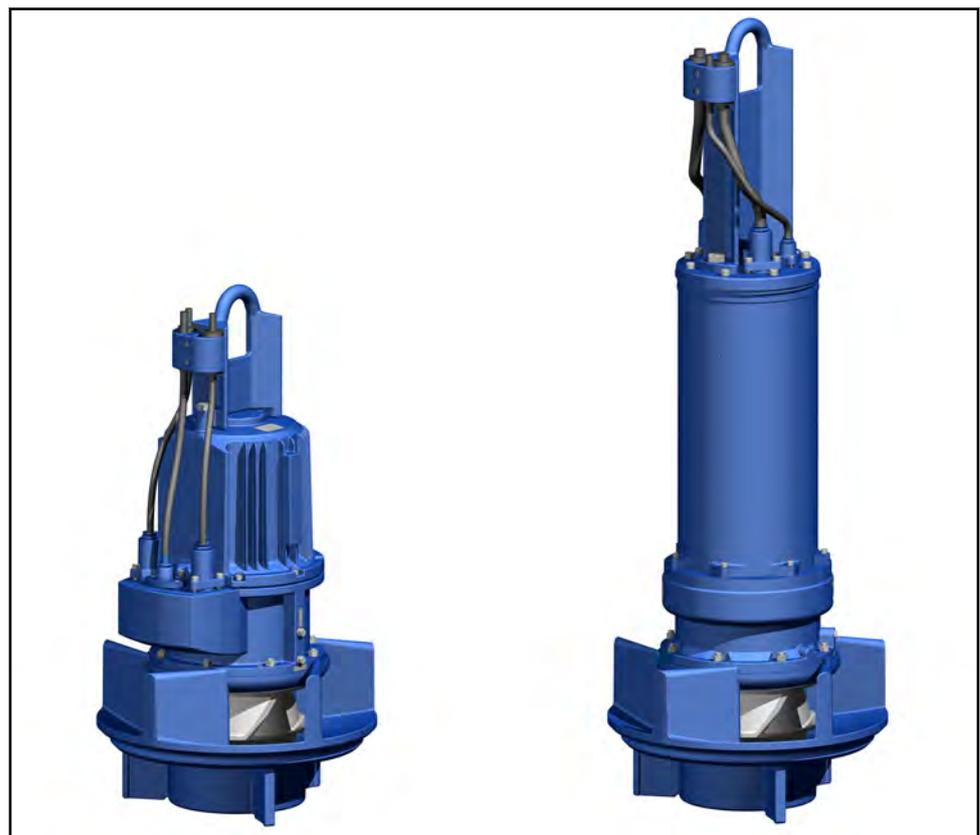


Submersible Pump in Discharge Tube

# Amacan K

50 Hz

## Type Series Booklet



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Type Series Booklet Amacan K

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## Water: Water Transport

### Submersible Pump in Discharge Tube

## Amacan K



#### Main applications

- Irrigation and drainage pumping stations
- Stormwater pumping stations
- Water pollution and flood control

#### Fluids handled

- Waste water
- Sludge
- Surface water
- Stormwater
- Grey water

#### Operating data

Operating properties

Characteristic	Value	
Flow rate	Q	Up to 1500 l/s
Head	H	Up to 30 m
Motor rating	P <sub>2</sub>	Up to 320 kW
Fluid temperature	t	Up to +40 °C
Enclosure	IP 68 to IEC 60034-5; explosion protection to ATEX II 2G T3 available	

#### Designation

**Example: Amacan K 800-400 / 60 6 UN G**

Key to the designation

Code	Description
<b>Amacan</b>	Type series
<b>K</b>	Impeller type, e.g. K = channel impeller

Code	Description
<b>800</b>	Nominal diameter of the discharge tube [mm]
<b>400</b>	Nominal impeller diameter [mm]
<b>60</b>	Motor size
<b>6</b>	<b>Number of motor poles</b>
4	4-pole
6	6-pole
8	8-pole
10	10-pole
<b>UN</b>	<b>Motor version</b> (⇒ Page 7)
U	Without explosion protection, standard (sizes 700-371 ... 800-401)
X	Explosion protection to ATEX (sizes 700-371 ... 800-401)
UN	Without explosion protection, standard (sizes 700-330, 800-400, 1000-420 ... 1200-630)
XN	Explosion protection to ATEX (sizes 700-330, 800-400, 1000-420 ... 1200-630)
<b>G</b>	<b>Material variant</b> (⇒ Page 10)
G	Impeller made of grey cast iron, standard variant
G1	Like G, with impeller made of duplex stainless steel

#### Design details

##### Design

- Fully floodable submersible pump in discharge tube (submersible motor pump)
- Not self-priming
- Close-coupled design
- Single-stage
- Vertical installation

##### Drive

- Three-phase asynchronous squirrel-cage motor

Motors integrated in explosion-proof pump sets are supplied in Ex d IIB type of protection.

##### Shaft seal

- Two bi-directional mechanical seals in tandem arrangement, with liquid reservoir

##### Impeller type

	Closed multi-channel impeller (impeller type K)	<b>Suitable for the following fluids:</b> contaminated, solids-laden, non-gaseous fluids without stringy material
---	---	--

##### Bearings

- Grease-packed rolling element bearings

## Materials

Overview of materials

Description	Material
Pump casing	EN-GJL-250 (JL 1040)
Motor housing	EN-GJL-250 (JL 1040)
Shaft	C45N/1.4021
Impeller	EN-GJL-250 (JL 1040) / 1.4517 (duplex stainless steel)
Casing wear ring	EN-GJL-250 (JL 1040) / VG 434
Screws, bolts and nuts	Stainless steel

## Coating and preservation

### Paint

- **Surface treatment:** SA 2 1/2 (SIS 055900) AN 1865
- **Primer:** primer coat on unfinished casting
- **Top coat:** environmentally friendly KSB standard coating (RAL 5002)

### Special coating

- Available on request (extra charge and a longer delivery period apply).

## Product advantages / customer benefits

- Three-phase motor and optimum motor cooling by fluid handled make for efficient power utilisation.
- The pump's own weight ensures self-centring seating in the discharge tube, and an O-ring seals it; no anchoring or anti-rotation elements; quick to install or remove.
- The slim motor minimises discharge tube flow losses.
- High reliability thanks to bearing temperature monitoring, vibration sensor, thermal motor protection, leakage sensors in the motor and connection space, and leakage monitoring of the mechanical seal system.
- Low-vibration hydraulic system; inlet ribs and optimised bellmouth for vortex-free inflow.
- Absolutely water-tight resin-sealed cable entries prevent any water from entering the motor – even in the event of a damaged cable.

## Acceptance tests / Warranties

### Functional test

- Every pump undergoes functional testing to KSB standard ZN 56525.
- Operating data is guaranteed to DIN EN ISO 9906 / 2 / 2B.

### Acceptance tests

- Acceptance tests to ISO/DIN or comparable standards are available against a surcharge.

### Warranties

- Quality is assured by means of an audited and certified quality assurance system to DIN EN ISO 9001.

## Selection information

### Information for pump selection

The guaranteed point of submersible pumps in discharge tubes is measured at a head 0.5 m above the motor (DIN 1184). The documented characteristic curves refer to this data. This must be taken into account when calculating system losses. The indicated heads and performance data apply to pumped fluids with a density  $\rho = 1 \text{ kg/dm}^3$  and a kinematic viscosity  $\nu$  of up to 20 mm<sup>2</sup>/s.

The pump input power must be matched to the density of the fluid handled:

$$P_{2\text{req}} = \rho_{\text{fluid}} [\text{kg/dm}^3] \times P_{2\text{docu}}$$

The operating point with the largest pump input power is decisive for the operating range of the motor. To compensate the unavoidable tolerances of the characteristic curves of system, pump and motor we recommend selecting a motor size which provides sufficient power reserves.

Recommended minimum reserves<sup>1)</sup>

Required pump input power [kW]	Motor power reserve	
	Mains operation	With frequency inverter
< 30	10 %	15 %
> 30	5 %	10 %

Determine the min. water level  $t_{1\text{min}}$  (see diagram in general arrangement drawing):

The min. water level  $t_{1\text{min}}$  is the water level required in the pump's suction chamber to ensure:

- that the liquid cover above the hydraulic system (impeller) is sufficient (shown in diagram depending on pump size)
- that the pump does not draw in air-entraining vortices (shown in diagram depending on flow rate)
- that no cavitation occurs in the hydraulic system (check against the  $\text{NPSH}_{\text{required}}$  value indicated in the technical literature). The following conditions must be met:
  - $\text{NPSH}_{\text{available}} > \text{NPSH}_{\text{required}} + \text{safety allowance}$
  - $\text{NPSH}_{\text{available}} = 10.0 + (t_1 - t_3 - h_7/2)$
  - Safety allowance:  
up to  $Q_{\text{opt}} \Rightarrow 0.5 \text{ m}$   
greater than  $Q_{\text{opt}} \Rightarrow 1.0 \text{ m}$

### Head (H)

The total pump head is composed as follows:

$$H = H_{\text{geo}} + \Delta H_v$$

$H_{\text{geo}}$  (static head)

- Without discharge elbow – Difference between suction-side water level and overflow edge
- With discharge elbow – Difference between suction-side and discharge-side water level

$\Delta H_v$  (losses in the system)

- Starting 0.5 m downstream of the pump: e.g. pipe friction, elbow, swing check valve, etc.

### Losses by inlet, riser and elbow

Losses are caused by the inlet, riser and elbow (or free discharge).

- Losses in the riser up to the indicated reference level (0.5 m above the motor) are taken into account in the documented characteristic curves.

<sup>1)</sup> If larger reserves are stipulated by local regulations or are required to compensate for uncertain factors in system calculations, these larger reserves must be provided.

- Inlet and elbow losses are system losses and must be taken into account for selection.
- For information on structural requirements, pump installation and pump sump design please refer to the KSB know-how brochure "Planning information: Amacan submersible pumps in discharge tubes" 0118.55.

## Overview of product features / selection tables

### Table of fluids handled

The table below for your guidance is based on KSB's long-standing experience. The data are standard values and are not to be considered as generally binding recommendations. More detailed advice is available from our specialist department in Halle. Make use of our laboratory's expertise when selecting materials.

Fluid handled <sup>2)</sup> (fluids not containing stringy material)	Comments, recommendations
Grey water	Free passage > any solids contained, possibly pre-cleaned via a screen or weir
River water	
Stormwater	
Waste water	Pre-cleaned via a screen or weir
Activated sludge	Pumpable up to a dry substance content of: 3 %
<b>Industrial waste water containing ...</b>	
- Paint suspensions	Solvent-free, observe the operator's instructions.
- Lacquer/paint/varnish suspensions	Solvent-free, contact KSB for silicone-free version.
- Fibres/pulp	Fluids containing short fibres, no stringy material
- Chips/swarf	Material variant G1, special mechanical seal, solids content < 5 g/l
- Abrasive substances	
<b>Mildly acidic industrial waste water</b>	pH value ≥ 6.0: material variant G1 and special coating pH value < 6.0: Contact KSB (material variant C).
<b>Non-corrosive waste water</b>	
- Ammonia water	
- Ammonium hydroxide 5 % NH <sub>4</sub> OH	
- Urea 25 % (NH <sub>2</sub> ) <sub>2</sub> -CO	
- Potassium hydroxide 10 % KOH	
- Calcium hydroxide 5 % Ca(OH) <sub>2</sub>	
- Sodium hydroxide 5 % NaOH	
- Sodium carbonate 30 % Na <sub>2</sub> CO <sub>3</sub>	
<b>Non-corrosive waste water containing ...</b>	
- Aliphatic hydrocarbons, e.g. oils, petrol, butane, methane	FPM (Viton) O-rings; for high concentrations contact KSB.
- Aromatic hydrocarbons, e.g. benzene, styrene	
- Chlorinated hydrocarbons, e.g. tetrachloroethylene, ethylene chloride, chloroform, methylene chloride	

<sup>2)</sup> Fluids to be pumped which are not listed in this table usually require higher-grade materials. Contact KSB.

## Overview of product features

Overview of product features (material variants G, G1)

Feature	Motor version				
	U/X			UN/XN	
<b>Motor size</b>					
4-pole	-	29 4	35 4 ... 65 4	80 4	-
6-pole	20 6	26 6	32 6 ... 50 6	60 6	80 6 ... 320 6
8-pole	10 8, 17 8	21 8	26 8	50 8	75 8 ... 150 8
10-pole	-	-	-	-	40 10 ... 75 10
<b>Shaft material</b>					
Shaft	1.4021	1.4021	1.4021	C 45 N	1.4021
Shaft protecting sleeve	-	-	-	1.4021	1.4021
<b>Bearings</b>	Grease-packed rolling element bearings sealed for life			Pump end: regreasable rolling element bearing Drive end: grease-packed rolling element bearing sealed for life	
<b>Explosion protection</b>					
Version U...	Not explosion-proof				
Version X...	Ⓔ ATEX II 2G T3				
<b>Motor</b>					
Starting method	DOL or star-delta (690 V only DOL)				
Voltage	400 V <sup>3)</sup>				
Cooling	Cooled by surrounding fluid				
Submergence	30 m max.				
<b>Power cable</b>					
Type	See table "Overview of power cables"				
Length	10 m <sup>4)</sup>				
Cable entry	Absolutely watertight				
<b>Sealing elements</b>					
Elastomer seals	Nitrile butadiene rubber NBR <sup>5)</sup>				
Shaft seal	Bellows-type mechanical seal <sup>6)</sup>				
<b>Monitoring equipment</b>					
Winding temperature, version U...	Temperature switch (bimetal) in the winding				
Winding temperature, version X...	Temperature switch (bimetal) in the winding, plus PTC for explosion protection				
Bearing temperature	-	..7)	Pump-end PT100 <sup>7)</sup>		
Motor leakage	Electrode monitoring the winding for leakage		Electrode monitoring the winding and connection space for leakage		
Mechanical seal leakage	-		Float switch in leakage area		
Vibration sensor	-		..8)		
<b>Coating</b>	Environmentally friendly KSB standard coating, colour RAL 5002 <sup>9)</sup>				
<b>Installation</b>	(⇒ Page 33)				
<b>Maximum temperature of fluid handled</b>	40 °C				
<b>Tests/inspections</b>					
Hydraulic system	KSB standard (ZN 56525) <sup>10)</sup>				
General	KSB standard (ZN 56525)				

Overview of power cables

Feature	S1BN8-F rubber-sheathed cable	S07RC4N8-F rubber-sheathed cable
Type	Standard	Optional
Rated voltage	1000 V	750 V
EMC screening	-	✓

3) Optional: 500 V, 690 V

4) Optional: up to 50 m

5) Optional: Viton = fluorocarbon rubber FPM

6) Optional: mechanical seal with covered spring

7) Optional: drive-end PT100

8) Optional: internal vibration sensor

9) Optional: 250 µm

10) Optionally to ISO 9906/1/2/A

Feature	S1BN8-F rubber-sheathed cable	S07RC4N8-F rubber-sheathed cable
Insulation material	EPR <sup>11)</sup>	EPR <sup>11)</sup>
Max. continuous temperature of insulation	90 °C	90 °C
For permanent immersion in waste water to DIN VDE 0282-16/HD22.16	✓	✓

### Pump/motor combinations

Overview of pump/motor combinations

Size	Motors																													
	4-pole					6-pole										8-pole					10-pole									
	29 4	35 4	50 4	65 4	80 4	20 6	26 6	32 6	40 6	50 6	60 6	80 6	100 6	120 6	140 6	165 6	190 6	225 6	260 6	320 6	10 8	17 8	21 8	26 8	90 8	110 8	130 8	150 8	40 10	60 10
K 700-371	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
K 700-324	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
K 700-330	1	-	-	-	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K 800-330	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K 800-370	-	-	-	-	-	1	1	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K 800-400	-	-	-	-	-	-	1	2	2	2	3	-	-	-	-	-	-	-	-	-	1	1	1	2	-	-	-	-	-	-
K 800-401	-	-	-	-	-	-	1	2	2	2	-	-	-	-	-	-	-	-	-	1	1	1	2	-	-	-	-	-	-	-
K 1000-420	-	-	-	-	-	-	-	-	-	-	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K 1000-421	-	-	-	-	-	-	-	-	-	-	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K 1000-500	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
K 1200-630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	-	-	-	-	3	3	3	3	3	3

1	General assembly drawing Amacan K 700 - 324 ... 800 - 401, motor version: UG/XG (⇒ Page 37)
2	General assembly drawing Amacan K 800 - 330 ... 800 - 401, motor version: UG/XG (⇒ Page 38)
3	General assembly drawing Amacan K 700 - 330 ... 1200-630, motor version: UNG/XNG (⇒ Page 39)

11) EPR = ethylene propylene rubber

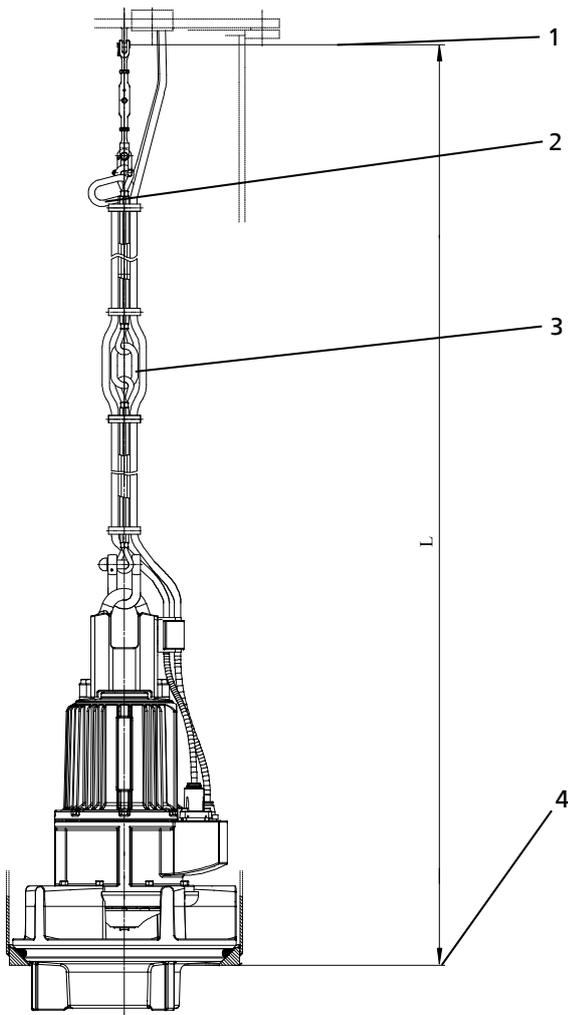
**On all enquiries/orders please specify**

- Designation of the pump
- Flow rate Q, head  $H_{total}$
- Type and temperature of the fluid pumped
- Voltage, frequency, starting method, cable length
- Quantity and language of operating manuals
- Required accessories
  - For discharge tubes indicate all required elevations and the type of installation.
  - For flow-straightening vanes indicate the type of installation and whether the design is with or without suction umbrella.
  - For a support rope indicate dimension "L", the number of additional lifting rings (depending on the lifting height of the hoisting tackle) as well as the elevations and type of installation.

1	Suspension arrangement attached to cover (or cross beam for BU/BG)
2	Lifting ring (standard, included in the scope of supply)
3	Optional (intermediate) lifting ring(s)
4	Lower edge of discharge tube

The support rope is an accessory and can be supplied with additional lifting rings and a support spacer as an option. (⇒ Page 34) The standard design is supplied without intermediate lifting ring(s).

Always define dimension "L" when ordering a support rope to allow the correct length to be determined. The lifting height of the crane must be taken into account when ordering a support rope. This determines the number of lifting rings required for installing the pump in or removing it from the discharge tube.



## Material variants

Overview of materials

Part No.	Description	G	G1 <sup>12)</sup>
101	Pump casing	EN-GJL-250 (JL 1040)	
163	Discharge cover	EN-GJL-250 (JL 1040)	
230	Impeller	EN-GJL-250 (JL 1040)	1.4517
350 / 330	Bearing housing / bearing bracket	EN-GJL-250 (JL 1040)	
412	O-ring	NBR <sup>13)</sup> (Viton FPM) <sup>14)</sup>	
433	Mechanical seal (pump end)	SiC / SiC (bellows NBR <sup>13)</sup> , Viton - FPM <sup>14)</sup>	
	Mechanical seal (drive end)	Carbon/SiC (bellows NBR <sup>13)</sup> , Viton - FPM <sup>14)</sup>	
502	Casing wear ring	EN-GJL-250 (JL 1040) / VG 434 <sup>15)</sup>	
525	Shaft protecting sleeve <sup>16)</sup>	1.4021	
571	Bail	EN-GJS-400-15 (JS 1030) / S235JRG2 <sup>17)</sup>	
811	Motor housing	EN-GJL-250 (JL 1040)	
812	Motor housing cover	EN-GJL-250 (JL 1040) <sup>18)</sup>	
818	Shaft (rotor)	1.4021 / C45N <sup>19)</sup>	
834	Cable gland	-	
	Gland housing	EN-GJL-250 (JL 1040)	
Various	Screws/bolts	Stainless steel	
Other materials on request.			

### JL 1040 grey cast iron (lamellar graphite cast iron)

Lamellar graphite cast iron to DIN 1691 is the most widely used cast material for handling municipal sewage, waste water and sludges as well as stormwater and surface water. It is suitable for neutral fluids which are only slightly aggressive and cause little wear. The pH value should be  $\geq 6.5$ , the sand content  $\leq 0.5$  g/l.

### Duplex stainless steel (1.4517 or technically equivalent material)

This type of cast steel is resistant to cavitation, has excellent strength values and is used for high circumferential speeds. An excellent resistance to pitting corrosion makes ferritic-austenitic stainless steel a popular choice for pumping acidic waste water with a high chloride content as well as seawater and brackish water. Thanks to its good chemical resistance, e.g. also against waste water containing phosphorous and sulphuric acid, this material is used in a wide range of applications in the chemical industry and process engineering. Pumps made of duplex stainless steel have a very long service life, even when handling brines, chemical waste water (pH 1–12), grey water and landfill leachate.

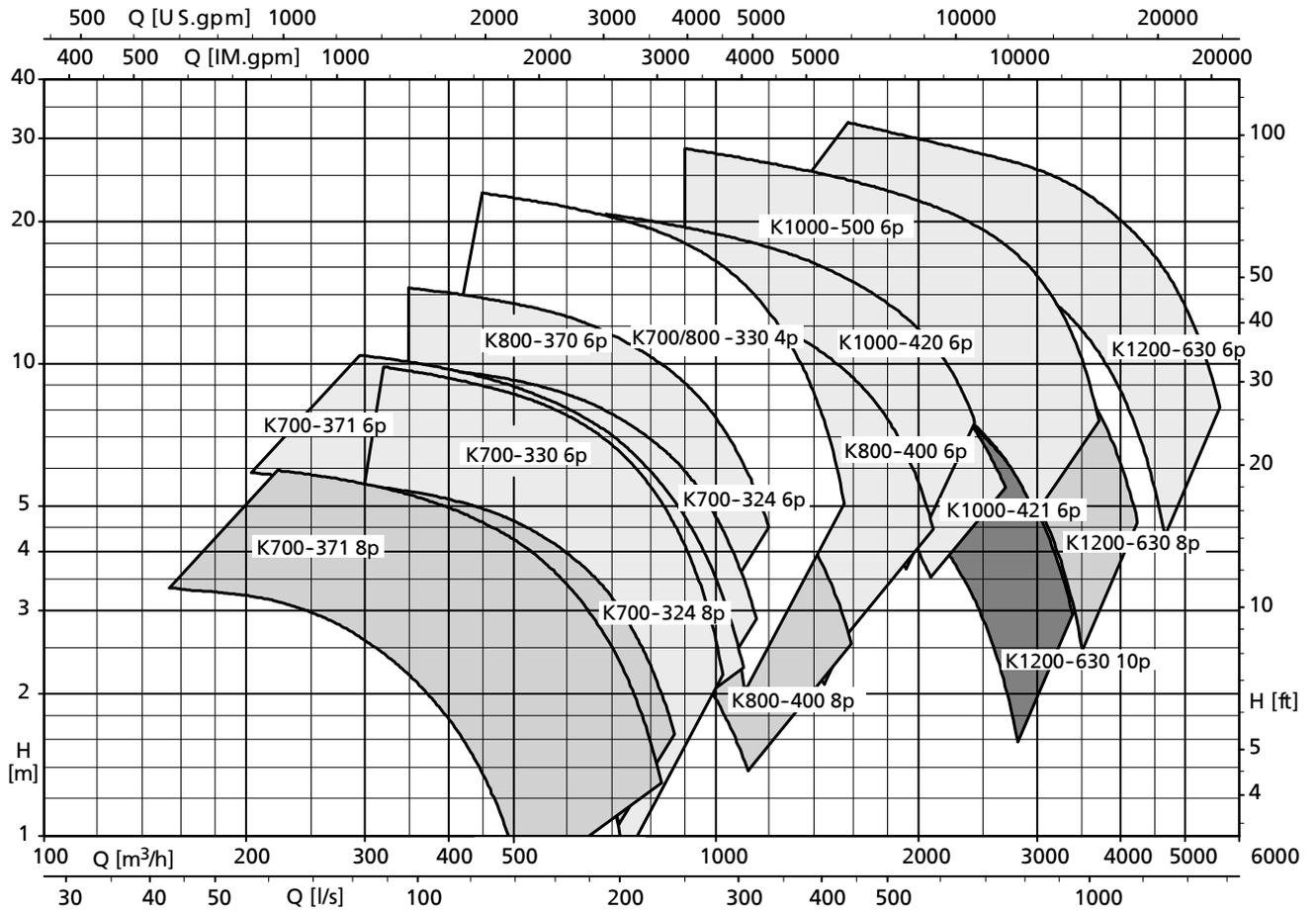
### Related documents

- General Arrangement Drawings 1579.39
- Motor Data Booklet 1579.53
- Planning Information 0118.55

- 
- 12) Material variant G1 not available for size 1000-421  
 13) Nitrile rubber (Perbunan)  
 14) FPM fluorocarbon rubber variant available as an option against a surcharge  
 15) This option is available against a surcharge.  
 16) Not fitted on all pump sizes  
 17) EN-GJS-400-15 (JS 1030) for motor 80 4, 60 6 ... 165 6, 90 8 ... 130 8; S235JRG2 for motor 190 6, 320 6, 150 8  
 18) Not fitted on all pump sizes  
 19) For further information see Overview of product features

Selection chart

Amacan K, n = 1450 / 960 / 725 / 580 rpm

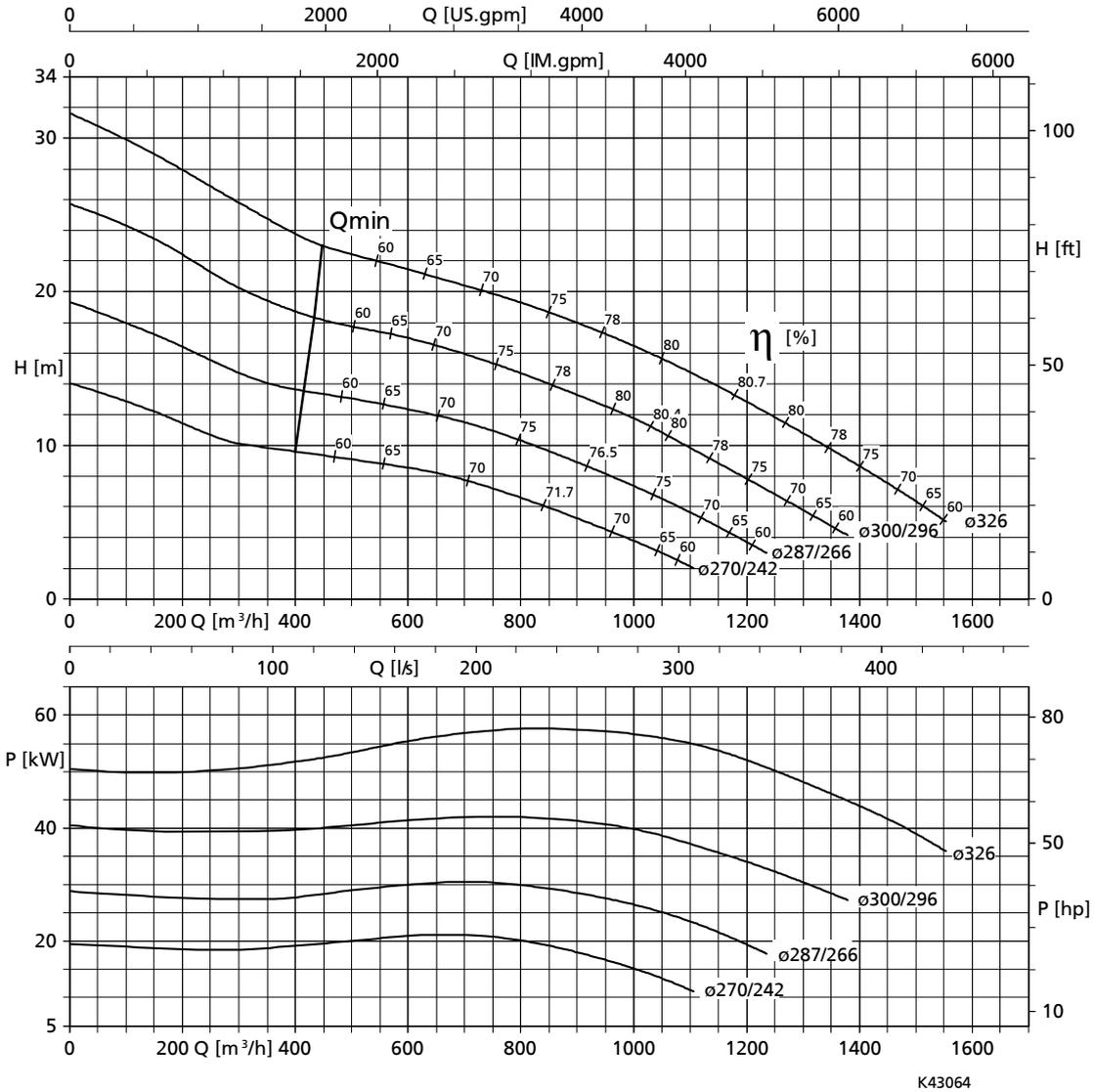


Characteristic curves

n = 1450 rpm

Amacan K 700-330 / 800-330, n = 1450 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



Free passage Ø 70 mm

Rated power  $P_2$  and mass moment of inertia  $J^{20)}$

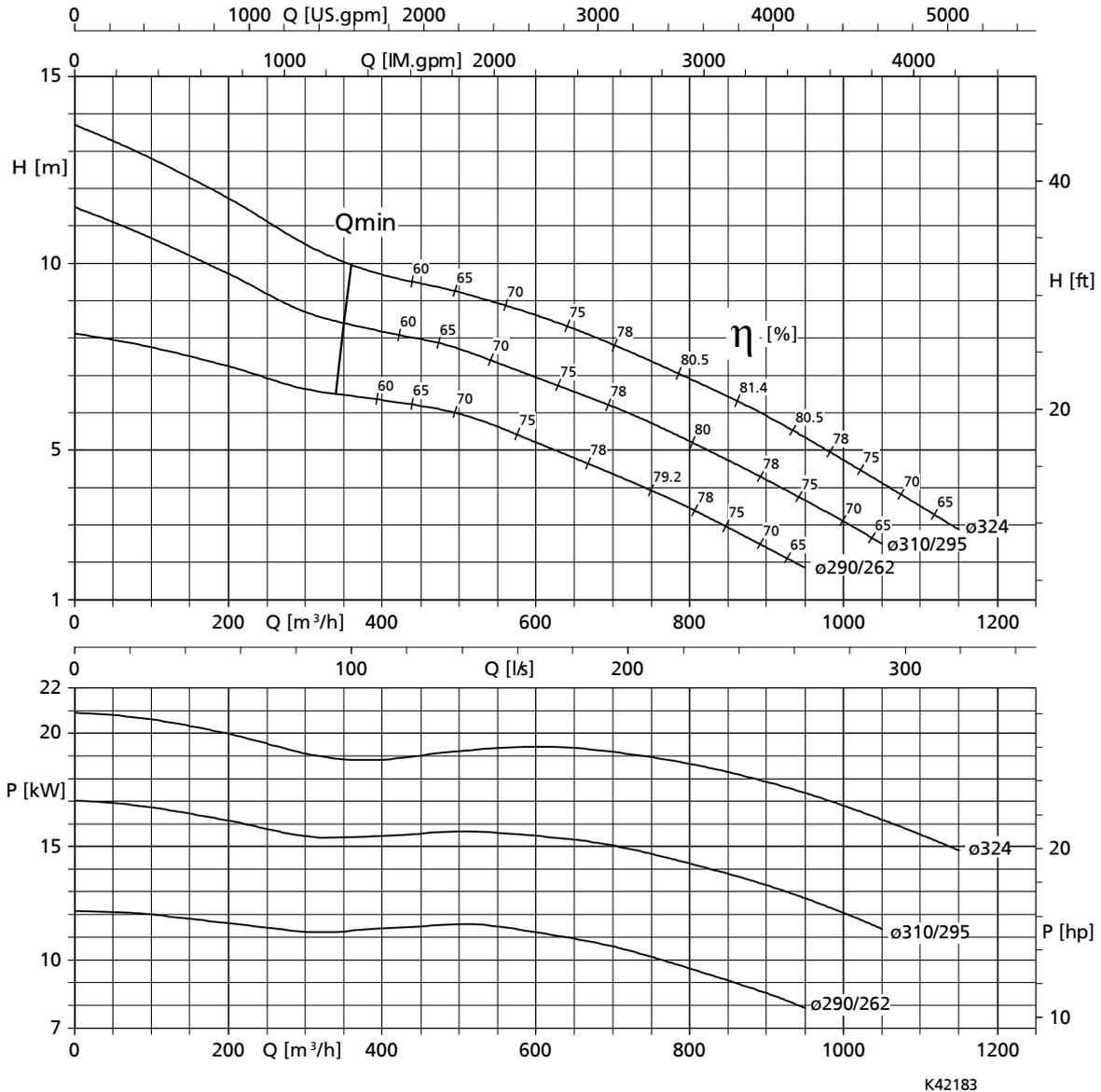
Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
700-330 / 29 4 U / X	27,0	0,46
800-330 / 35 4 U / X	38,0	0,57
800-330 / 50 4 U / X	48,0	0,6
800-330 / 65 4 U / X	62,0	0,65
700-330 / 80 4 UN / XN	80,0	0,81

20) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

n = 960 rpm

**Amacan K 700-324, n = 960 rpm**

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



K42183

Free passage Ø 70 mm

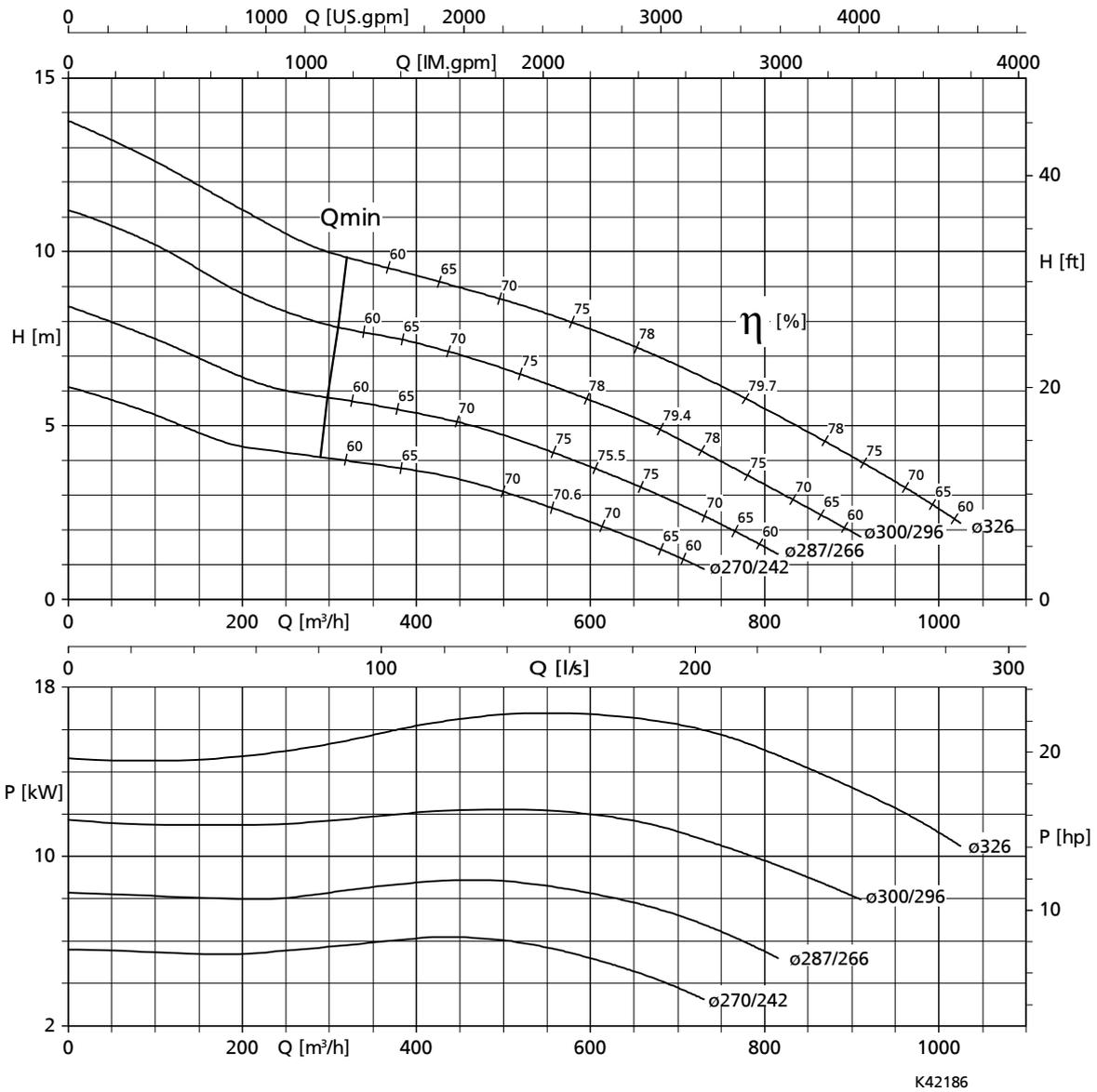
Rated power  $P_2$  and mass moment of inertia  $J^{21)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm²]
700-324 / 20 6 U / X	18,0	0,55
700-324 / 26 6 U / X	24,0	0,58

21) These values are valid for a density = 1 kg/dm³ and a kinematic viscosity of up to 20 mm²/s.

Amacan K 700-330, n = 960 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



Free passage Ø 70 mm

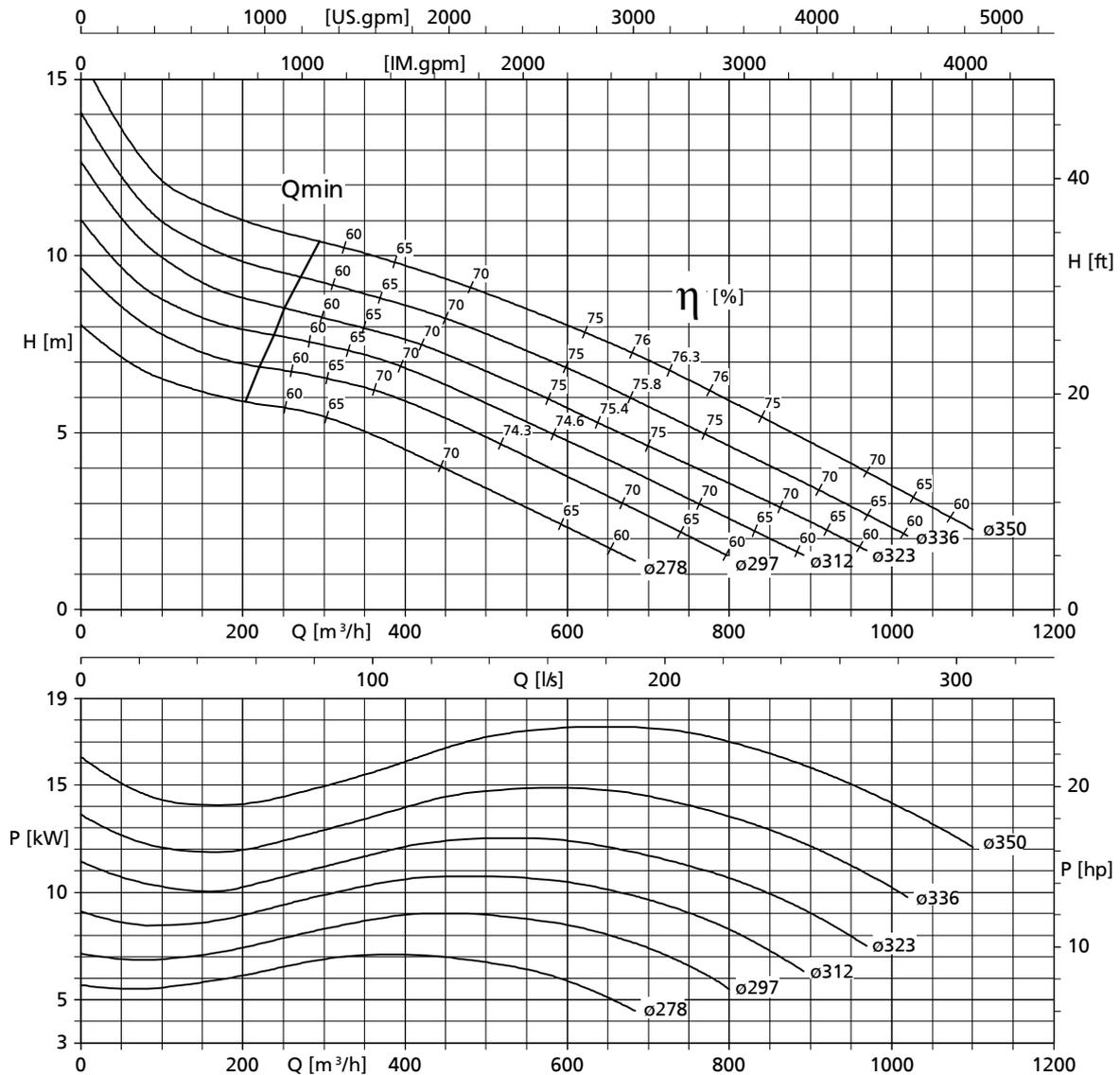
Rated power  $P_2$  and mass moment of inertia  $J^{22)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
700-330 / 20 6 U / X	18,0	0,55
700-330 / 26 6 U / X	24,0	0,58

22) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

Amacan K 700-371, n = 960 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



K42171/1

Free passage Ø 105 mm

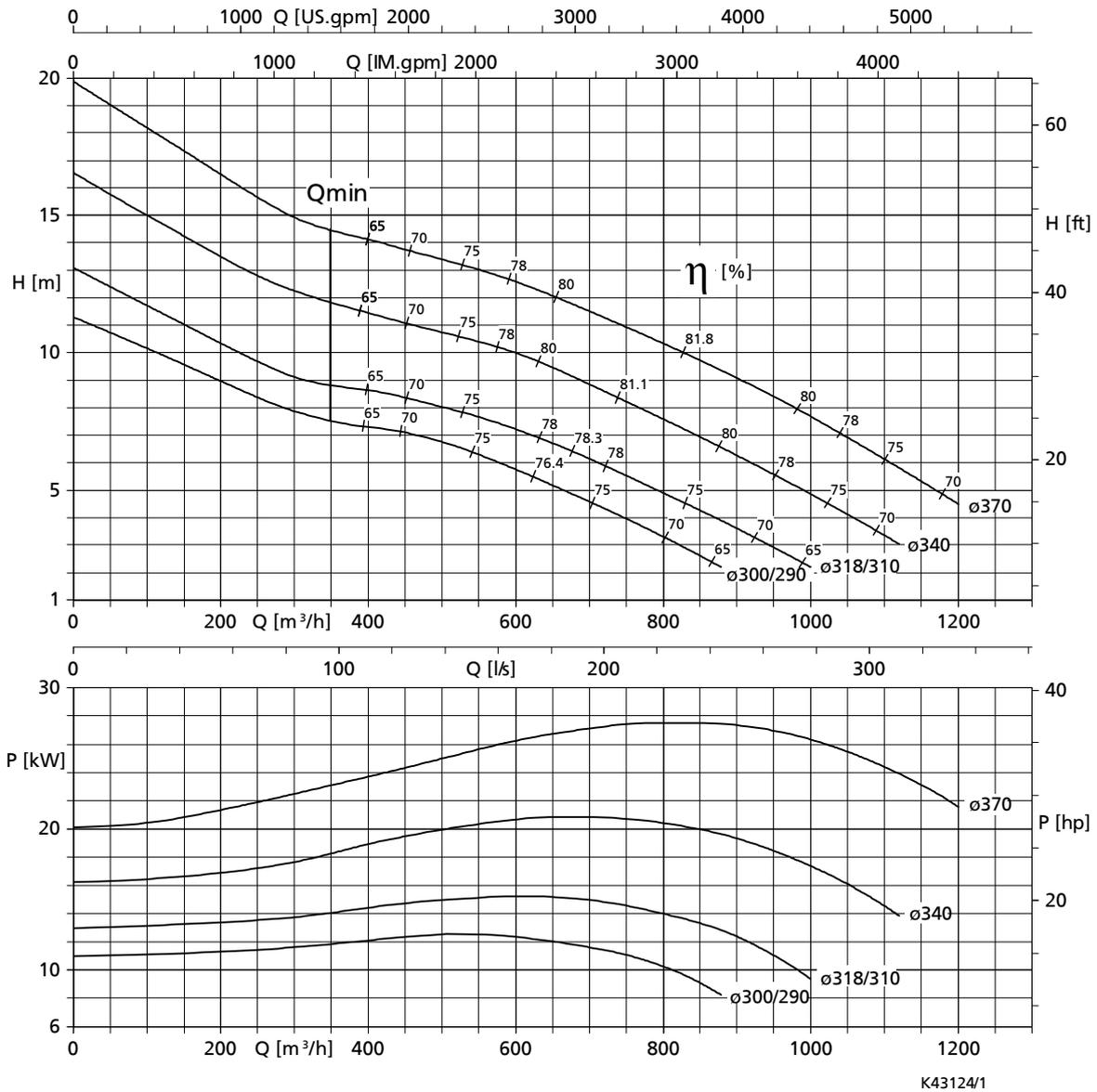
Rated power  $P_2$  and mass moment of inertia  $J^{23)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
700-371 / 20 6 U / X	18,0	0,65
700-371 / 26 6 U / X	24,0	0,68

23) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

Amacan K 800-370, n = 960 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



K43124/1

Free passage Ø 85 mm

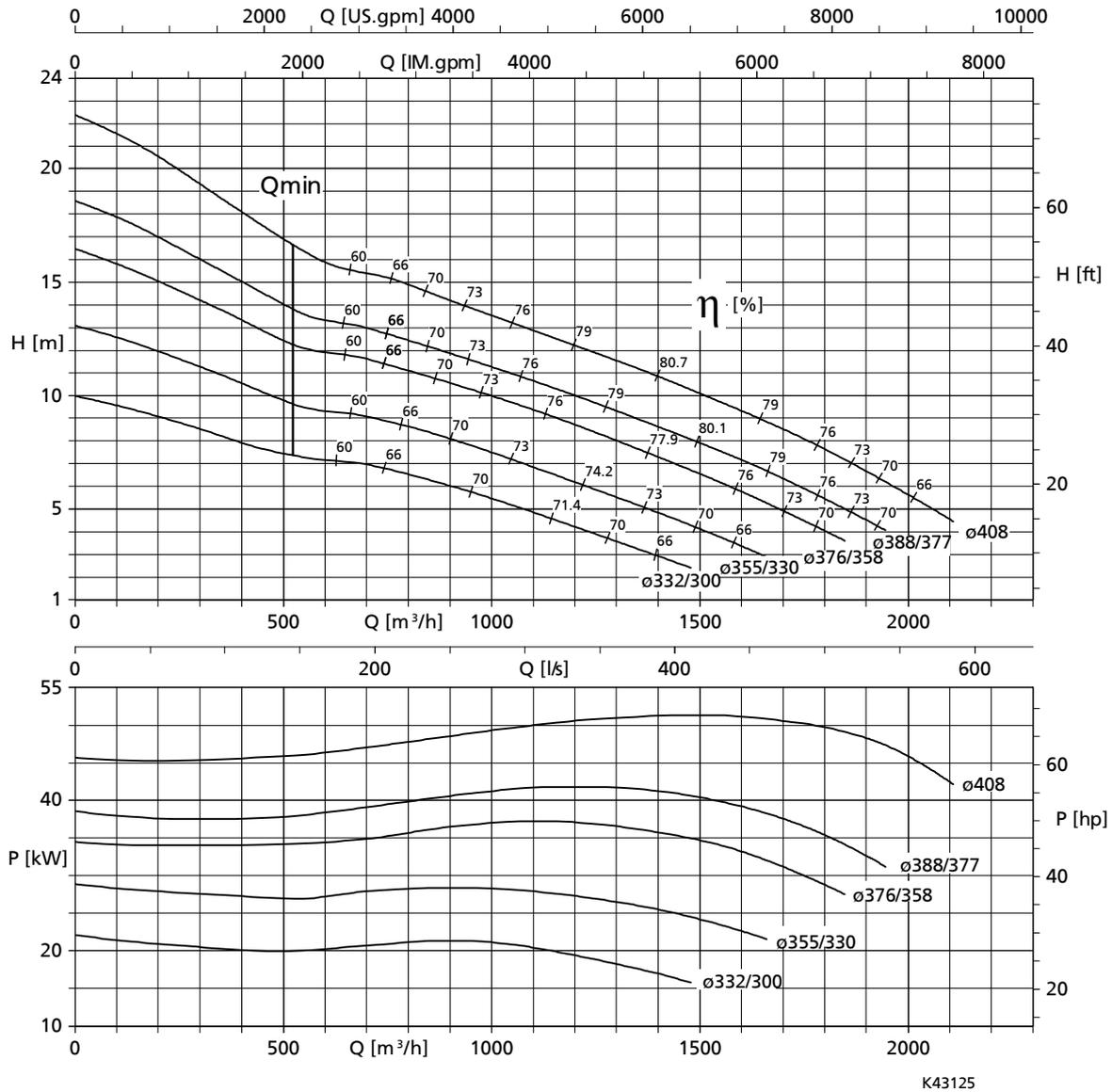
Rated power  $P_2$  and mass moment of inertia  $J^{24)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
800-370 / 20 6 U / X	18,0	0,6
800-370 / 26 6 U / X	24,0	0,63
800-370 / 32 6 U / X	30,0	0,84
800-370 / 40 6 U / X	40,0	0,92

24) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

Amacan K 800-400, n = 960 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



Free passage Ø 100 mm

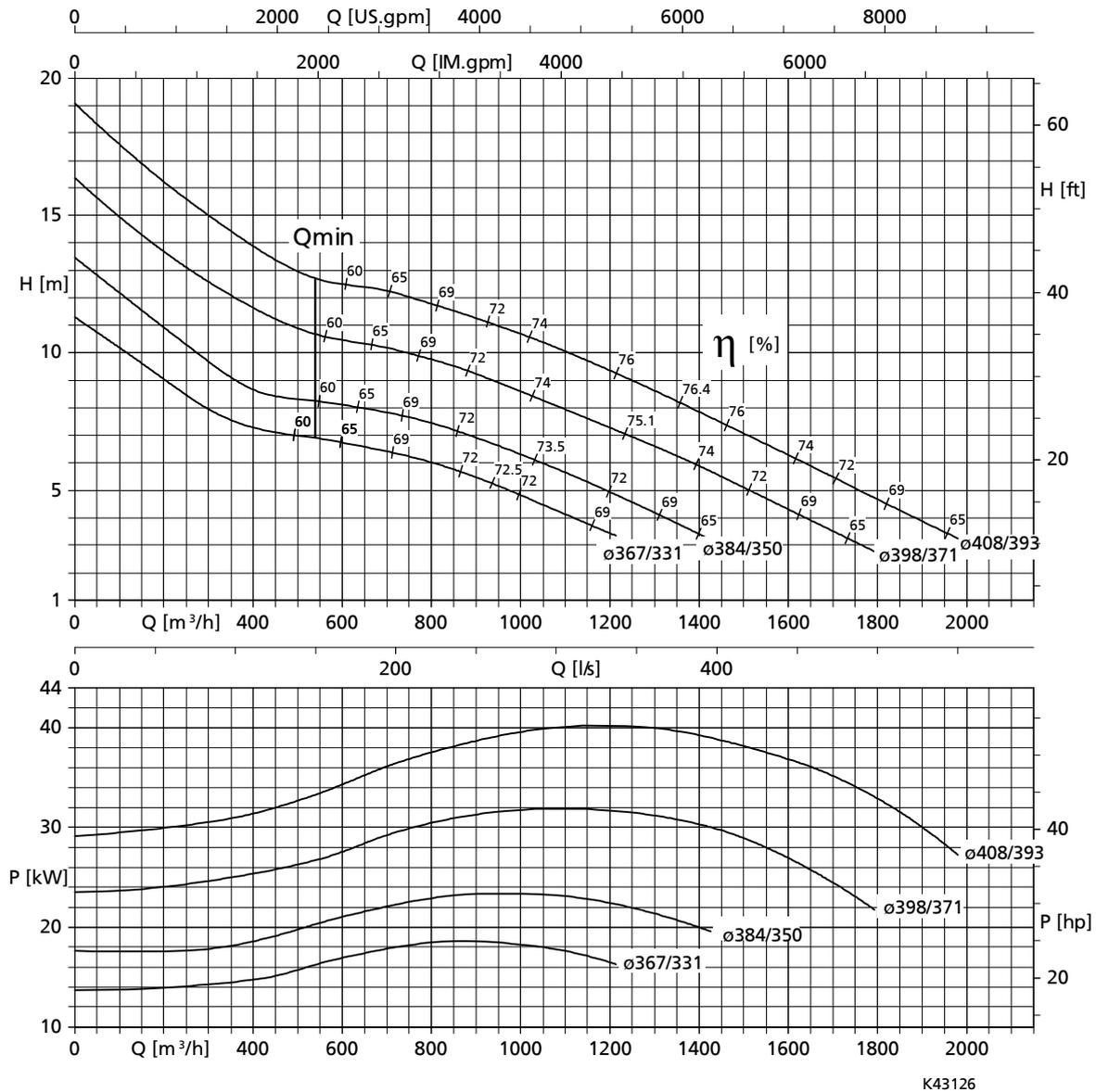
Rated power  $P_2$  and mass moment of inertia  $J^{25)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
800-400 / 26 6 U / X	24,0	0,88
800-400 / 32 6 U / X	30,0	1,09
800-400 / 40 6 U / X	40,0	1,17
800-400 / 50 6 U / X	48,0	1,26
800-400 / 60 6 UN / XN	60,0	1,41

25) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

Amacan K 800-401, n = 960 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



K43126

Free passage  $\varnothing$  135 mm

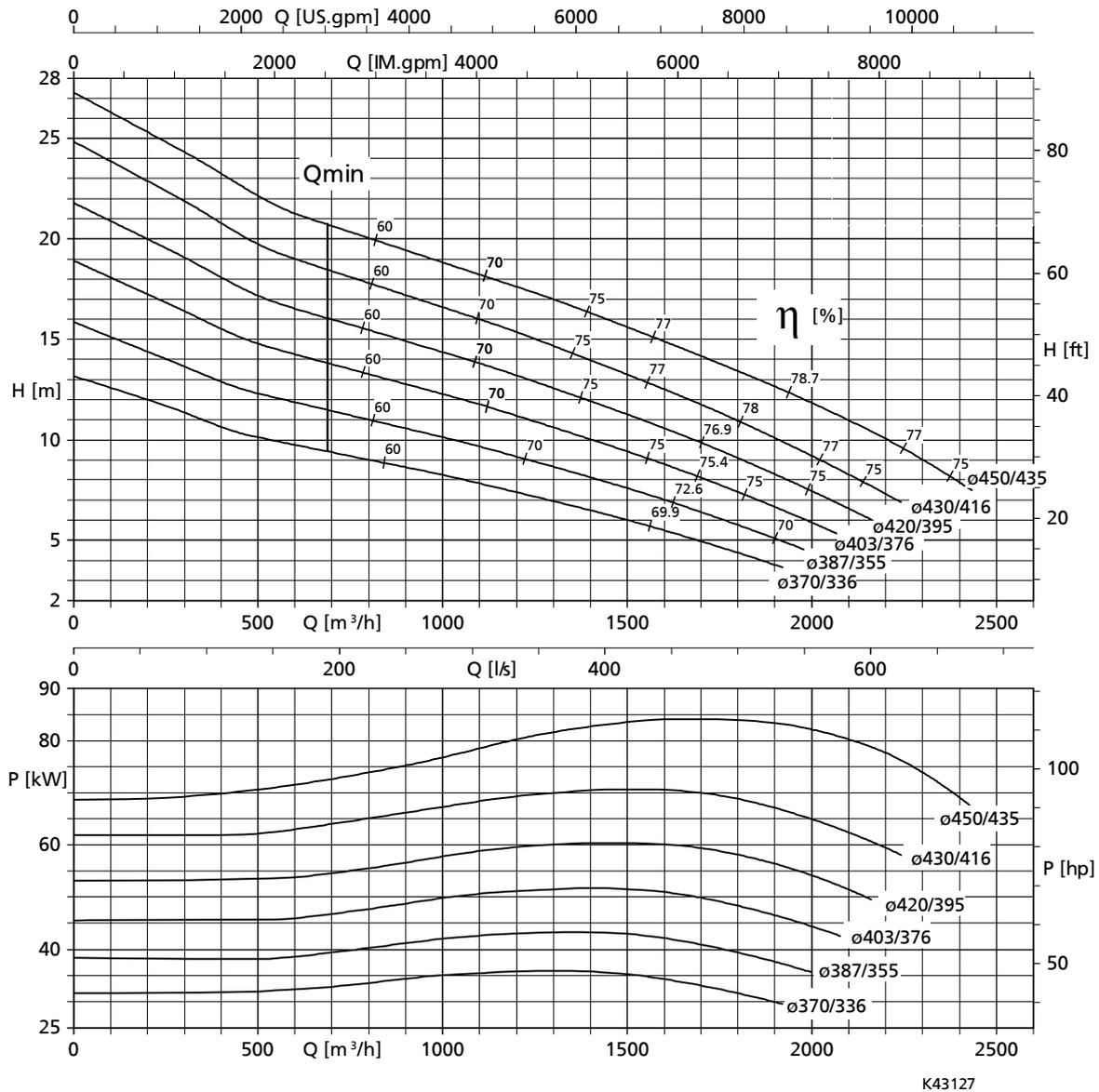
Rated power  $P_2$  and mass moment of inertia  $J^{26)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
800-401 / 26 6 U / X	24,0	0,88
800-401 / 32 6 U / X	30,0	1,09
800-401 / 40 6 U / X	40,0	1,17
800-401 / 50 6 U / X	48,0	1,26

26) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

**Amacan K 1000-420, n = 960 rpm**

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



Free passage Ø 100 mm

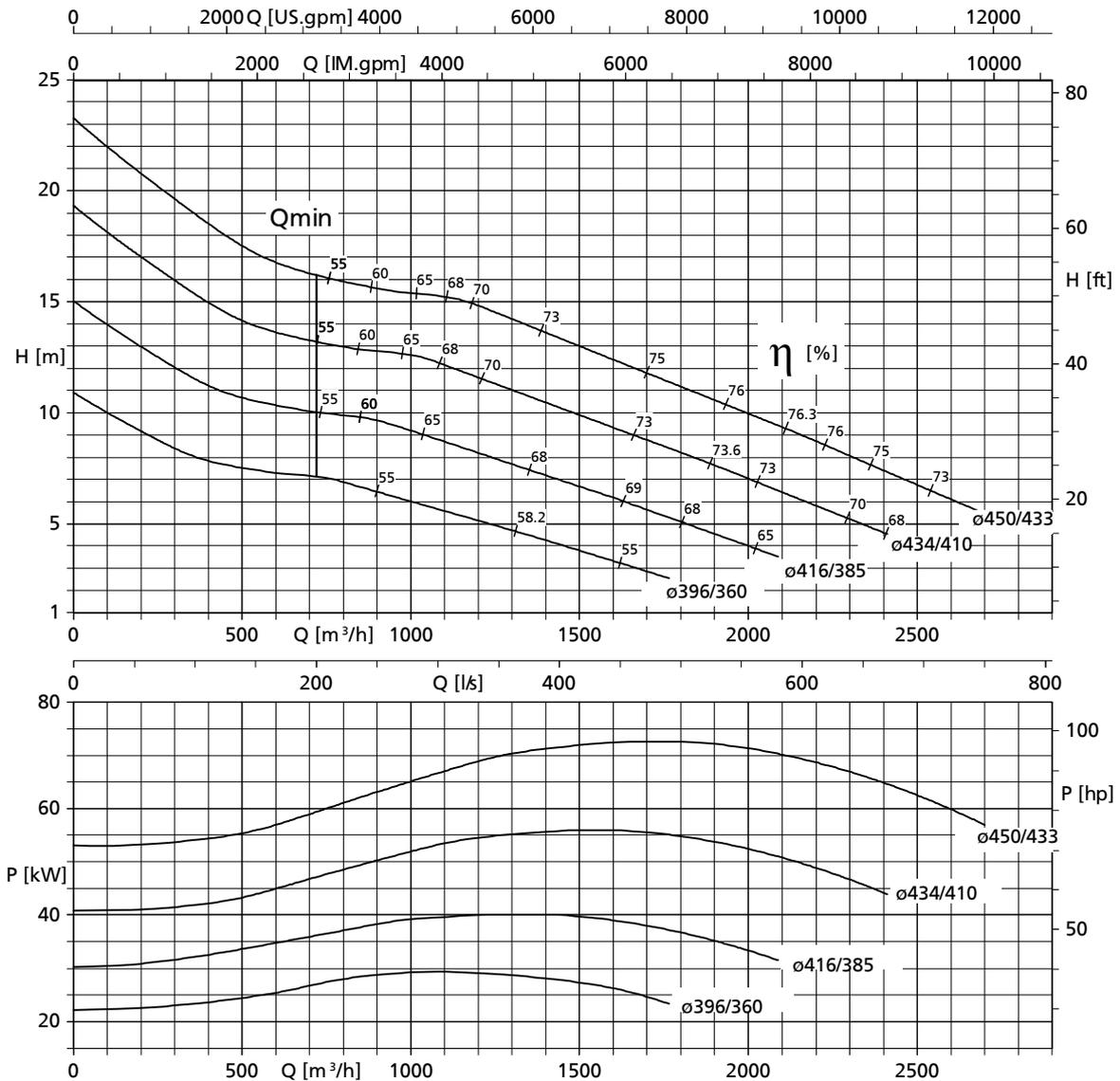
Rated power  $P_2$  and mass moment of inertia  $J^{27)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
1000-420 / 60 6 UN / XN	60,0	1,88
1000-420 / 80 6 UN / XN	80,0	2,02
1000-420 / 100 6 UN / XN	100,0	2,16

27) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

**Amacan K 1000-421, n = 960 rpm**

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



K43128

Free passage                      Ø 140 mm

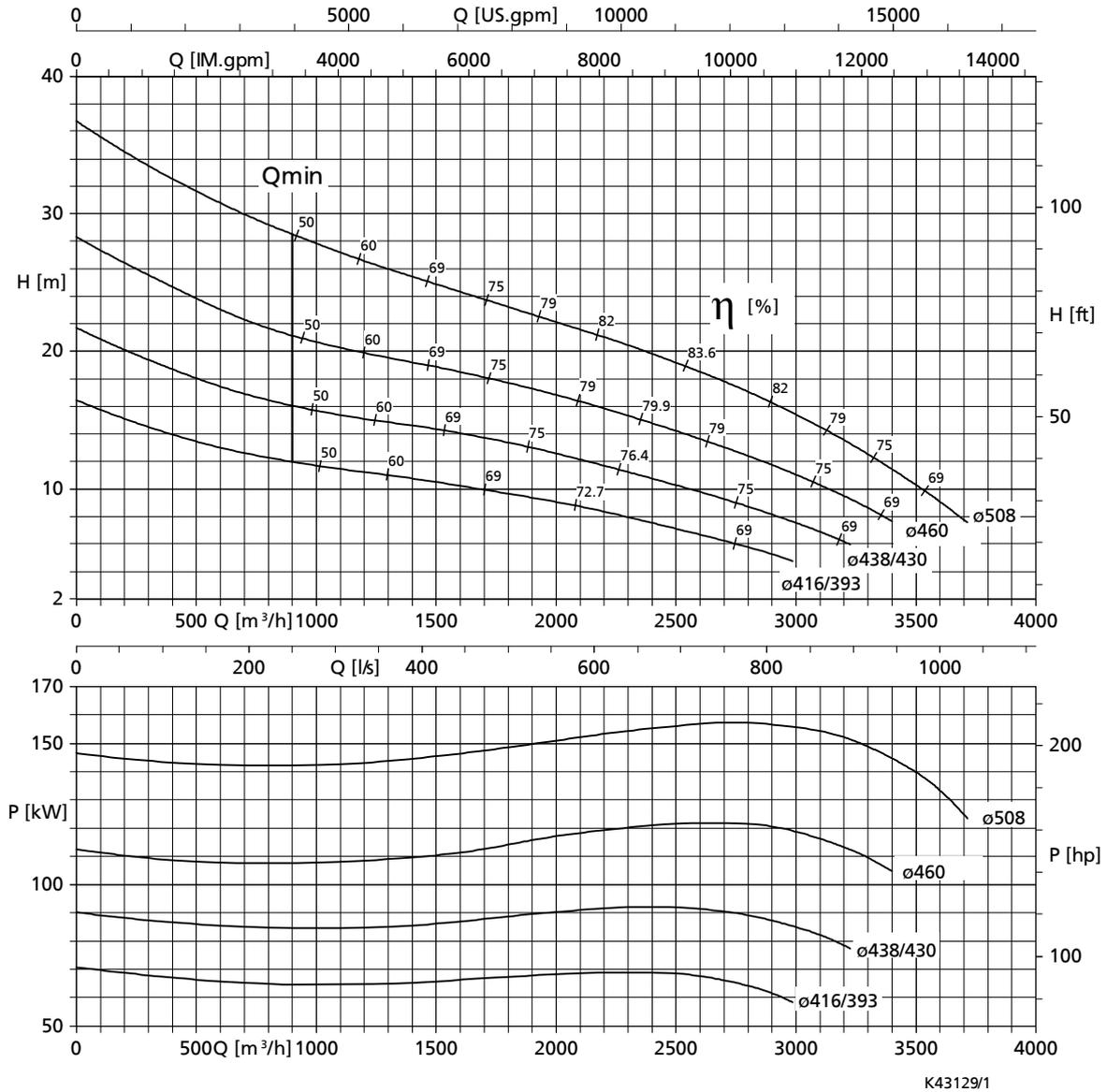
Rated power  $P_2$  and mass moment of inertia  $J^{28)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
1000-421 / 60 6 UN / XN	60,0	1,89
1000-421 / 80 6 UN / XN	80,0	2,03
1000-421 / 100 6 UN / XN	100,0	2,17

28) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

Amacan K 1000-500, n = 960 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



Free passage Ø 110 mm

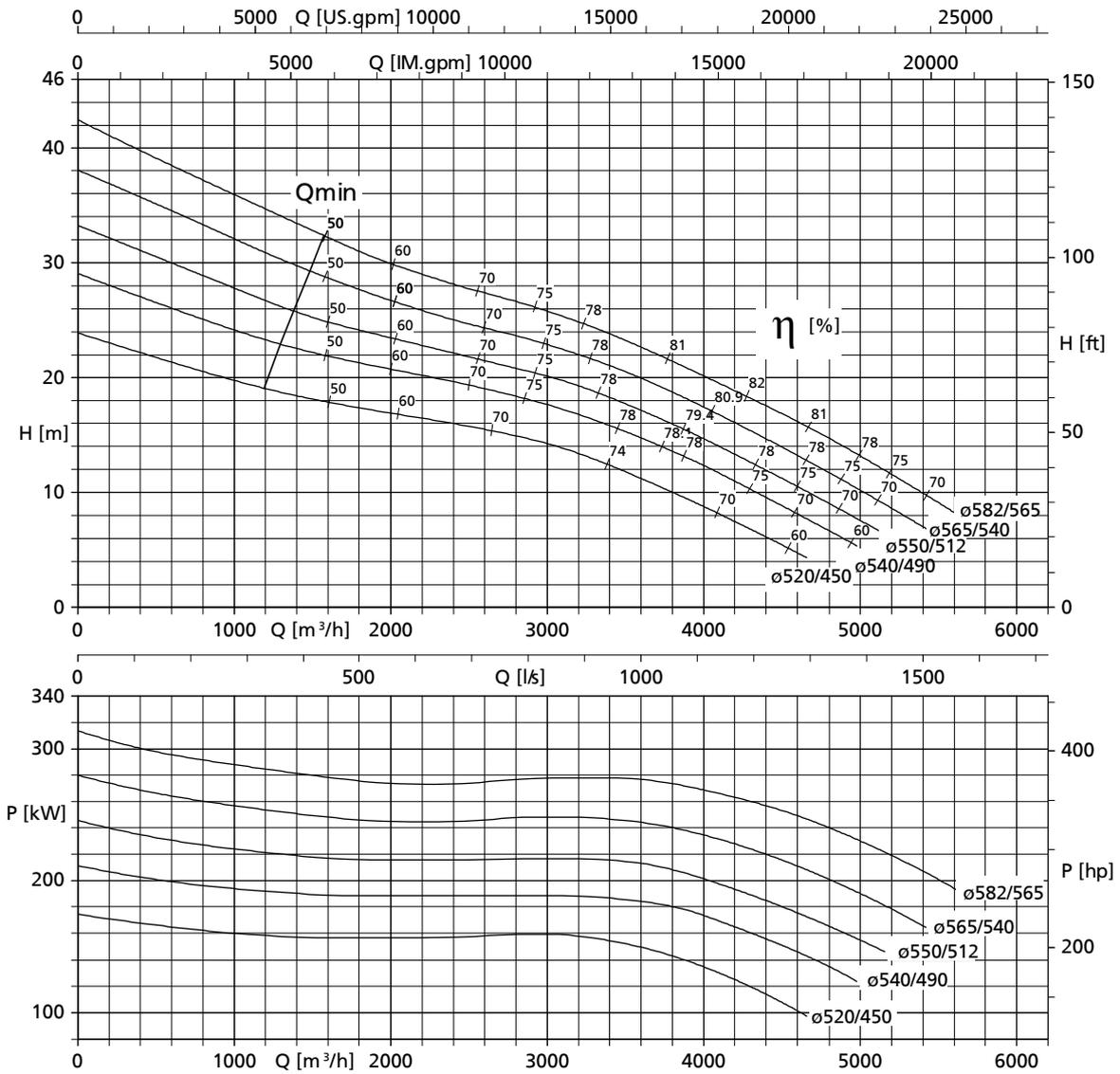
Rated power  $P_2$  and mass moment of inertia  $J^{29)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
1000-500 / 80 6 UN / XN	80,0	3,92
1000-500 / 100 6 UN / XN	100,0	4,06
1000-500 / 120 6 UN / XN	120,0	5,01
1000-500 / 140 6 UN / XN	140,0	5,37
1000-500 / 165 6 UN / XN	165,0	5,67
1000-500 / 190 6 UN / XN	190,0	10,4

29) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

**Amacan K 1200-630, n = 960 rpm**

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



K42190

Free passage  $\varnothing$  133 mm

Rated power  $P_2$  and mass moment of inertia  $J^{30)}$

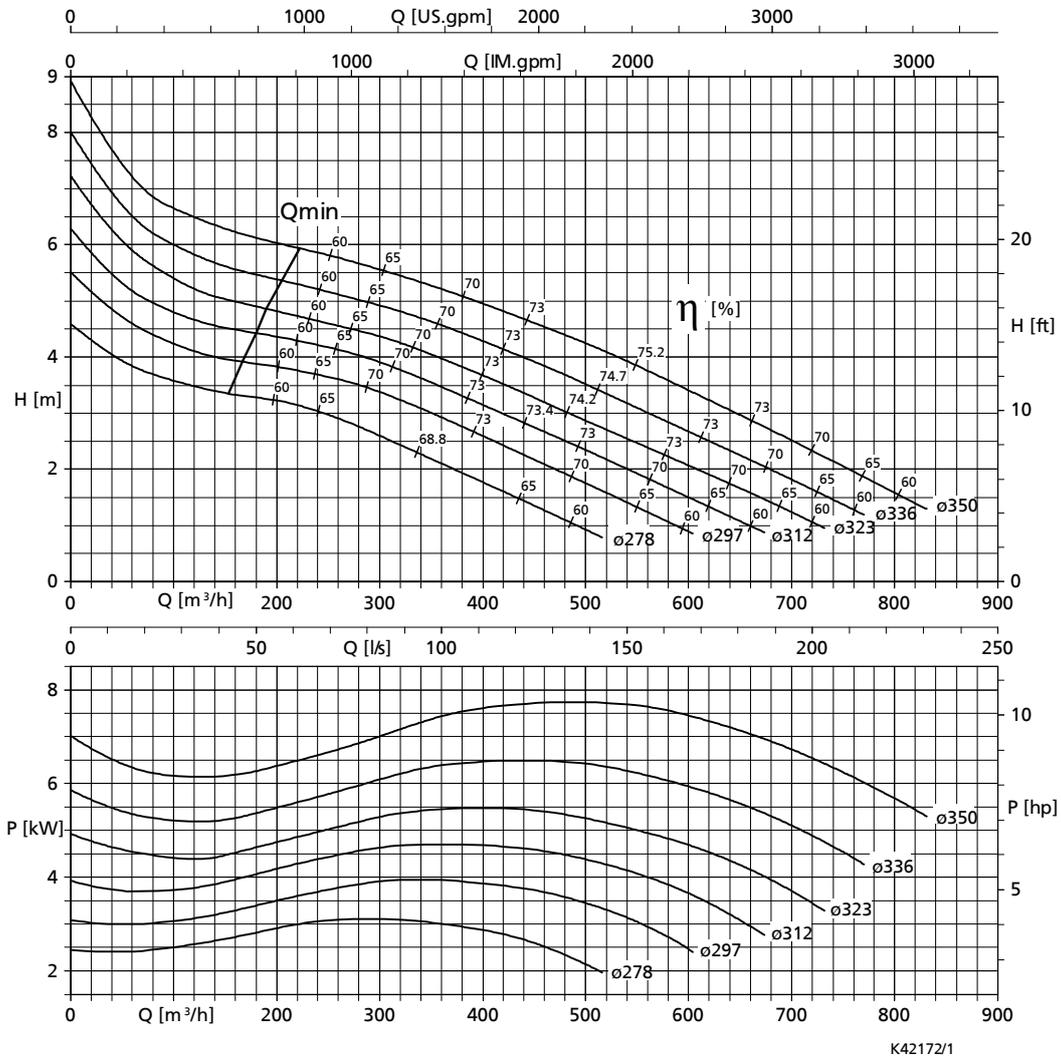
Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
1200-630 / 190 6 UN / XN	190,0	12,5
1200-630 / 225 6 UN / XN	225,0	13,8
1200-630 / 260 6 UN / XN	260,0	15,1
1200-630 / 320 6 UN / XN	320,0	19,5

<sup>30)</sup> These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

n = 725 rpm

**Amacan K 700-371, n = 725 rpm**

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



Free passage                    Ø 105 mm

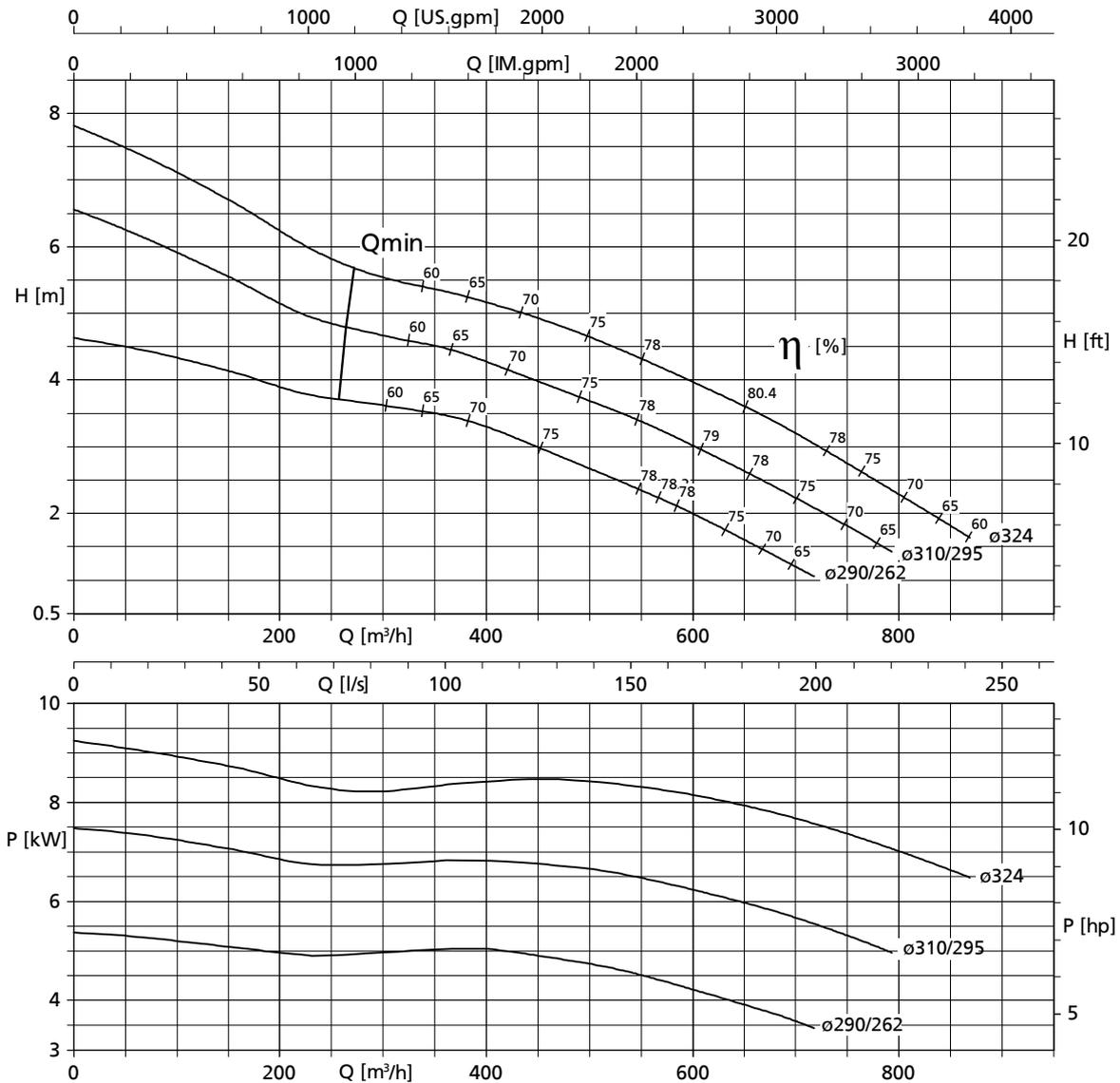
Rated power  $P_2$  and mass moment of inertia  $J^{31)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
700-371 / 10 8 U / X	10,0	0,64

31) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

Amacan K 700-324, n = 725 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



K42184

Free passage Ø 70 mm

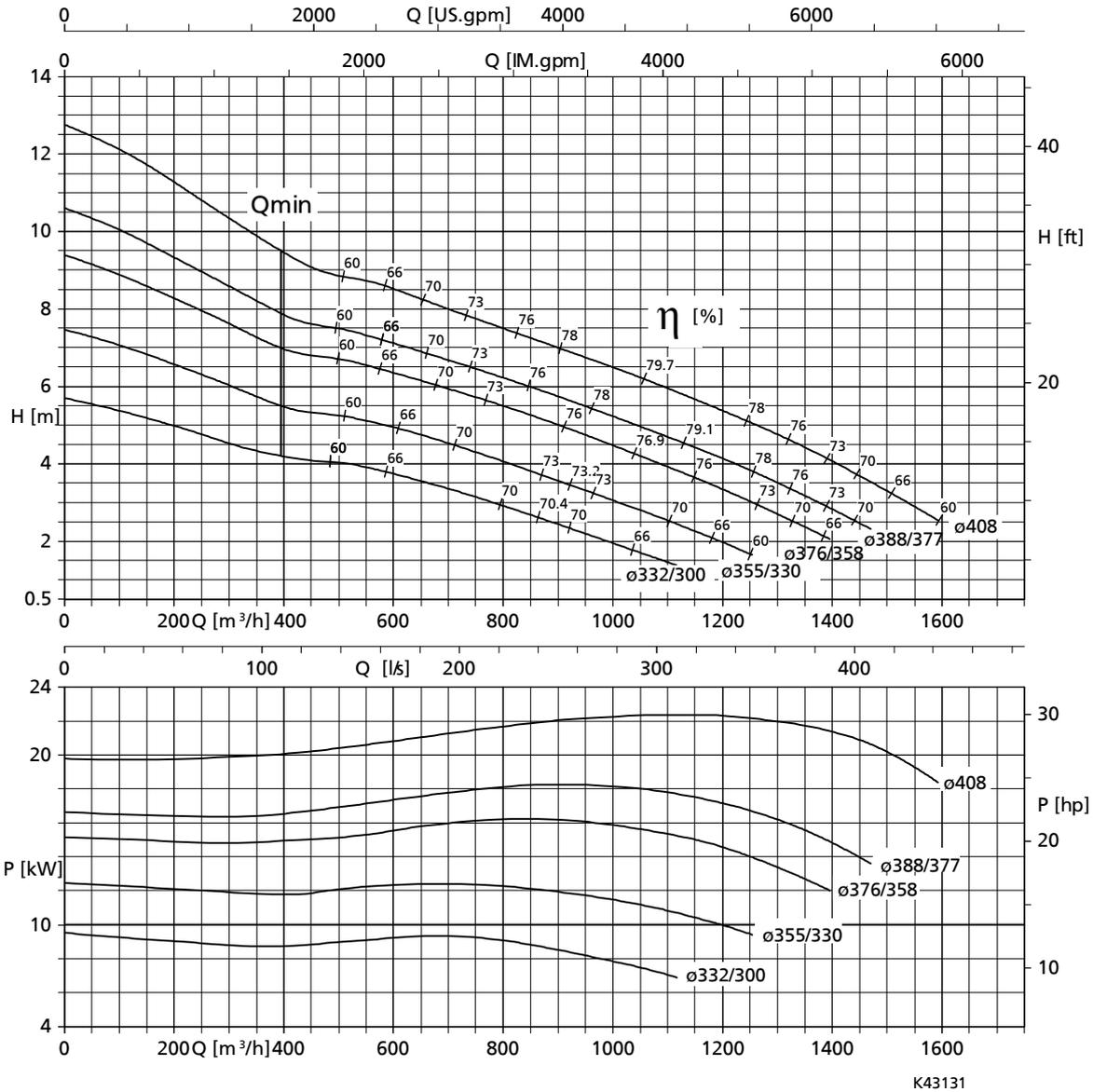
Rated power  $P_2$  and mass moment of inertia  $J^{32)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
700-324 / 10 8 U / X	10,0	0,54
700-324 / 17 8 U / X	16,0	0,57

32) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

Amacan K 800-400, n = 725 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



Free passage  $\varnothing$  100 mm

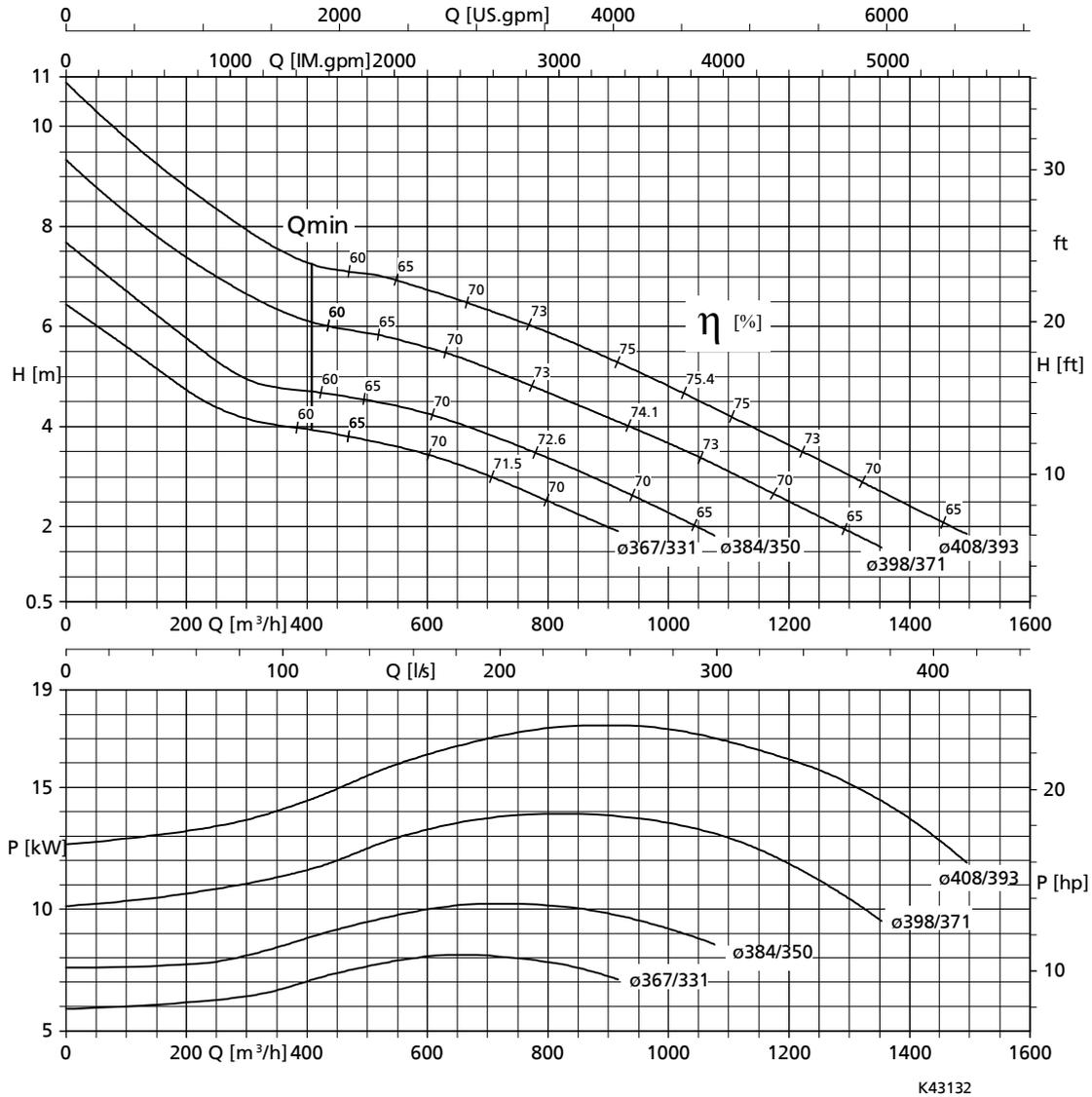
Rated power  $P_2$  and mass moment of inertia  $J^{33)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
800-400 / 10 8 U / X	10,0	0,84
800-400 / 17 8 U / X	16,0	0,87
800-400 / 21 8 U / X	20,0	0,93
800-400 / 26 8 U / X	28,0	1,12

33) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

Amacan K 800-401, n = 725 rpm

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



Free passage  $\varnothing$  135 mm

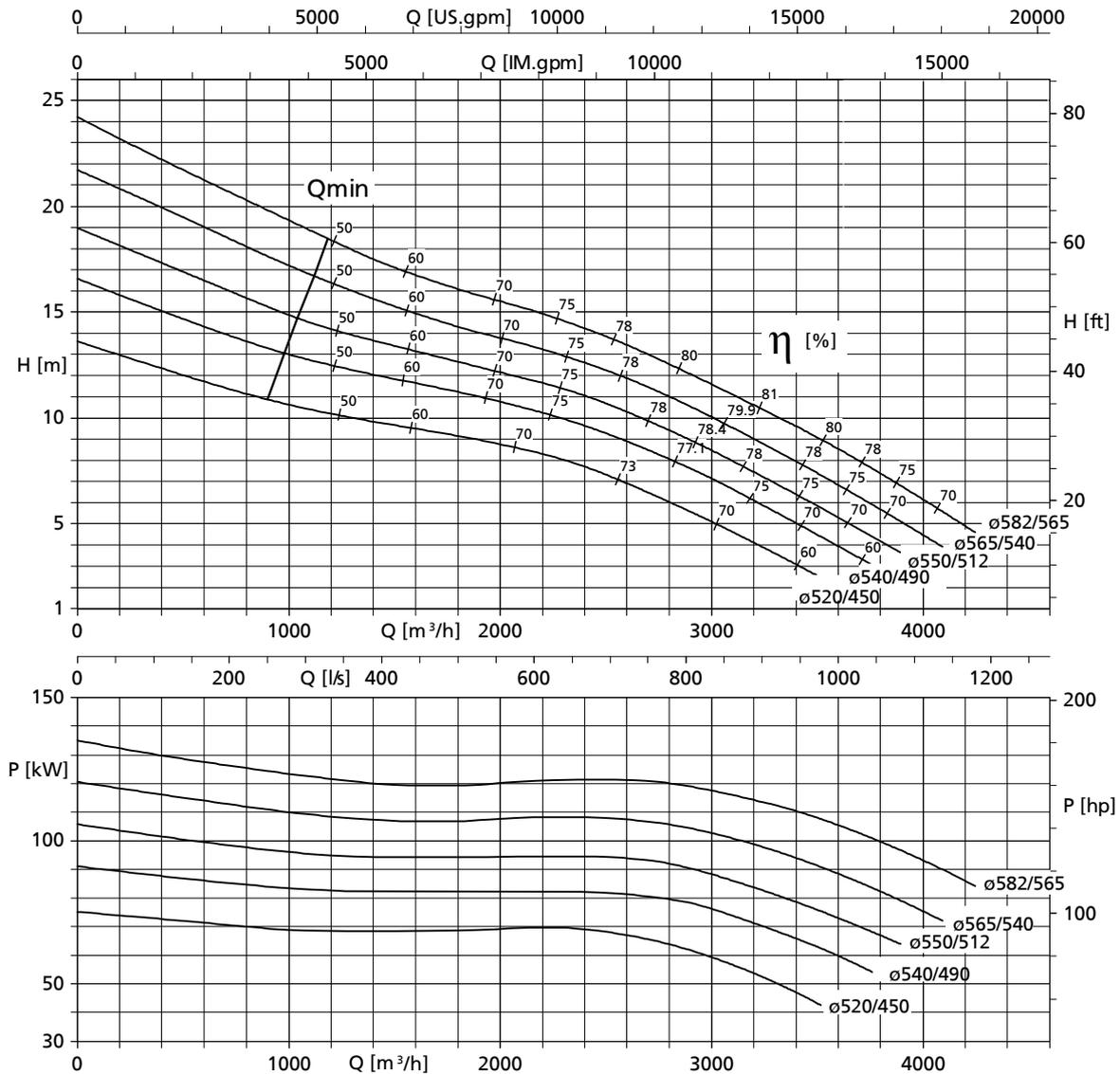
Rated power  $P_2$  and mass moment of inertia  $J^{34)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
800-401 / 10 8 U / X	10,0	0,84
800-401 / 17 8 U / X	16,0	0,87
800-401 / 21 8 U / X	20,0	0,93
800-401 / 26 8 U / X	28,0	1,12

34) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

**Amacan K 1200-630, n = 725 rpm**

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



K42191

Free passage                    Ø 133 mm

Rated power  $P_2$  and mass moment of inertia  $J^{35)}$

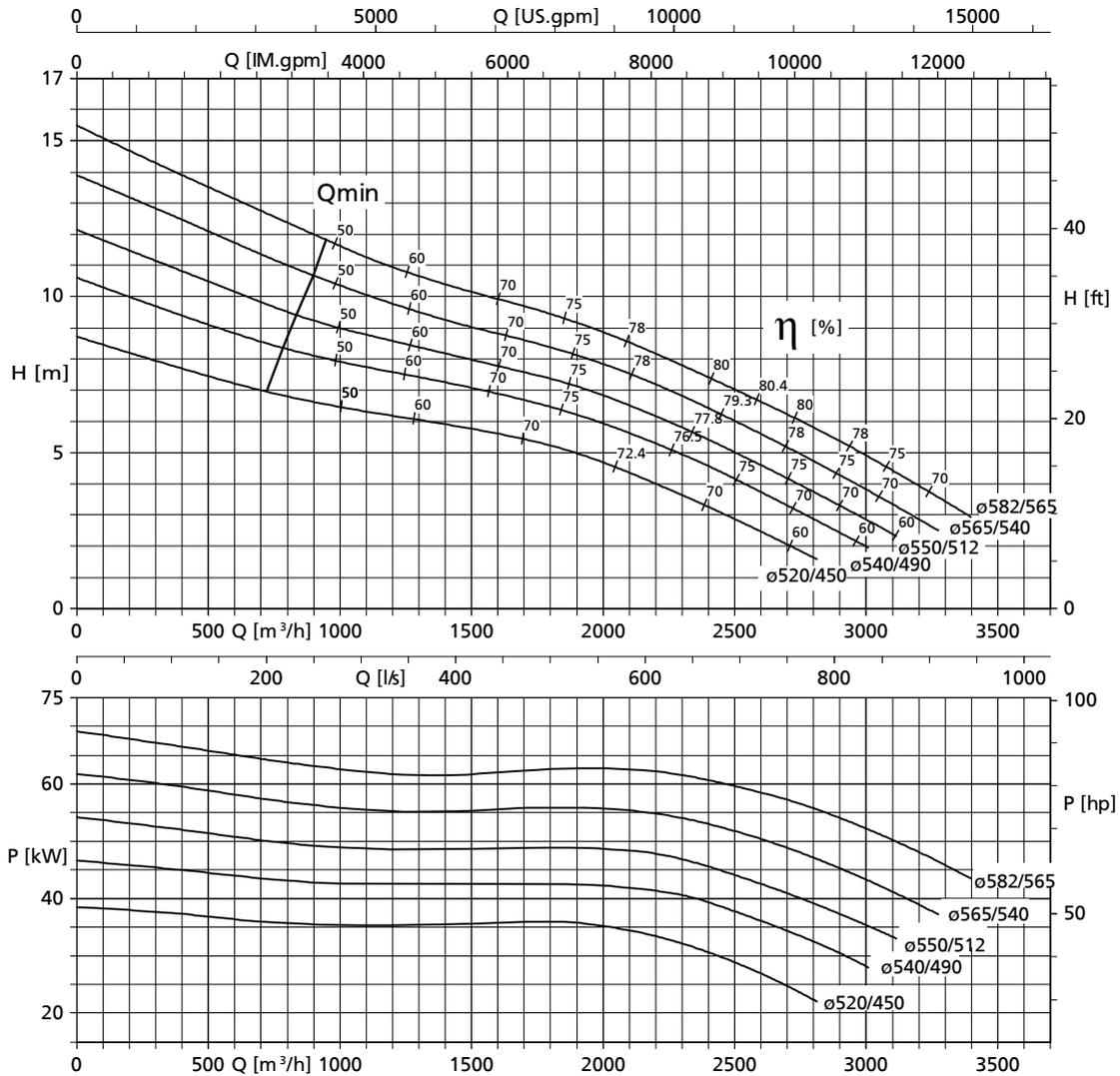
Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
1200-630 / 90 8 UN / XN	90,0	7,2
1200-630 / 110 8 UN / XN	110,0	7,47
1200-630 / 130 8 UN / XN	130,0	7,77
1200-630 / 150 8 UN / XN	150,0	12,5

35) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

n = 580 rpm

**Amacan K 1200-630, n = 580 rpm**

Characteristic curves in acc. with ISO 9906 / 2 / 2B. The characteristic curves correspond to the effective motor speed.



K42192

Free passage  $\varnothing$  133 mm

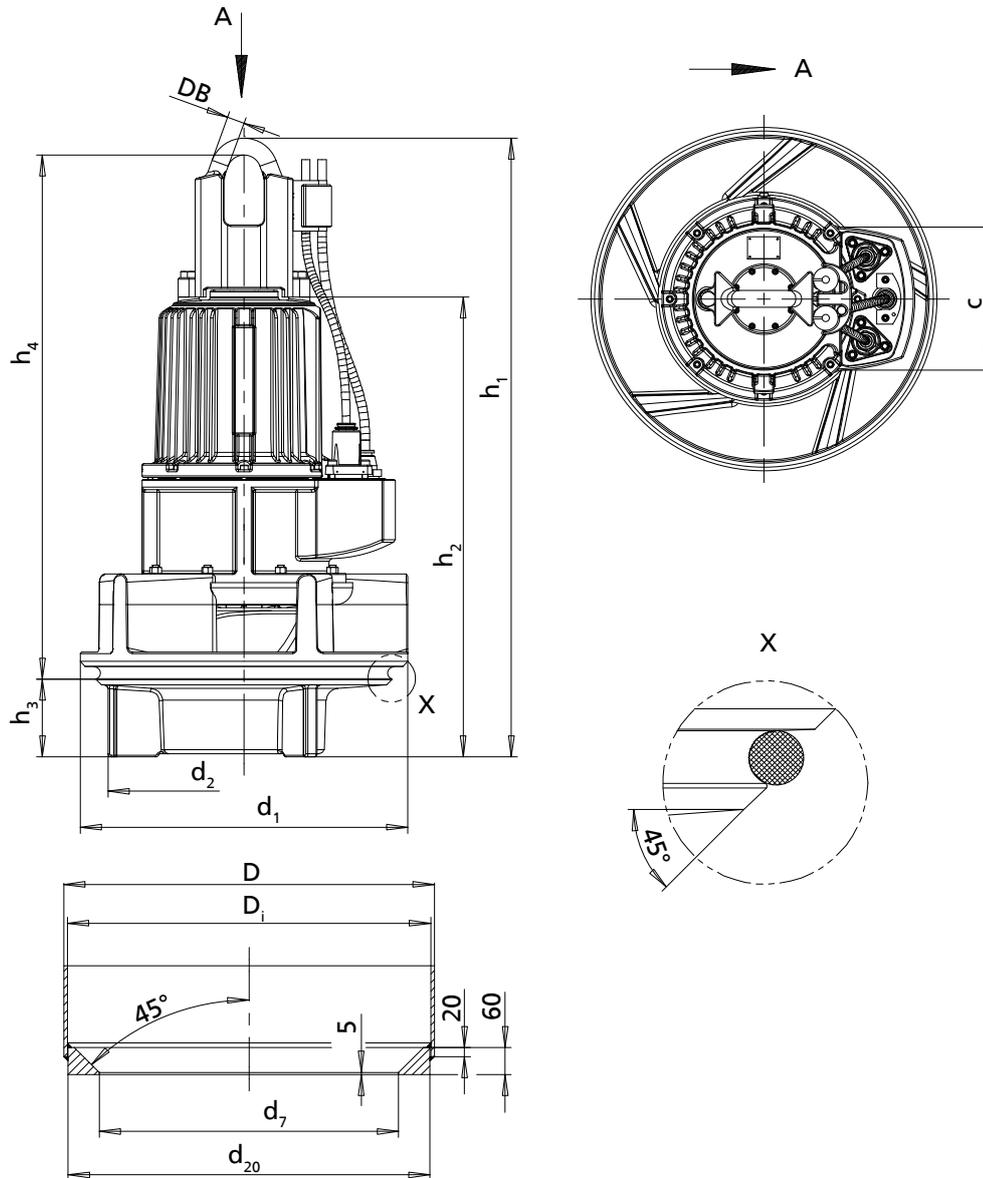
Rated power  $P_2$  and mass moment of inertia  $J^{36)}$

Size	Rated power $P_2$ [kW]	Mass moment of inertia $J$ [kgm <sup>2</sup> ]
1200-630 / 40 10 UN / XN	40,0	6,97
1200-630 / 60 10 UN / XN	60,0	7,15
1200-630 / 75 10 UN / XN	75,0	7,42

36) These values are valid for a density = 1 kg/dm<sup>3</sup> and a kinematic viscosity of up to 20 mm<sup>2</sup>/s.

Dimensions

UG/XG motors (700-324 to 800-401)



Dimensions of the pump set and seat ring

Dimensions [mm]

Size	Motor size	Num-ber of poles	Pump								Seat ring				
			$h_1$	$h_2$	$h_3$	$h_4$	DB	$d_1$	$d_2$	c	[kg] <sup>37)</sup>	$d_7$	$d_{20}$	$D_i$	$D^{38)}$
700-324	20	6	1185	985	151	998	35	670	556	205	411	570	691	695	711
700-324	26	6	1160	960	151	973	35	670	556	205	433	570	691	695	711
700-324	10	8	1185	985	151	998	35	670	556	205	394	570	691	695	711
700-324	17	8	1185	985	151	998	35	670	556	205	410	570	691	695	711
700-330	29	4	1160	960	151	973	35	670	556	205	442	570	691	695	711
700-330	20	6	1185	985	151	998	35	670	556	205	418	570	691	695	711
700-330	26	6	1160	960	151	973	35	670	556	205	440	570	691	695	711

<sup>37)</sup> Pump set with 10-metre power cable (400 V) and 5-metre rope

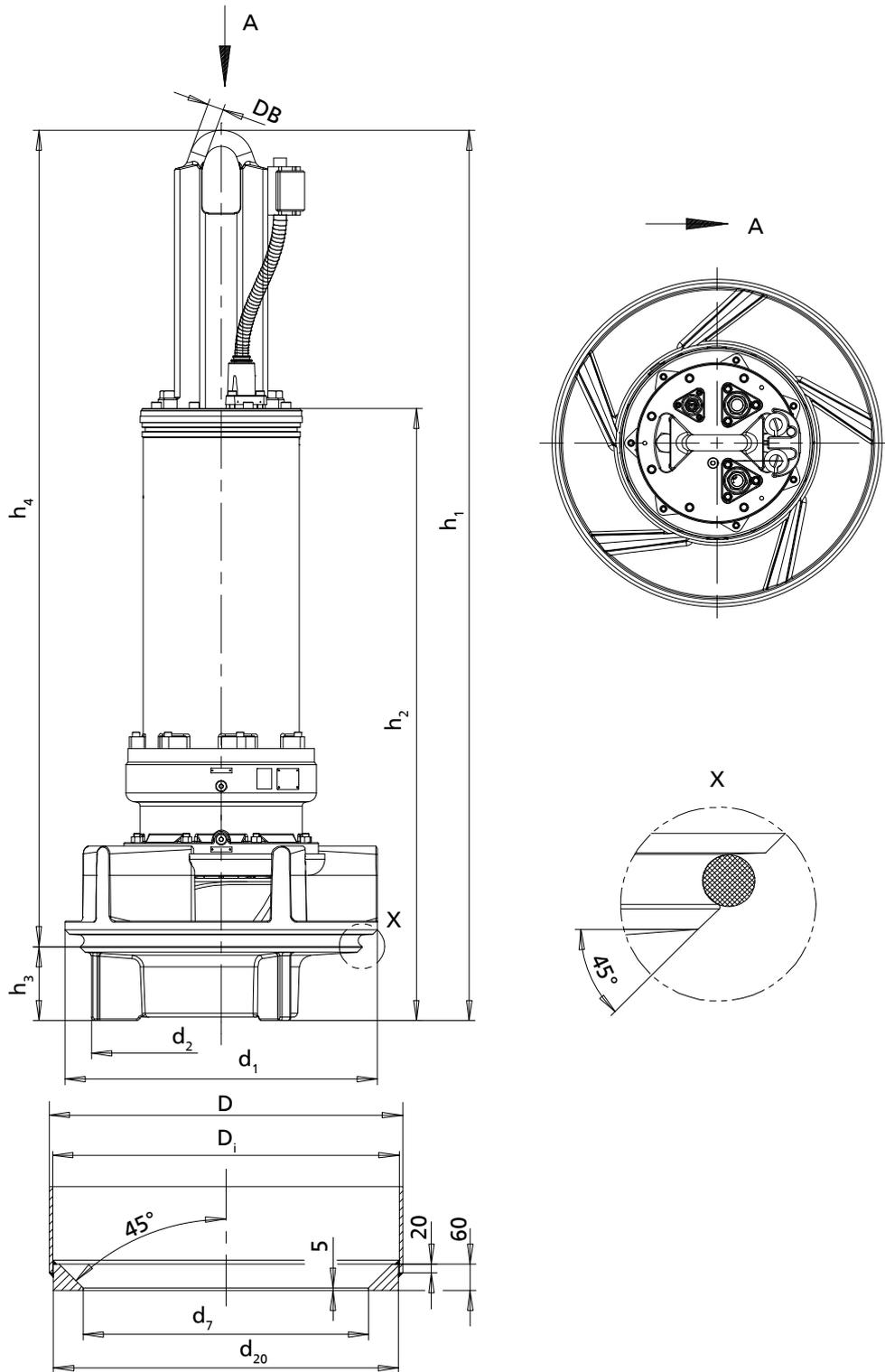
<sup>38)</sup> D for recommended wall thickness of the discharge tube (see dimension s1 in the General Arrangement Drawings)

Size	Motor size	Num-ber of poles	Pump									Seat ring			
			h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	DB	d <sub>1</sub>	d <sub>2</sub>	c	[kg] <sup>37)</sup>	d <sub>7</sub>	d <sub>20</sub>	D <sub>1</sub>	D <sup>38)</sup>
700-371	20	6	1185	985	151	998	35	670	556	205	414	570	691	695	711
700-371	26	6	1160	960	151	973	35	670	556	205	436	570	691	695	711
700-371	10	8	1185	985	151	998	35	670	556	205	397	570	691	695	711
800-330	35	4	1410	1035	151	1219	40	670	556	340	589	570	793	797	813
800-330	50	4	1410	1035	151	1219	40	670	556	340	613	570	793	797	813
800-330	65	4	1410	1035	151	1219	40	670	556	340	645	570	793	797	813
800-370	20	6	1145	945	148	960	35	760	640	205	444	656	793	797	813
800-370	26	6	1120	920	148	935	35	760	640	205	466	656	793	797	813
800-370	32	6	1370	995	148	1181	40	760	640	340	608	656	793	797	813
800-370	40	6	1370	995	148	1181	40	760	640	340	634	656	793	797	813
800-400	26	6	1215	1015	183	995	35	770	640	205	574	656	793	797	813
800-400	32	6	1465	1090	183	1241	40	770	640	340	716	656	793	797	813
800-400	40	6	1465	1090	183	1241	40	770	640	340	742	656	793	797	813
800-400	50	6	1465	1090	183	1241	40	770	640	340	771	656	793	797	813
800-400	10	8	1240	1040	183	1020	35	770	640	205	535	656	793	797	813
800-400	17	8	1240	1040	183	1020	35	770	640	205	551	656	793	797	813
800-400	21	8	1215	1015	183	995	35	770	640	205	573	656	793	797	813
800-400	26	8	1465	1090	183	1241	40	770	640	340	717	656	793	797	813
800-401	26	6	1215	1015	183	995	35	770	640	205	557	656	793	797	813
800-401	32	6	1465	1090	183	1241	40	770	640	340	699	656	793	797	813
800-401	40	6	1465	1090	183	1241	40	770	640	340	725	656	793	797	813
800-401	50	6	1465	1090	183	1241	40	770	640	340	754	656	793	797	813
800-401	10	8	1240	1040	183	1020	35	770	640	205	518	656	793	797	813
800-401	17	8	1240	1040	183	1020	35	770	640	205	534	656	793	797	813
800-401	21	8	1215	1015	183	995	35	770	640	205	556	656	793	797	813
800-401	26	8	1465	1090	183	1241	40	770	640	340	700	656	793	797	813

<sup>37)</sup> Pump set with 10-metre power cable (400 V) and 5-metre rope

<sup>38)</sup> D for recommended wall thickness of the discharge tube (see dimension s1 in the General Arrangement Drawings)

UNG/XNG motors (700-330, 800-400, 1000-420 to 1200-630)



Dimensions of the pump set and seat ring

Dimensions [mm]

Size	Motor size	Number of poles	Pump								Seat ring			
			h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>	DB	d <sub>1</sub>	d <sub>2</sub>	[kg] <sup>39)</sup>	d <sub>7</sub>	d <sub>20</sub>	D <sub>i</sub>	D <sup>40)</sup>
700-330	80	4	2155	1465	151	1964	40	670	556	917	570	691	695	711
800-400	60	6	2210	1520	183	1985	40	770	640	1041	656	793	797	813
1000-420	60	6	2310	1620	209	2060	40	970	840	1274	856	992	996	1016
1000-420	80	6	2510	1820	209	2260	40	970	840	1364	856	992	996	1016
1000-420	100	6	2510	1820	209	2260	40	970	840	1434	856	992	996	1016
1000-421	60	6	2510	1620	209	2060	40	970	840	1294	856	992	996	1016
1000-421	80	6	2510	1820	209	2260	40	970	840	1384	856	992	996	1016
1000-421	100	6	2510	1820	209	2260	40	970	840	1454	856	992	996	1016
1000-500	80	6	2515	1825	205	2270	40	970	820	1385	856	992	996	1016
1000-500	100	6	2515	1825	205	2270	40	970	820	1455	856	992	996	1016
1000-500	120	6	2630	1940	205	2385	40	970	820	1745	856	992	996	1016
1000-500	140	6	2630	1940	205	2385	40	970	820	1805	856	992	996	1016
1000-500	165	6	2630	1940	205	2395	40	970	820	1855	856	992	996	1016
1000-500	190	6	2885	2285	205	2620	50	970	820	2495	856	992	996	1016
1200-630	190	6	2940	2340	268	2620	50	1140	960	2730	1015	1192	1196	1220
1200-630	225	6	2940	2340	268	2620	50	1140	960	2900	1015	1192	1196	1220
1200-630	260	6	2940	2340	268	2620	50	1140	960	3120	1015	1192	1196	1220
1200-630	320	6	3205	2505	268	2875	60	1140	960	3740	1015	1192	1196	1220
1200-630	90	8	2685	1995	268	2380	40	1140	960	1980	1015	1192	1196	1220
1200-630	110	8	2685	1995	268	2380	40	1140	960	2050	1015	1192	1196	1220
1200-630	130	8	2685	1995	268	2380	40	1140	960	2110	1015	1192	1196	1220
1200-630	150	8	2940	2340	268	2620	50	1140	960	2720	1015	1192	1196	1220
1200-630	40	10	2685	1995	268	2380	40	1140	960	1920	1015	1192	1196	1220
1200-630	60	10	2685	1995	268	2380	40	1140	960	1960	1015	1192	1196	1220
1200-630	75	10	2685	1995	268	2380	40	1140	960	2030	1015	1192	1196	1220

<sup>39)</sup> Pump set with 10-metre power cable (400 V) and 5-metre support rope

<sup>40)</sup> D for recommended wall thickness of the discharge tube (see dimension s1 in the General Arrangement Drawings)

Types of installation

<p><b>BU discharge tube</b> overflow design</p>	<p><b>DU discharge tube</b> with above-floor discharge nozzle</p>
<p><b>CU discharge tube</b> with underfloor discharge</p>	

**Scope of supply**

Depending on the model, the following items are included in the scope of supply:

- Pump set complete with 10 m power cable
- O-ring
- Back-up name plate

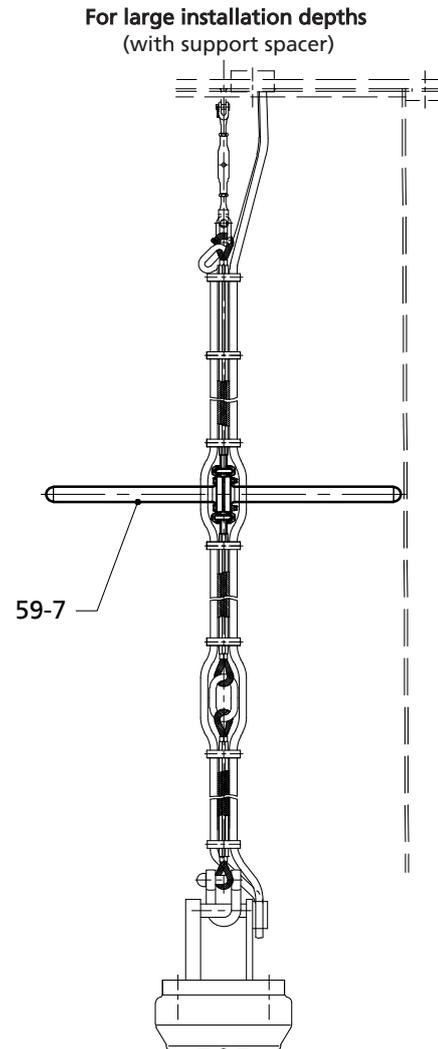
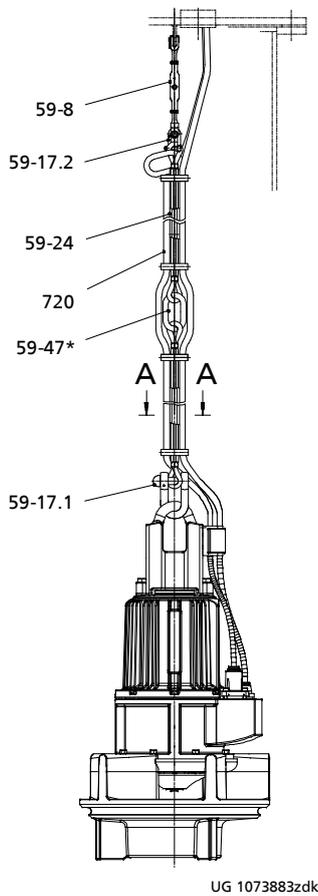
**Optional:**

- Support rope
- Accessories for installing the cable guide
  - Spacer
  - Turnbuckle
  - Support
  - Shackle
  - Cable clamps
- Cable support sleeves

- Discharge tube in various designs (steel or GFK)

Accessories

Pump with support rope and turnbuckle in the discharge tube

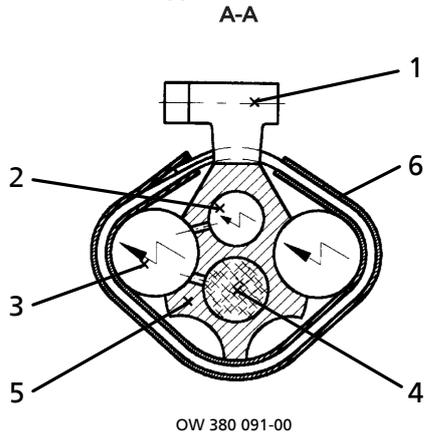


\*= The number of (intermediate) lifting rings depends on the lifting height of the lifting equipment and on the building structure. (Intermediate lifting rings are supplied as an option).

List of components

Part No.	Description	Material
59-8	Turnbuckle	Stainless steel
59-17.2	Shackle	Stainless steel
59-47	(Intermediate) lifting ring(s)	Stainless steel
59-24	Rope, low rotation design	Stainless steel
720	Spacer	EPDM
59-17.1	Shackle	Galvanised steel (stainless steel optional)
59-7	Support spacer	GFRP

Cross-section of cable support

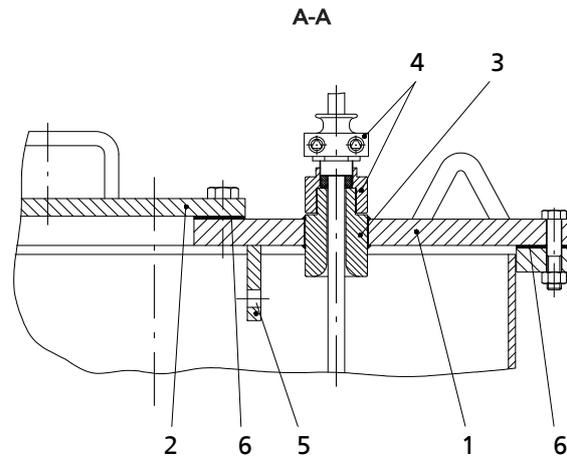
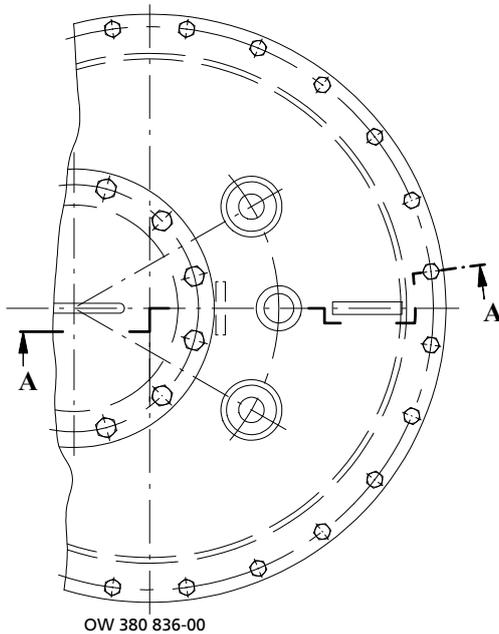


List of components

Part No.	Description	Part No.	Description
1	Cable clamp (approximately every 400 mm)	4	Support rope 59-24
2	Control cable	5	Spacer
3	Power cable	6	Clamp cover

Discharge tube cover with cable gland

Design: with welding sleeve

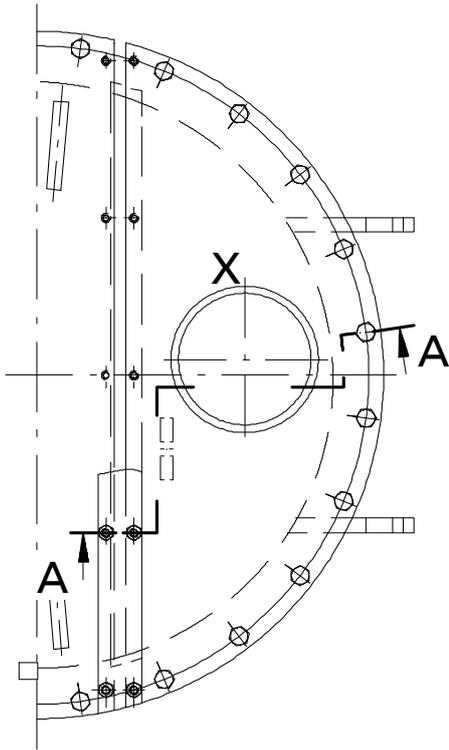


List of components

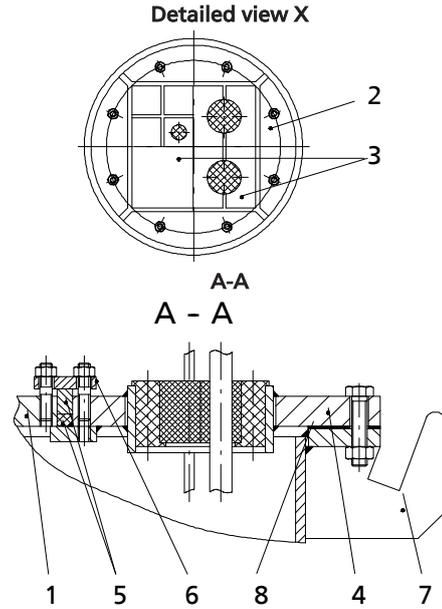
Part No.	Description	Part No.	Description
1	Discharge tube cover <sup>41)</sup>	4	Threaded bush with cable entry to DIN 22419 with strain relief and protection against kinking and twisting
2	Cover	5	Eyeplate for fastening the cable support (support rope)
3	Welding sleeve	6	Gasket, e.g. rubber with fabric reinforcement

41) Discharge tube cover also available in split design.

Design variant: with transit frame (up to 1 bar)



OW 380 861-00



List of components

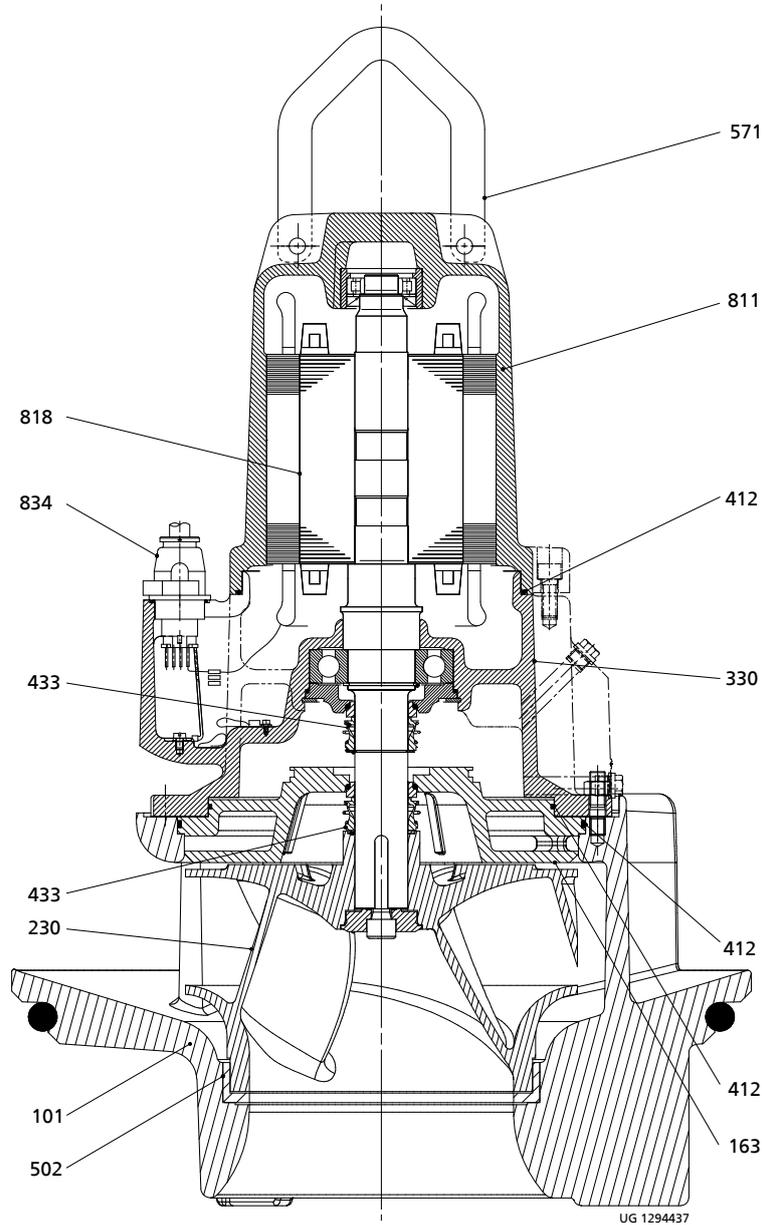
Part No.	Description
1	Discharge tube cover <sup>42)</sup>
2	Transit frame (cable gland)
3	Packing and insert blocks
4	Cover segment with cable gland
5	Closed-cell profile joint in groove between the two cover parts
6	Sealing arrangement of groove between the two cover parts
7	Support brackets for cover segment with cable glands
8	Gasket (e.g. rubber with fabric reinforcement)

<sup>42)</sup> Discharge tube cover also available in single-piece design.

General assembly drawings with list of components

Amacan K 700 - 324 ... 800 - 401, motor version: UG/XG

- Amacan K 700 - 324
- Amacan K 700 - 330
- Amacan K 700 - 371
- Amacan K 800 - 370
- Amacan K 800 - 400
- Amacan K 800 - 401

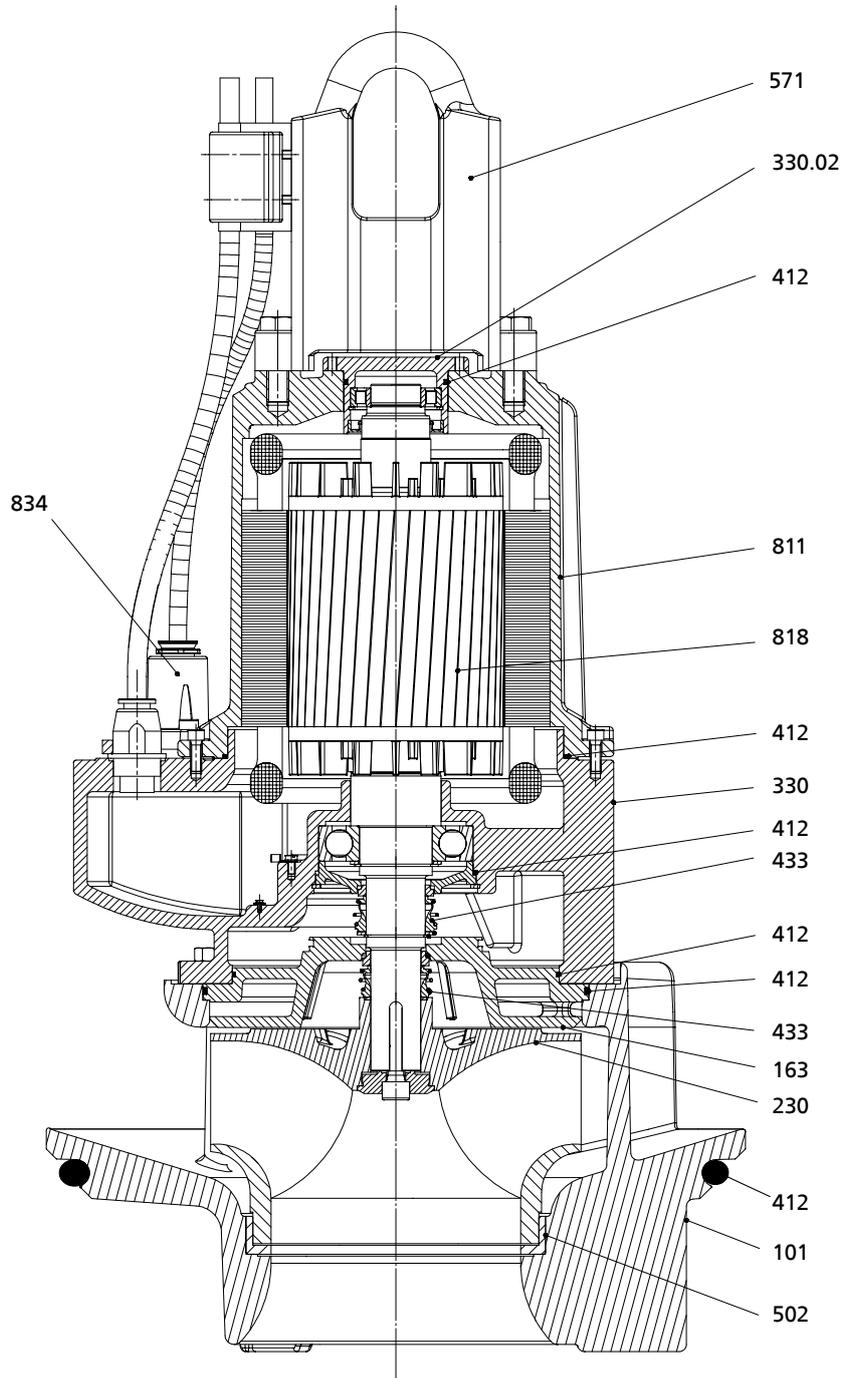


List of components

Part No.	Description	Part No.	Description
101	Pump casing	502	Casing wear ring
163	Discharge cover	571	Bail
230	Impeller	811	Motor housing
330	Bearing bracket	818	Rotor
412	O-ring	834	Cable gland
433	Mechanical seal	-	-

**Amacan K 800 - 330 ... 800 - 401, motor version: UG/XG**

- Amacan K 800 - 330
- Amacan K 800 - 370
- Amacan K 800 - 400
- Amacan K 800 - 401

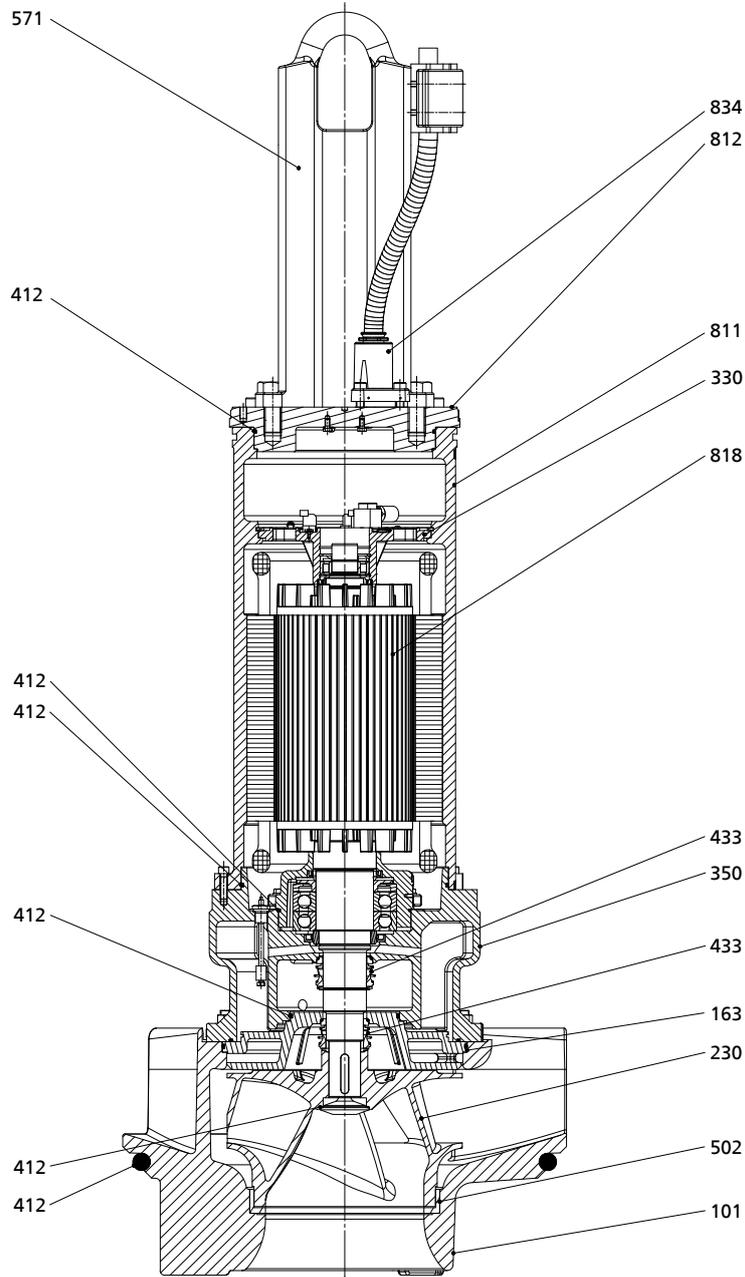


List of components

Part No.	Description	Part No.	Description
101	Pump casing	502	Casing wear ring
163	Discharge cover	571	Bail
230	Impeller	811	Motor housing
330	Bearing bracket	818	Rotor
412	O-ring	834	Cable gland
433	Mechanical seal	-	-

Amacan K 700 - 330 ... 1200 - 630, motor version: UNG/XNG

- Amacan K 700 - 330
- Amacan K 800 - 400
- Amacan K 1000 - 420
- Amacan K 1000 - 421
- Amacan K 1000 - 500
- Amacan K 1200 - 630



List of components

Part No.	Description	Part No.	Description
101	Pump casing	502	Casing wear ring
163	Discharge cover	571	Bail
230	Impeller	811	Motor housing
330	Bearing bracket	812	Motor housing cover
350	Bearing housing	818	Rotor
412	O-ring	834	Cable gland
433	Mechanical seal	-	-



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