

Submersible Motor Pump

Amarex KRT

INDIA
50 Hz

Characteristic Curve & Electrical Motor data Booklet



Mat. No.: 05095586

1	Submersible Motor Pump	4
2	Designation	6
3	Motor Data	7
	3.1 General Description.....	7
	3.2 Type of Cooling	8
	3.3 Installation type.....	9
	3.4 Drives.....	10
	3.5 Installation varieties	12
	3.6 Motor data charts.....	13
	3.6.1 Motor data 2 pole.....	13
	3.6.2 Motor data 4 pole.....	14
	3.6.3 Motor data 6 pole.....	18
	3.6.4 Motor data 8 pole.....	22
	3.7 Rubber cables.....	24
	3.8 Sensors in KRT Submersible	25
	3.9 Thermal motor monitoring.....	26
	3.10 Wiring diagrams	29
	3.10.1 Wiring diagram for installation type S and P.....	29
	3.10.2 Wiring diagram for installation type K and S	29
4	Selection charts	30
	4.1 Amarex KRT F, n = 2900 + 1450 rpm	30
	4.2 Amarex KRT E, n = 1450 + 960 rpm	31
	4.3 Amarex KRT K, n = 2900 + 1450 + 960 rpm	32
	4.4 Amarex KRT K max, n = 1450 + 960 + 750 rpm	33
5	Characteristic curves	34
	5.1 K impeller.....	34
	5.1.1 Amarex KRT K 40-250, n = 2900 rpm	34
	5.1.2 Amarex KRT K 80-251, n = 2900 rpm	35
	5.1.3 Amarex KRT K 100-315, n = 1450 rpm	36
	5.1.4 Amarex KRT K 100-401, n = 1450 rpm	37
	5.1.5 Amarex KRT K 150-315, n = 1450 rpm	38
	5.1.6 Amarex KRT K 150-401, n = 1450 rpm	39
	5.1.7 Amarex KRT K 150-500, n = 1450 rpm	40
	5.1.8 Amarex KRT K 200-401, n = 1450 rpm	41
	5.1.9 Amarex KRT K 200-500, n = 1450 rpm	42
	5.1.10 Amarex KRT K 200-502, n = 1450 rpm	43
	5.1.11 Amarex KRT K 200-503, n = 1450 rpm	44
	5.1.12 Amarex KRT K 250-401, n = 1450 rpm	45
	5.1.13 Amarex KRT K 300-420, n = 1450 rpm	46
	5.1.14 Amarex KRT K 300-505, n = 1450 rpm	47
	5.1.15 Amarex KRT K 150-315, n = 960 rpm	48
	5.1.16 Amarex KRT K 150-401, n = 960 rpm	49
	5.1.17 Amarex KRT K 200-401, n = 960 rpm	50
	5.1.18 Amarex KRT K 250-401, n = 960 rpm	51
	5.1.19 Amarex KRT K 250-632, n = 960 rpm	52
	5.1.20 Amarex KRT K 300-500, n = 960 rpm	53
	5.1.21 Amarex KRT K 300-505, n = 960 rpm	54
	5.1.22 Amarex KRT K 350-500, n = 960 rpm	55
	5.1.23 Amarex KRT K 350-503, n = 960 rpm	56
	5.1.24 Amarex KRT K 350-632, n = 960 rpm	57
	5.1.25 Amarex KRT K 350-633, n = 960 rpm	58
	5.1.26 Amarex KRT K 350-713, n = 960 rpm	59
	5.1.27 Amarex KRT K 400-500, n = 960 rpm	60
	5.1.28 Amarex KRT K 400-632, n = 960 rpm	61
	5.1.29 Amarex KRT K 401-713, n = 960 rpm	62

5.1.30	Amarex KRT K 350-500, n = 725 rpm	63
5.1.31	Amarex KRT K 400-632, n = 725 rpm	64
5.1.32	Amarex KRT K 401-710, n = 725 rpm	65
5.2	F impeller	66
5.2.1	Amarex KRT F 40-250, n = 2900 rpm.....	66
5.2.2	Amarex KRT F 80-250, n = 2900 rpm.....	67
5.2.3	Amarex KRT F 100-401, n = 1450 rpm.....	68
5.3	E impeller	69
5.3.1	Amarex KRT E 100-315, n = 1450 rpm	69
5.3.2	Amarex KRT E 150-315, n = 1450 rpm	70
5.3.3	Amarex KRT E 150-401, n = 1450 rpm	71
5.3.4	Amarex KRT E 200-401, n = 1450 rpm	72
5.3.5	Amarex KRT E 150-315, n = 960 rpm	73
5.3.6	Amarex KRT E 150-401, n = 960 rpm	74
5.3.7	Amarex KRT E 200-401, n = 960 rpm	75

1 Submersible Motor Pump



Related documents

Document	Reference number
Type series booklet	2553.53785/01

Selection information

- The indicated heads and performance data apply to material variant G, for fluids with a density $\rho = 1 \text{ kg/dm}^3$ and a kinematic viscosity $\nu \leq 20 \text{ mm}^2/\text{s}$.
- For hydraulic acceptance tests of different material variants reduce the documented efficiencies by 2 percent.

Impeller types

- F and E impellers can only be supplied with the documented impeller diameters. In the purchase order, the impeller diameter must always be added to the designation of the pump set.
- K impellers are trimmed to the duty point. Indicate the H/Q data or the impeller diameter in the purchase order. In the hydraulic selection program, the impeller diameter is automatically computed based on the H/Q data and added to the designation of the pump set.

Power input

- Adjust the power input to the density of the fluid handled:
 $P_2 \text{ (required)} = \rho \text{ [kg/dm}^3\text{]} \text{ (fluid handled)} \times P_2 \text{ (documented)}$
- Select the operating point with the largest power input within an operating range. Select a motor size providing a power reserve to compensate the tolerances in the system characteristic / pump characteristic.

Table 1: Recommended motor power reserve¹⁾

P ₂ [kW]	Reserve	
	Mains operation	With frequency inverter
≤ 30	10 %	15 %
> 30	5 %	10 %

- If larger reserves are stipulated by local regulations or are required to compensate for uncertain factors in system calculations, these larger power reserves must be provided.
- For installation types K (with cooling jacket) a power reserve of 1.5 kW must always be added for the cooling circuit.

General information on operating submersible pumps in waste water

i In the case of waste water, too low a flow velocity in the discharge line will lead to clogging and increased wear. A minimum flow velocity in the vertical riser of 2 m/s must be observed.

i In the case of waste water, too low a circumferential speed of the impeller will lead to clogging of the hydraulic system (frequency inverter operation). A minimum circumferential speed (measured at the outside diameter of the impeller) of 12 m/s must be observed.²⁾

¹ If larger power reserves are stipulated by local regulations, these larger reserves must be provided.

² For F impellers, a circumferential speed below 12 m/s is permissible.

2 Designation

Example: Amarex KRT K 150-500/155 4 UN G-S _ _

Table 2: Designation key

Code	Description	
Amarex KRT	Type series (Commonly called as KRT)	
K	Impeller type	
	F	Free-flow impeller
	E	Closed single-channel impeller
	K/K-max	Closed multi-channel impeller
150	Nominal discharge nozzle diameter [mm]	
500	Maximum nominal impeller diameter [mm]	
155	Motor size	
4	Number of poles	
	2, 4, 6, 8	
UN	Motor version	
	U	Side entry , without explosion protection, for fluid temperatures of up to 40 °C ³⁾
	UN	Top entry , without explosion protection, for fluid temperatures of up to 40 °C ³⁾
G	Material variant (refer clause for "Materials")	
	G	Complete cast iron pump
	G1	Complete cast iron pump with stainless steel impeller
D	Installation type	
	K	Stationary wet installation (S1 duty with motor outside the fluid possible) with guide wire arrangement or dual guide rail ⁴⁾ arrangement
	S	Stationary wet installation (S1 duty with submerged motor) with guide wire arrangement or dual guide rail arrangement ⁴⁾
	P	Transportable wet-installed model (S1 duty with submerged motor)
_ _	Motor efficiency classification	
	⁵⁾	No efficiency classification ⁶⁾

³⁾ Maximum fluid temperature and ambient temperature

⁴⁾ Guide rail is also called as guide pipe.

⁵⁾ Blank

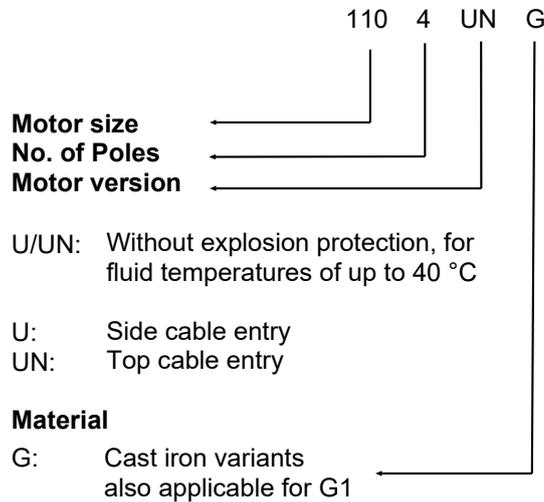
⁶⁾ IEC 60034-30 standard not binding for submersible motor pumps. Efficiencies calculated/determined according to the measurement method specified in IEC 60034-2. The marking is used for submersible motors that achieve efficiency levels similar to those of standardised motors acc. to the IEC 60034-30 standard.

3 Motor Data

3.1 General Description

All motors of Amarex KRT submersible motor pumps are three-phase squirrel-cage motors.

Type designation



Drives

Standard voltage rating: 415 V (+10%, -15%) ; 50 Hz (+/- 3%)
 The mains voltage and mains frequency may fluctuate around the rated values as defined for zone B to IEC 60034-1.

Temperatures:

The defined maximum temperature applies to the temperature of the fluid handled and the ambient temperature at the place of installation.

Insulation system:

Class H
 All DKN (frame sized) motors will have insulation class limited to class F. All K (frame sized) motors will have insulation class H.

Motor protection

Motor protection is IP 68 as per IEC 60034-5.

Starting mode

Direct or star-delta / ATS / soft starter. Star-delta is standard.

Switching frequency

To prevent high temperature increases in the motor and excessive loads on the motor, seal elements and bearings, the switching frequency shall not exceed the following number of start-ups per hour:

Table 3: Frequency of starts

Motor rating [kW]	Maximum frequency of starts [Starts/hours]
≤ 7,5	30
> 7,5	10

These values apply to mains start-up (DOL or with star-delta contactor, autotransformer, soft starter). This limitation does not apply to operation on a frequency inverter.

It is recommended to have only a maximum of 5000 switching operations per annum.

Friction losses at the bearing

The friction losses of the standardized bearings are already included in the motor efficiency.

Operation with variable frequency driver (VFD)

Frequency inverter operation of the pump set is permitted in the frequency range from 25 to 50 Hz. The current limit of the frequency inverter must be set to max. 1.2 times the rated current indicated on the name plate. The given motor capacity can only be used up to 85% of it's normal rating.

For more information on electrical & pump installation and allied details, kindly refer to the relevant operating instruction manuals of the submersible motor pump based on their motor design/motor rating. The document numbers are mentioned as below:

- DKN motors: 2553.8685
- K motors: 2553.80481

3.2 Type of Cooling

Surface cooling, except for motor versions UN in installation types K. These motors have an integrated cooling system. Additional power is required for the integrated cooling system.

Table 4: Type of cooling

Motor type	Power input for the cooling
35 4 UN G -- 110 4 UN G	1,8 kW
130 4 UN G -- 175 4 UN G	2,4 kW
200 4 UN G -- 350 4 UN G	7,5 kW
32 6UN G -- 100 6 UN G	1,1 kW
120 6 UN G -- 165 6 UN G	1,7 kW
190 6UN G -- 260 6 UN G	2,4 kW
26 8 UN G -- 75 8 UN G	0,9 kW
90 8 UN G -- 130 8 UN G	1,1 kW
150 8 UN G -- 220 8 UN G	1,5 kW
40 10 UN G -- 90 10 UN G	0,8 kW
110 10 UN G -- 190 10 UN G	1,0 kW

3.3 Installation type

Types of installation

Installation type K

Pump sets of installation type K are suitable for continuous duty with the motor outside the fluid. Cooling is effected by means of air convection. Versions with a cooling jacket have an additional internal cooling circuit.

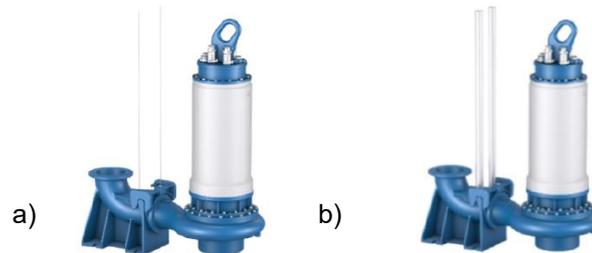


Fig. 1: Installation type K a) guide wire arrangement b) guide rail (pipe) arrangement

Installation type P and S

Pump sets of installation types P and S are designed for continuously submerged operation. The motor is cooled by the fluid handled on the motor surface. Operation with the motor outside the fluid handled is possible for short periods.

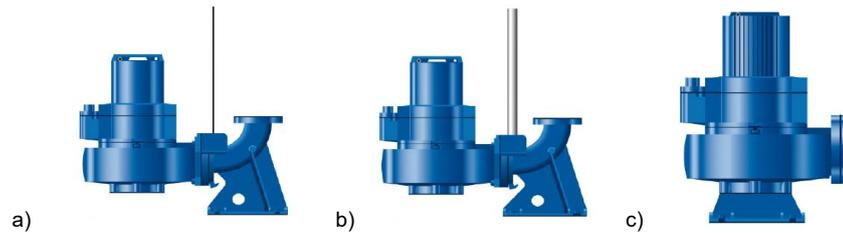


Fig. 2: Installation type P and S a) guide wire arrangement b) guide rail (pipe) arrangement c) portable

Scope of supply

Stationary wet installation (installation types K and S):

- Pump set complete with power cables and control cables
- Holder with sealing elements and fasteners
- Lifting chain (lifting equipment) and D-shackle
- Top mounting brackets with fasteners
- Duck foot bend (flanged bend) with fasteners
- Guide wire (wire rope)/ Dual guide rail (dual guide pipe)
- Guide wire spacer kit (only for installation depths > 4.5m)
- Guide pipe intermediate bracket (only for installation depths > 4.5m)

Transportable wet-installed model (installation type P):

- Pump set complete with power cables and control cables
- Discharge elbow (picture not shown)
- Support foot plate, support feet (3 nos.) or a single pump stool (as per design) along with the fasteners
- Lifting chain (lifting equipment) and D-shackle

3.4 Drives

Standard voltage rating: 415 V (+10%, -15%) ; 50 Hz (+/- 3%)

Table 5: Drives

Motor pole	Motor frame size	Motor type	Efficiency classification	Motor version	Installation Type		Allowable motor version U [kW]	Allowable insulation class		Installation type	Allowable motor version U [kW]	Allowable insulation class		Moment of inertia [kg m ²]	GD2 [kg m ²]
					S	P		F	H			K	F		
2	DKN 132	52	-	U	X	X	5	X	-	-	-	-	-	0,01	0,04
		62	-	U	X	X	6,5	X	-	-	-	-	-	0,01	0,04
		82	-	U	X	X	8,5	X	-	-	-	-	-	0,01	0,04
	DKN 160	122	-	U	X	X	12	X	-	-	-	-	-	0,02	0,08
		172	-	U	X	X	17	X	-	-	-	-	-	0,03	0,12
	DKN 160L	222	-	U	X	X	22	X	-	-	-	-	-	0,04	0,16
252		-	U	X	X	25	X	-	-	-	-	-	0,04	0,16	
4	DKN 160	114	-	U	X	X	11,8	X	-	-	-	-	-	0,04	0,16
		164	-	U	X	X	16	X	-	-	-	-	-	0,05	0,2
	DKN 161	234	-	U	X	X	21	X	-	-	-	-	-	0,07	0,28
		DKN 181	294	-	U	X	X	27	X	-	-	-	-	-	0,11
	DKN 226	354	-	U	X	X	38	X	-	-	-	-	-	0,22	0,88
		504	-	U	X	X	48	X	-	-	-	-	-	0,25	1
		654	-	U	X	X	62	X	-	-	-	-	-	0,30	1,2
	K22K	354	-	UN	-	-	-	-	-	X	32	-	X	0,25	1
		504	-	UN	-	-	-	-	-	X	42	-	X	0,28	1,12
		654	-	UN	-	-	-	-	-	X	55	-	X	0,33	1,32
		804	-	UN	X	X	80	-	X	X	75	-	X	0,46	1,84
	K22L	954	-	UN	X	X	95	-	X	X	90	-	X	0,55	2,2
		1104	-	UN	X	X	110	-	X	X	100	-	X	0,63	2,52
	K28	1304	-	UN	X	-	130	-	X	X	125	-	X	1,26	5,04
		1554	-	UN	X	-	155	-	X	X	145	-	X	1,43	5,72
		1754	-	UN	X	-	175	-	X	X	165	-	X	1,57	6,28
	K31	2004	-	UN	X	-	200	-	X	X	180	-	X	3,78	15,12
		2504	-	UN	X	-	250	-	X	X	210	-	X	4,13	16,52
3004		-	UN	X	-	300	-	X	X	240	-	X	4,82	19,28	
3504		-	UN	X	-	350	-	X	X	300	-	X	5,51	22,04	
6	DKN 160	96	-	U	X	X	9	X	-	-	-	-	-	0,07	0,28
		126	-	U	X	X	12,5	X	-	-	-	-	-	0,10	0,4
	DKN 161	206	-	U	X	X	18	X	-	-	-	-	-	0,13	0,52
	DKN 181	266	-	U	X	X	24	X	-	-	-	-	-	0,34	1,36
	DKN 226	326	-	U	X	X	30	X	-	-	-	-	-	0,42	1,68
		406	-	U	X	X	40	X	-	-	-	-	-	0,51	2,04
		506	-	U	X	X	48	X	-	-	-	-	-	0,80	3,2
	K22 K	326	-	UN	-	-	-	-	-	X	24	-	X	0,37	1,48
		406	-	UN	-	-	-	-	-	X	32	-	X	0,45	1,8
		506	-	UN	-	-	-	-	-	X	40	-	X	0,54	2,16
		606	-	UN	X	X	60	-	X	X	60	-	X	0,66	2,64
	K22 L	806	-	UN	X	-	80	-	X	X	75	-	X	0,80	3,2
1006		-	UN	X	-	100	-	X	X	90	-	X	0,94	3,76	
K28	1206	-	UN	X	-	120	-	X	X	120	-	X	1,98	7,92	

2553.455385/01-EN

Motor pole	Motor frame size	Motor type	Efficiency classification	Motor version	Installation Type		Allowable motor version U	Allowable insulation class		Installation type	Allowable motor version U	Allowable insulation class		Moment of inertia	GD2
					S	P		[kW]	F			H	K		
6	K28	1406	-	UN	X	-	140	-	X	X	140	-	X	2,25	9
		1656	-	UN	X	-	165	-	X	X	160	-	X	2,55	10,2
	K 31	1906	-	UN	X	-	190	-	X	X	170	-	X	7,3	29,2
		2256	-	UN	X	-	224	-	X	X	200	-	X	8,57	34,28
		2606	-	UN	X	-	260	-	X	X	235	-	X	9,84	39,36
8	K22K	508	-	UN	X	-	50	-	X	X	50	-	X	0,66	2,64
	K22L	758	-	UN	X	-	75	-	X	X	75	-	X	0,94	3,76
	K28	908	-	UN	X	-	90	-	X	X	90	-	X	1,98	7,92
		1108	-	UN	X	-	110	-	X	X	110	-	X	2,25	9
		1308	-	UN	X	-	130	-	X	X	130	-	X	2,55	10,2
	K 31	1508	-	UN	X	-	150	-	X	X	150	-	X	7,3	29,2
		1808	-	UN	X	-	185	-	X	X	175	-	X	8,57	34,28
		2208	-	UN	X	-	220	-	X	X	200	-	X	9,84	39,36

Pump sets of installation type K are suitable for continuous duty with the motor outside the fluid. Cooling is effected by means of air convection. Versions with a cooling jacket have an additional internal cooling circuit.

Pump sets of installation types P and S are designed for continuously submerged operation. The motor is cooled by the fluid handled on the motor surface. Operation with the motor outside the fluid handled is possible for short periods.

Notes:

From above table, motor frame sizes designated with prefix as DKN will be termed as DKN motors and frame sizes designated with prefix as K will be called as K motors.

- Many K motors are coupled with hydraulics (i.e DN 150 and above) having nominal impeller diameter as 401,500,630 Etc. These motors in particular which are coupled with either DN size ≥300 and/or impeller diameter ≥500 cannot be offered for portable execution (i.e transportable installation).
- K motors which are offered with cooling jackets (i.e K type installation) cannot be offered for portable execution.
- Kindly refer to installation varieties (⇒ Section 3.5, Page 12) for more details related to motor and hydraulic combinations that can be offered.

X	available
-	not available

3.5 Installation varieties

Table 6: Installation varieties

Sr. No.	DN	Motor Frame Size	Stationary				Transportable	
			Guide wire	Installation type	Dual Guide pipe	Installation type	Portable ⁷⁾	Installation type
1	40-250	DKN 132/ 160	X	S	X	S	X	P
2	80-250	DKN 160	X	S	X	S	X	P
	80-251							
3	100-315	DKN 160/161/181	X	S	X	S	X	P
4	100-401	DKN 161/181/226	X	S	X	S	X	P
5	150-315	DKN 160/161/181	X	S	X	S	X	P
6	150-401	DKN 161/181/226	X	S	X	S	X	P
7	150-401	K22	X	S/K	X	S/K	X	P
8	150-500	K 22/28	X	S/K	X	S/K	X	P
9	200-401	DKN 161/181/226	X	S	X	S	X	P
10	200-401	K22/28	X	S/K	X	S/K	X	P
11	200-500	K 22/28/31	X	S/K	X	S/K	-	-
	200-502							
	200-503							
12	250-401	DKN 161/181/226	X	S	X	S	X	P
13	250-401	K22/28	X	S/K	X	S/K	X	P
14	300-420	K22/K28/K31	X	S/K	X	S/K	-	-
15	300-500	K 22/28/31	X	S/K	X	S/K	-	-
	300-505							
16	350-500	K 22/28/31	X	S/K	X	S/K	-	-
	350-503							
17	350-632	K31	X	S/K	X	S/K	-	-
18	350-633	K28/K31	X	S/K	X	S/K	-	-
19	350-713	K31	X	S/K	X	S/K	-	-
20	400-500	K 22/28/31	X	S/K	X	S/K	-	-
21	400-632	K 28/K31	X	S/K	X	S/K	-	-
22	401-710	K31	X	S/K	X	S/K	-	-
	401-713							

Pump sets of installation type K are suitable for continuous duty with the motor outside the fluid. Cooling is effected by means of air convection. Versions with a cooling jacket have an additional internal cooling circuit.

Pump sets of installation types P and S are designed for continuously submerged operation. The motor is cooled by the fluid handled on the motor surface. Operation with the motor outside the fluid handled is possible for short periods.

X	available
-	not available

⁷⁾ Portable installation pumps will only be offered for pumps without cooling jacket. Any hydraulics which has either impeller diameter ≥ 500 and/or DN size ≥ 300 will not be offered for portable installation.

3.6 Motor data charts

3.6.1 Motor data 2 pole

Without cooling jacket, for material G/G1, installation type S and P

Table 7: Motor data 415 V 50Hz

Motor size	Frame size	Rated power P2		Nominal speed	Rated current	Starting current	Electric cable for power supply and control (+) if necessary	Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)												
		[kW]	Max. temperature of liquid [°C]						N _n [min ⁻¹]	IN [A]	IA [A]	IA/IN	Quantity	Type [mm ²]	Ø min-max [mm]	Load	Power P1 [kW]	Current I [A]	η [%]	cos φ
52UG	DKN 132	5	40	2900	10,4	60	5,8	1	12 x1,5	17,7-18,7	4/4	6,3	10,4	79,9	0,87					
											3/4	4,8	8,4	78,2	0,83					
											2/4	3,4	6,6	73,7	0,75					
											1/4	2,1	5,1	61,2	0,59					
62UG	DKN 132	6,5	40	2905	13	83	6,4	1	12 x1,5	17,7-18,7	4/4	7,9	13,0	82,8	0,88					
											3/4	5,9	10,0	82,6	0,86					
											2/4	4,0	7,7	81,1	0,76					
											1/4	2,2	5,3	75,2	0,59					
82UG	DKN 132	8,5	40	2905	16,7	113	6,8	1	12 x1,5	17,7-18,7	4/4	10,3	16,7	82,5	0,89					
											3/4	7,8	13,0	81,7	0,87					
											2/4	5,4	9,6	78,5	0,82					
											1/4	3,1	6,9	67,7	0,66					
122UG	DKN 160	12	40	2930	23,5	150	6,4	1	12 x1,5	17,7-18,7	4/4	14,0	23,5	85,7	0,86					
											3/4	10,7	18,3	84,8	0,84					
											2/4	7,3	14,0	81,8	0,76					
											1/4	4,2	10,5	71,9	0,57					
172UG	DKN 160	17	40	2940	31,5	260	8,3	1	12 x2,5	24,5 - 27,5	4/4	19,3	31,5	88,3	0,88					
											3/4	14,6	25,0	87,4	0,85					
											2/4	10,1	18,9	84,7	0,77					
											1/4	5,6	14,0	76,0	0,58					
222UG	DKN 160	22	40	2947	39,3	270	6,9	1	7x4 5x1,5	24,7-27,7	4/4	24,5	39,3	89,7	0,90					
											3/4	18,4	30,6	89,6	0,87					
											2/4	12,5	22,9	87,7	0,79					
											1/4	6,9	17,2	79,7	0,58					
252UG	DKN 160	25	40	2940	44,8	270	6	1	7x6 5x1,5	24,5-29,5	4/4	28,0	44,8	89,4	0,90					
											3/4	20,9	33,9	89,8	0,89					
											2/4	14,1	24,9	88,5	0,82					
											1/4	7,7	17,8	81,6	0,62					

2553.455385/01-EN

3.6.2 Motor data 4 pole

Without cooling jacket, for material G/G1, installation type S and P

Table 8: Motor data 415 V 50Hz

Motor size	Frame size	Rated power P2		Max. temperature of liquid	Nominal speed	Rated current	Starting current	Electric cable for power supply and control (+) if necessary			Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)				
		[kW]	[°C]					[min ⁻¹] N _n	IN	IA	IA/IN	Quantity	Type	Ø min-max	Load
114U	DKN 160	11,8	40	1465	23,5	132	5,6	1	12 x1,5	17,7-18,7	4/4	13,4	23,5	88,0	0,82
											3/4	10,1	18,8	87,9	0,77
											2/4	6,8	14,4	86,2	0,69
											1/4	3,7	11,2	79,3	0,48
164U	DKN 160	16	40	1465	33	200	6,1	1	7x4 5x1,5	24,7-27,7	4/4	17,9	33,0	89,3	0,79
											3/4	13,5	26,5	89,3	0,74
											2/4	9,1	21,5	87,8	0,62
											1/4	4,9	17,6	81,6	0,40
234U	DKN 161	21	40	1435	40,5	200	4,9	1	7x4 5x1,5	24,7-27,7	4/4	24,0	40,5	87,5	0,86
											3/4	18,1	31,0	87,4	0,84
											2/4	12,3	23,0	85,8	0,77
											1/4	6,6	16,7	79,3	0,57
294U	DKN 181	27	40	1455	55	320	5,8	1	7x6 5x1,5	24,5- 29,5	4/4	30,8	55,0	87,7	0,81
											3/4	23,1	44,0	87,7	0,76
											2/4	15,7	34,0	86,1	0,67
											1/4	8,6	27,0	78,8	0,46
354U	DKN 226	38	40	1475	74	410	5,5	2	4x6 12x1,5	18,0-20,5 17,7-18,7	4/4	42,1	74,0	90,4	0,82
											3/4	31,6	58,0	90,3	0,79
											2/4	21,4	44,0	88,8	0,70
											1/4	11,5	33,0	82,8	0,49
504U	DKN 226	48	40	1470	92	490	5,3	2	4x10 12x1,5	22,0-25,0 17,7-18,7	4/4	52,5	92,0	91,6	0,82
											3/4	39,4	72,0	91,5	0,80
											2/4	26,5	54,0	90,5	0,72
											1/4	14,0	40,0	86,1	0,50
654U	DKN 226	62	40	1475	123	630	5,1	2	4x16 12x1,5	26,5-30,0 17,7-18,7	4/4	68,1	123,0	91,0	0,80
											3/4	51,4	99,0	90,6	0,75
											2/4	34,9	79,0	88,8	0,64
											1/4	18,8	64,0	82,4	0,43
804UN	K 22 (K)	80	40	1479	159	992	6,2	2	4x25 12x1,5	27,0-29,0 17,7-18,7	4/4	87,2	159,0	91,8	0,79
											3/4	65,7	125,0	91,4	0,76
											2/4	44,6	99,0	89,7	0,65
											1/4	23,9	80,0	83,6	0,43
954UN	K 22 (L)	95	40	1475	186	1178	6,3	2	4x25 12x1,5	27,0-29,0 17,7-18,7	4/4	104,0	186,0	91,3	0,81
											3/4	78,0	146,0	91,8	0,77
											2/4	52,0	115,0	91,0	0,66
											1/4	28,0	93,0	85,1	0,43

2553.455385/01-EN

Motor size	Frame size	Rated power P2		Nominal speed				Electric cable for power supply and control (+) if necessary			Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)					
		[kW]	[°C]	[min ⁻¹]	N _n	IN	IA	IA/IN	Quantity	Type	Ø min-max	Load	Power P1	Current I	η	cos φ
1104UN	K 22 (L)	110	40	1478	207	1280	6,2	2	4x35	30,5-32,5	4/4	118,0	207,0	93,0	0,82	
								1	12x1,5	17,7-18,7	3/4	89,0	160,0	92,4	0,81	
											2/4	61,0	124,0	90,8	0,71	
											1/4	32,0	97,0	85,7	0,48	
1304UN	K 28	130	40	1474	230	1622	7,1	2	4x35	30,5-32,5	4/4	140,0	230,0	92,8	0,88	
								1	12x1,5	17,7-18,7	3/4	105,0	174,0	92,9	0,87	
											2/4	71,0	129,0	92,1	0,79	
											1/4	37,0	95,0	86,9	0,57	
1554UN	K 28	155	40	1476	273	1800	6,6	2	4x50	41,0-45,0	4/4	167,0	273,0	93,0	0,88	
								1	12x1,5	17,7-18,7	3/4	125,0	203,0	93,3	0,89	
											2/4	84,0	146,0	92,6	0,83	
											1/4	44,0	104,0	88,1	0,61	
1754UN	K 28	175	40	1479	306	2100	6,9	2	4x50	41,0-45,0	4/4	187,0	306,0	93,5	0,88	
								1	12x1,5	17,7-18,7	3/4	140,0	230,0	93,9	0,88	
											2/4	94,0	146,0	93,4	0,80	
											1/4	49,0	122,0	88,9	0,58	
2004 UN	K 31	200	40	1485	332	2200	6,6	4	4x25	27,0-29,0	4/4	212	332	94,3	0,92	
								1	12x1,5	17,7-18,7	3/4	159	250	94,3	0,92	
											2/4	108	177	92,6	0,88	
											1/4	56	111	89,3	0,73	
2504 UN	K 31	250	40	1485	415	2780	6,7	4	4x35	30,5-32,5	4/4	265	415	94,3	0,92	
								1	12x1,5	17,7-18,7	3/4	199	311	94,2	0,92	
											2/4	133	219	94,0	0,88	
											1/4	68	138	91,9	0,71	
3004 UN	K 31	300	40	1485	495	3450	7,0	4	4x35	30,5-32,5	4/4	316	495	95,1	0,92	
								1	12x1,5	17,7-18,7	3/4	237	375	94,9	0,91	
											2/4	159	261	94,3	0,88	
											1/4	82	167	91,5	0,71	
3504 UN	K 31	350	40	1485	585	4300	7,4	4	4x50	41,0-45,0	4/4	368	585	95,1	0,91	
								1	12x1,5	17,7-18,7	3/4	277	451	94,8	0,89	
											2/4	186	319	94,1	0,84	
											1/4	96	212	91,1	0,65	

2553.455385/01-EN

With cooling jacket, for material G/G1, installation type K

Table 9: Motor data 415 V 50Hz

Motor size	Frame size	Rated power P2		Max. temperature of liquid	Nominal speed	Rated current	Starting current	Electric cable for power supply and control (+) if necessary	Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)												
		[kW]	[°C]							N _n	I _N	I _A	I _A /I _N	Quantity	Type	Ø min-max	Load	Power P1	Current I	η	cos φ
354 UN	K 22 (K)	32	40	1474	60,8	396	6,5	2	4x6	18,0-20,5	4/4	35,4	60,8	90,4	0,84						
											1	12x1,5	17,0-19,0	3/4	26,7	48,1	90,0	0,8			
														2/4	18,1	37,4	88,3	0,70			
														1/4	9,8	28,3	81,6	0,5			
504 UN	K 22 (K)	42	40	1472	79,5	505	6,4	2	4x10	22,0-25	4/4	46,3	79,5	90,8	0,84						
											1	12x1,5	17,0-19,0	3/4	34,9	62,1	90,4	0,81			
														2/4	23,6	47,4	88,9	0,72			
														1/4	12,6	35,8	83,1	0,51			
654 UN	K 22 (K)	55	40	1475	109	740	6,8	2	4x16	26,5-30,0	4/4	60,4	109,0	91,1	0,8						
											1	12x1,5	17,0-19,0	3/4	45,4	90,0	90,8	0,73			
														2/4	30,8	72,0	89,2	0,62			
														1/4	16,6	58,0	83,0	0,41			
804UN	K 22 (K)	75	40	1480	149	992	6,7	2	4x25	27,0-29,0	4/4	81,8	149,0	91,7	0,79						
											1	12x1,5	17,0-19,0	3/4	61,6	120,0	91,3	0,74			
														2/4	42,0	96,0	89,2	0,63			
														1/4	22,7	78,0	82,7	0,42			
954UN	K 22 (L)	90	40	1476	176	1178	6,7	2	4x25	27,0-29,0	4/4	98,2	176,0	91,7	0,8						
											1	12x1,5	17,0-19,0	3/4	73,8	141,0	91,5	0,76			
														2/4	49,6	112,0	90,7	0,64			
														1/4	26,3	91,0	85,5	0,42			
1104UN	K 22 (L)	100	40	1480	189	1280	6,8	2	4x35	30,5-32,5	4/4	108,0	189,0	92,8	0,83						
											1	12x1,5	17,0-19,0	3/4	81,0	149,0	92,3	0,79			
														2/4	55,0	118,0	90,3	0,68			
														1/4	30,0	96,0	84,5	0,45			
1304UN	K 28	125	40	1475	220	1622	7,4	2	4x50	41,0-45,0	4/4	135,0	220,0	92,9	0,88						
											1	12x1,5	17,0-19,0	3/4	101,0	170,0	92,7	0,86			
														2/4	68,0	126,0	91,8	0,78			
														1/4	36,0	92,0	87,0	0,56			
1554UN	K 28	145	30	1478	252	1800	7,1	2	4x50	41,0-45,0	4/4	156,0	252,0	93,2	0,89						
											1	12x1,5	17,0-19,0	3/4	117,0	193,0	93,1	0,87			
														2/4	79,0	140,0	92,4	0,81			
														1/4	41,0	100,0	88,0	0,59			
1754UN	K 28	165	40	1480	285	2100	7,4	2	F3x70/3	38,7- 41,7	4/4	176,0	285,0	93,7	0,89						
											1	5	17,0-19,0	3/4	132,0	223,0	93,8	0,87			
														2/4	89,0	162,0	92,8	0,81			
														1/4	46,0	116,0	89,5	0,59			

2553.455385/01-EN

Motor size	Frame size	Rated power P2		Max. temperature of liquid	Nominal speed	Rated current	Starting current	Electric cable for power supply and control (+) if necessary	Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)						
		[kW]	[°C]						[min ⁻¹] N _n	[A] I _N	[A] I _A	I _A /I _N	Quantity	Type	Ø min-max
2004 UN	K 31	180	40	1486	298	2200	7,4	4	4x25	27,0-29,0	4/4	191,0	298,0	94,3	0,92
											3/4	144,0	224,0	94,1	0,92
											2/4	97,0	162,0	92,6	0,87
											1/4	52,0	111,0	87,2	0,67
2504 UN	K 31	210	40	1487	345	2780	8,1	4	4x35	30,5-32,5	4/4	222,0	345,0	94,5	0,93
											3/4	167,0	262,0	94,5	0,92
											2/4	112,0	192,0	93,6	0,84
											1/4	59,0	134,0	89,1	0,63
3004 UN	K 31	240	40	1488	390	3424	8,8	4	4x35	30,5-32,5	4/4	252,0	390,0	95,4	0,93
											3/4	190,0	301,0	94,9	0,91
											2/4	128,0	223,0	93,7	0,83
											1/4	68,0	159,0	88,5	0,62
3504 UN	K 31	285	40	1488	479	4300	9,0	4	4x50	41,0-45	4/4	299	479	95,4	0,9
											3/4	226	372	94,7	0,88
											2/4	153	280	93,4	0,79
											1/4	81	201	88,3	0,58

3.6.3 Motor data 6 pole

Without cooling jacket, for material G/G1, installation type S and P

Table 10: Motor data 415 V 50Hz

Motor size	Frame size	Rated power P2		Max. temperature of liquid	Nominal speed [min ⁻¹] N _n	Rated current [A] I _N	Starting current [A] I _A	IA/IN	Electric cable for power supply and control (+) if necessary			Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)				
		[kW]	[°C]						Quantity	Type [mm ²]	Ø min-max [mm]	Load	Power P1 [kW]	Current I [A]	η [%]	cos φ
96U	DKN 160	9	40	955	19,7	100	5,1	1	12 x1,5	17,7-18,7	4/4	10,9	19,7	82,6	0,80	
											3/4	8,1	16,0	83,3	0,73	
											2/4	5,5	13,0	82,1	0,61	
											1/4	3,0	11,0	74,3	0,4	
126U	DKN 160	12,5	40	955	26,5	140	5,3	1	12 x2,5	24,5 - 27,5	4/4	14,9	26,5	83,9	0,81	
											3/4	11,0	20,5	85,4	0,77	
											2/4	7,3	16,3	85,3	0,65	
											1/4	4,0	13,4	79,2	0,43	
206U	DKN 161	18	40	955	35,5	160	4,5	1	7x4 5x1,5	24,7-27,7	4/4	20,7	35,5	87,0	0,85	
											3/4	15,5	28,0	87,4	0,8	
											2/4	10,4	21,0	86,5	0,71	
											1/4	5,6	15,7	80,3	0,52	
266U	DKN 181	24	40	960	47	225	4,8	1	7x6 5x1,5	24,5- 29,5	4/4	27,4	47,0	87,6	0,85	
											3/4	20,4	36,0	88,5	0,81	
											2/4	13,6	27,0	88,5	0,73	
											1/4	7,1	20,5	85,0	0,5	
326U	DKN 226	30	40	975	64	250	3,9	2	4x6 12x1,5	18,0-20,5 17,7-18,7	4/4	34,3	64,0	87,5	0,78	
											3/4	25,7	49,0	87,7	0,75	
											2/4	17,3	38,0	86,7	0,67	
											1/4	9,3	29,0	81,0	0,46	
406U	DKN 226	40	40	980	85	350	4,1	2	4x10 12x1,5	22,0-25,0 17,7-18,7	4/4	44,9	85,0	89,1	0,77	
											3/4	33,7	68,0	89,1	0,72	
											2/4	22,8	53,0	87,9	0,62	
											1/4	12,2	43,0	82,1	0,41	
506U	DKN 226	48	40	980	98	520	5,3	2	4x10 12x1,5	22,0-25,0 17,7-18,7	4/4	53,2	98,0	90,3	0,78	
											3/4	39,8	77,0	90,6	0,75	
											2/4	26,8	60,0	89,8	0,65	
											1/4	14,1	47,0	85,1	0,44	
606 UN	K 22 (K)	60	40	977	113	650	5,8	2	4x10 12x1,5	22,0-25,0 17,7-18,7	4/4	66,4	113,0	90,4	0,85	
											3/4	49,6	88,0	90,7	0,82	
											2/4	33,7	66,0	89,0	0,73	
											1/4	17,9	50,0	83,8	0,51	
806 UN	K 22 (L)	80	40	975	149	844	5,7	2	4x16 12x1,5	26,5-30,0 17,7-18,7	4/4	88,7	149,0	90,2	0,86	
											3/4	65,9	115,0	91,1	0,83	
											2/4	44,1	88,0	90,7	0,72	
											1/4	23,4	68,0	85,7	0,5	

2553.455385/01-EN

Motor size	Frame size	Rated power P2		Nominal speed	Rated current	Starting current	Electric cable for power supply and control (+) if necessary	Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)											
		[kW]	Max. temperature of liquid [°C]					N _n [min ⁻¹]	IN [A]	IA [A]	IA/IN	Quantity	Type [mm ²]	Ø min-max [mm]	Load	Power P1 [kW]	Current I [A]	η [%]	cos φ
1006 UN	K 22 (L)	100	40	977	191	1120	5,9	2	4x25	27,0-29,0	4/4	111,0	191,0	90,5	0,84				
								1	12x1,5	17,7-18,7	3/4	82,0	147,0	91,4	0,81				
											2/4	55,0	114,0	90,9	0,70				
											1/4	29,0	91,0	85,9	0,46				
1206 UN	K 28	120	40	981	217	1380	6,4	2	4x35	30,5-32,5	4/4	130,0	217,0	92,3	0,86				
								1	12x1,5	17,7-18,7	3/4	97,0	167,0	92,9	0,84				
											2/4	65,0	126,0	92,2	0,75				
											1/4	34,0	94,0	88,5	0,52				
1406 UN	K 28	140	40	982	252	1680	6,7	2	4x35	30,5-32,5	4/4	151,0	252,0	92,7	0,86				
								1	12x1,5	17,7-18,7	3/4	113,0	198,0	93,0	0,82				
											2/4	76,0	151,0	92,5	0,72				
											1/4	39,0	115,0	88,8	0,49				
1656 UN	K 28	165	40	990	311	2200	7,1	2	4x50	41,0-45,0	4/4	177,0	311,0	93,5	0,82				
								1	12x1,5	17,7-18,7	3/4	133,0	246,0	93,0	0,78				
											2/4	90,0	195,0	91,4	0,67				
											1/4	48,0	156,0	86,5	0,44				
1906 UN	K 31	190	40	990	335	2200	6,6	2	F3x70/3	38,7-41,7	4/4	203	335	93,6	0,87				
								1	5	17,7-18,7	3/4	152	260	93,8	0,84				
									12x1,5		2/4	102	194	93,1	0,76				
											1/4	53	142	89,6	0,54				
2256 UN	K 31	224	40	995	407	2820	6,9	4	4x25	27,0-29,0	4/4	240	407	93,8	0,85				
								1	12x1,5	17,7-18,7	3/4	179	322	94,3	0,80				
											2/4	121	250	93,0	0,70				
											1/4	64	192	87,9	0,48				
2606 UN	K 31	260	40	995	462	3200	6,9	4	4x35	30,5-32,5	4/4	276	462	94,2	0,86				
								1	12x1,5	17,7-18,7	3/4	207	362	94,2	0,83				
											2/4	139	275	93,5	0,73				
											1/4	73	208	89,0	0,51				

With cooling jacket, for material G/G1, installation type K

Table 11: Motor data 415 V 50Hz

Motor size	Frame size	Rated power P2		Max. temperature of liquid	Nominal speed	Rated current	Starting current	Electric cable for power supply and control (+) if necessary	Electrical motor valves for rated power P2 (for 1/4 to 3/4 load)											
		[kW]	[°C]						[min ⁻¹]	IN	IA	IA/IN	Quantity	Type	Ø min-max	Load	Power P1	Current I	η	cos φ
326 UN	K 22 (K)	24	40	979	49,7	270	5,4	2	4x4	12,4-13,4	4/4	27,2	49,7	88,2	0,79					
											1	12x1,5	17,7-18,7	3/4	20,6	40,1	87,6	0,74		
														2/4	14	31,7	85,5	0,64		
														1/4	7,7	25,4	77,5	0,44		
406 UN	K 22 (K)	32	40	982	69,4	406	5,9	2	4x10	22,0-25,0	4/4	36,1	69,4	88,7	0,75					
											1	12x1,5	17,7-18,7	3/4	27,2	56,9	88,3	0,69		
														2/4	18,6	47	86,2	0,57		
														1/4	10,2	39,9	78,2	0,37		
506 UN	K 22 (K)	40	40	981	82,2	468	5,7	2	4x10	22,0-25,0	4/4	45	82,2	88,9	0,79					
											1	12x1,5	17,7-18,7	3/4	33,9	67	88,5	0,73		
														2/4	23,2	53	86,4	0,63		
														1/4	12,7	42,6	78,8	0,43		
606 UN	K 22 (K)	60	40	977	113	650	5,8	2	4x16	26,5-30,0	4/4	66,4	113,0	90,4	0,85					
											1	12x1,5	17,7-18,7	3/4	49,6	88,0	90,7	0,82		
														2/4	33,7	66,0	89,0	0,73		
														1/4	17,9	50,0	83,8	0,51		
806 UN	K 22 (L)	75	40	977	139	844	6,1	2	4x25	27,0-29,0	4/4	82,8	139,0	90,5	0,86					
											1	12x1,5	17,7-18,7	3/4	61,9	110,0	90,9	0,81		
														2/4	41,5	85,0	90,5	0,70		
														1/4	22,0	66,0	85,4	0,48		
1006 UN	K 22 (L)	90	40	979	172	1120	6,5	2	4x35	30,5-32,5	4/4	98,9	172,0	91,0	0,83					
											1	12x1,5	17,7-18,7	3/4	74,0	137,0	91,2	0,78		
														2/4	49,7	109,0	90,5	0,66		
														1/4	26,4	88,0	85,1	0,43		
1206 UN	K 28	120	40	981	217	1380	6,4	2	4x50	41,0-45	4/4	130,0	217,0	92,3	0,86					
											1	12x1,5	17,7-18,7	3/4	97,0	167,0	92,9	0,84		
														2/4	65,0	126,0	92,2	0,75		
														1/4	34,0	94,0	88,5	0,52		
1406 UN	K 28	140	40	982	252	1680	6,7	2	4x50	41,0-45	4/4	151,0	252,0	92,7	0,86					
											1	12x1,5	17,7-18,7	3/4	113,0	198,0	93,0	0,82		
														2/4	76,0	151,0	92,5	0,72		
														1/4	39,0	115,0	88,8	0,49		
1656 UN	K 28	160	40	985	304	2170	7,1	2	F3x70/3	38,7- 41,7	4/4	172,0	304,0	93,0	0,82					
											1	5	17,7-18,7	3/4	129,0	247,0	92,9	0,75		
														2/4	87,0	198,0	92,3	0,63		
														1/4	45,0	163,0	88,1	0,40		

2553.455385/01-EN

Motor size	Frame size	Rated power P2		Max. temperature of liquid	Nominal speed	Rated current	Starting current	Electric cable for power supply and control (+) if necessary	Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)						
		[kW]	[°C]						[min ⁻¹] N _n	[A] I _N	[A] I _A	I _A /I _N	Quantity	Type	Ø min-max
1906 UN	K 31	170	40	991	301	2200	7,3	4	4x35	30,5-32,5 17,7-18,7	4/4	181	301	93,8	0,87
											3/4	136	235	94,0	0,83
											2/4	92	182	92,9	0,73
											1/4	49	143	87,1	0,49
2256 UN	K 31	200	40	996	367	2820	7,7	4	4x35	30,5-32,5 17,7-18,7	4/4	213	367	94,0	0,84
											3/4	160	293	94,0	0,79
											2/4	108	235	92,7	0,66
											1/4	58	192	86,2	0,44
2606 UN	K 31	235	40	995	421	3200	7,6	4	4x50	41,0-45 17,7-18,7	4/4	249	421	94,3	0,85
											3/4	187	332	94,3	0,81
											2/4	126	261	93,1	0,70
											1/4	67	208	87,3	0,47

3.6.4 Motor data 8 pole

Without cooling jacket, for material G/G1, installation type S and P

Table 12: Motor data 415 V 50Hz

Motor size	Frame size	Rated power P2		Max. temperature of liquid	Nominal speed	Rated current	Starting current	Electric cable for power supply and control (+) if necessary	Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)									
		[kW]	[°C]						[min ⁻¹] n _n	IN	IA	IA/IN	Quantity	Type	Ø min-max	Load	Power P1	Current I
508 UN	K 22 (K)	50	40	730	106	490	4,6	2	4x10	22,0-25,0	4/4	56,5	84,8	88,5	0,77			
											1	12x1,5	17,7-18,7	3/4	42,2	69,6	88,9	0,70
														2/4	28,2	56,0	88,7	0,58
														1/4	14,9	47,2	83,7	0,37
758 UN	K 22 (L)	75	40	730	155	730	4,7	2	4x16	26,5-30,0	4/4	84,3	124	89,0	0,78			
											1	12x1,5	17,7-18,7	3/4	62,9	101	89,4	0,72
														2/4	42,3	82	88,7	0,60
														1/4	22,4	67	83,7	0,38
908 UN	K 28	90	40	735	176	935	5,3	2	4x35	30,5-32,5	4/4	97,9	141	92,0	0,80			
											1	12x1,5	17,7-18,7	3/4	73,2	113	92,3	0,75
														2/4	49,1	88	91,6	0,64
														1/4	25,7	70	87,7	0,42
1108 UN	K 28	110	40	735	212	1090	5,1	2	4x50	41,0-45,0	4/4	119,0	170	92,3	0,81			
											1	12x1,5	17,7-18,7	3/4	90,0	135	92,2	0,76
														2/4	60,0	103	91,8	0,67
														1/4	31,0	81	88,4	0,44
1308 UN	K 28	130	40	735	253	1329	5,3	2	F3x70/35	38,7-41,7	4/4	140,0	203	92,6	0,80			
											1	12x1,5	17,7-18,7	3/4	105,0	162	92,7	0,75
														2/4	71,0	127	91,8	0,64
														1/4	37,0	102	88,8	0,41
1508 UN	K 31	150	40	745	299	1744	5,8	2	4x50	41,0-45,0	4/4	162	299	92,9	0,78			
											1	12x1,5	17,7-18,7	3/4	121	243	93,0	0,72
														2/4	82	199	91,5	0,59
														1/4	43	167	87,2	0,37
1858 UN	K 31	185	40	745	358	2100	5,9	2	S1BN8-F	38,7-41,7	4/4	198	358	93,3	0,80			
											1	3x70/35	17,7-18,7	3/4	149	288	93,1	0,75
												12x1,5		2/4	100	230	92,5	0,63
														1/4	52	189	88,9	0,40
2208 UN	K 31	220	40	745	429	2544	5,9	4	4x35	30,5-32,5	4/4	235	429	93,7	0,79			
											1	12x1,5	17,7-18,7	3/4	177	347	93,2	0,74
														2/4	119	278	92,4	0,62
														1/4	62	229	88,7	0,39

2553.455385/01-EN

With cooling jacket, for material G/G1, installation type K

Table 13: Motor data 415 V 50Hz

Motor size	Frame size	Rated power P2		Max. temperature of liquid	Nominal speed	Rated current	Starting current	Electric cable for power supply and control (+) if necessary	Electrical motor valves for rated power P2 (for 1/4 to 3/4 load)											
		[kW]	[°C]						N _n	IN	IA	IA/IN	Quantity	Type	Ø min-max	Load	Power P1	Current I	η	cos φ
268 UN	K 22 (K)	24	40	731	54,6	236	4,3	2	4x6	18,0-20,5	4/4	27,6	54,6	87,0	0,73					
											1	12x1,5	17,7-18,7	3/4	20,8	44,7	86,7	0,67		
														2/4	14,2	36,7	84,4	0,56		
														1/4	7,9	30,6	76,1	0,37		
358 UN	K 22 (K)	30	40	734	67,3	308	4,6	2	4x10	22,0-25,0	4/4	34,0	67,3	88,2	0,73					
											1	12x1,5	17,7-18,7	3/4	25,6	55,1	88,0	0,67		
														2/4	17,5	46,0	85,6	0,55		
														1/4	9,7	38,7	77,7	0,36		
508 UN	K 22 (K)	50	40	730	106	490	4,6	2	4x16	26,5-30,0	4/4	56,5	106,0	88,5	0,77					
											1	12x1,5	17,7-18,7	3/4	42,2	87,0	88,9	0,70		
														2/4	28,2	70,0	88,7	0,58		
														1/4	14,9	59,0	83,7	0,37		
758 UN	K 22 (L)	75	40	730	155	730	4,7	2	4x25	27,0-29,0	4/4	84,3	155,0	89,0	0,78					
											1	12x1,5	17,7-18,7	3/4	62,9	126,0	89,4	0,72		
														2/4	42,3	102,0	88,7	0,60		
														1/4	22,4	84,0	83,7	0,38		
908 UN	K 28	90	40	735	176	935	5,3	2	4x35	30,5-32,5	4/4	97,9	176,0	92,0	0,80					
											1	12x1,5	17,7-18,7	3/4	73,2	141,0	92,3	0,75		
														2/4	49,1	110,0	91,6	0,64		
														1/4	25,7	88,0	87,7	0,42		
1108 UN	K 28	110	40	735	212	1090	5,1	2	4x50	41,0-45	4/4	119,0	212,0	92,3	0,81					
											1	12x1,5	17,7-18,7	3/4	90,0	169,0	92,2	0,76		
														2/4	60,0	129,0	91,8	0,67		
														1/4	31,0	101,0	88,4	0,44		
1308 UN	K 28	130	40	735	253	1329	5,3	2	F3x70/35	38,7-41,7	4/4	140,0	253,0	92,6	0,80					
											1	12x1,5	17,7-18,7	3/4	105,0	202,0	92,7	0,75		
														2/4	71,0	159,0	91,8	0,64		
														1/4	37,0	128,0	88,8	0,41		
1508 UN	K 31	150	40	745	299	1744	5,8	2	S1BN8-F3x70/35	38,7-41,7	4/4	162	299	92,9	0,78					
											1	12x1,5	17,7-18,7	3/4	121	243	93,0	0,72		
														2/4	82	199	91,5	0,59		
														1/4	43	167	87,2	0,37		
1858 UN	K 31	175	40	745	343	2106	6,1	4	4x35	30,5-32,5	4/4	188	343	93,2	0,79					
											1	12x1,5	17,7-18,7	3/4	141	275	93,3	0,74		
														2/4	95	225	92,5	0,61		
														1/4	50	190	87,3	0,38		

2553.455385/01-EN

Motor size	Frame size	Rated power P2		Max. temperature of liquid				Nominal speed			Rated current			Starting current			Electric cable for power supply and control (+) if necessary			Electrical motor valves for rated power P2 (for 1/4 to 4/4 load)			
		[kW]	[°C]	[min ⁻¹]	N _n	IN	IA	IA/IN	Quantity	Type	Ø min-max	Load	Power P1	Current I	η	cos φ							
						[A]	[A]			[mm ²]	[mm]		[kW]	[A]	[%]								
2208 UN	K 31	200	40	745	396	2544	6,4	4	4x35	30,5-32,5	4/4	214	396	93,5	0,78								
								1	12x1,5	17,7-18,7	3/4	161	324	93,4	0,72								
											2/4	108	268	92,3	0,58								
											1/4	58	229	86,7	0,36								

3.7 Rubber cables

Features



Fig. 3: Cable

1	Conductor - annealed tin copper Thin layer of insulated paper between conductor and its insulation (for every core)
2	EPR Insulation
3	Rubber inner sheath Open braid of cotton twin as reinforcement between inner and outer sheath of cable
4	Outer rubber sheath

Complies to standard IS 9968 Pt1., VDE 0250

Maximum temperature for continuous operation Deg C +90 °C

Permissible temperature in case of short-circuit Deg C +250 °C

Minimum working temperature Deg C -50 °C

3.8 Sensors in KRT Submersible

Table 14: Sensors: Standard available scope

Motor frame size	Motor size	Thermal motor monitoring		Moisture protection sensor	Mechanical seal monitoring via internal float switch	Thermal monitoring of pump side grooved ball/angular contact bearing	Thermal monitoring of motor side cylindrical roller/grooved ball bearing
		Bi-Metal	PTC				
		Potential free NC - contact	Temperature sensitive semiconducting resistance with +ve temperature coefficient				
Ferrule marking	21-22	10-11	9-PE (earth wire)	3-4	15-16	16-17	
DKN 132/160/161/181	52-252	X	-	X	-	-	-
	114-294						
	96-226						
DKN 226	354-654	X	X	X	X	-	-
	326-606						
K22 (K+L)	508-758	X	X	X	X	X	X
	326-606						
	508-758						
K28/K31	954-3504	X	X	X	X	X	X
	806-2606						
	908-2208						

3.9 Thermal motor monitoring

Temperature sensors

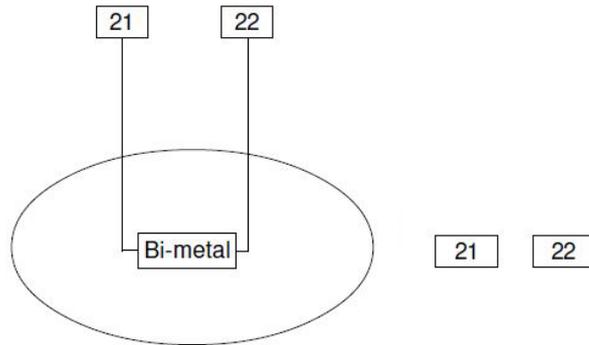


Fig. 4: Temperature sensors applicable for entire KRT motor range

Motor version U/UN, non flame proof

- Connected directly into control circuit of the motor connector
- Temperature limit of bi-metal thermal monitoring device = +150 °C
- 21-22: Auto trip and Auto restart

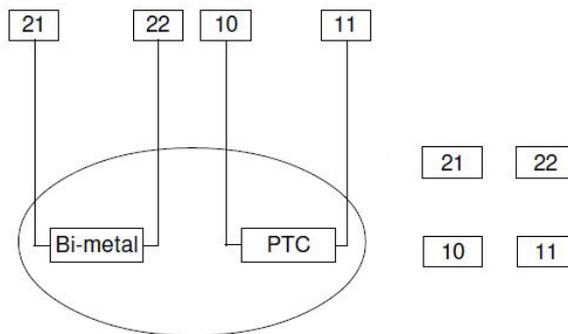


Fig. 5: Temperature sensors applicable for $\geq 30\text{kW}$

Motor version U/UN, non flame proof

Motor frame sizes DKN226, K22, K28, K31

- Connected directly into control circuit of the motor connector
- Temperature limit of bi-metal thermal monitoring device = +150 °C
- Connected via thermistor tripping unit with manual reset
- 21-22: Auto trip and Auto restart
- 10-11: Backup trip in case 21-22 fails, manual reset

Moisture protection sensor (within the motor)

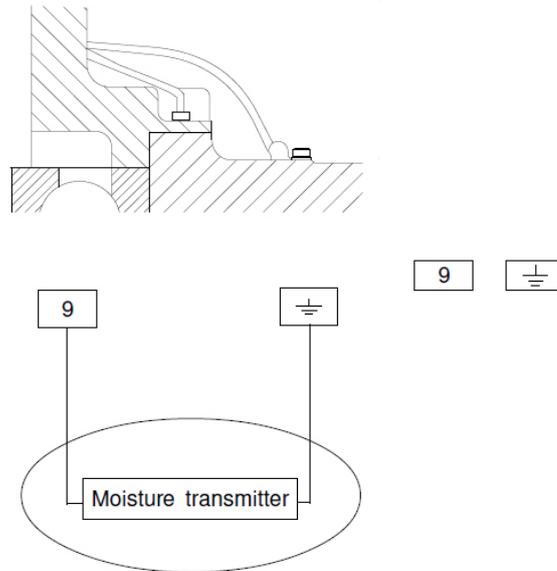


Fig. 6: Moisture protection sensor applicable for entire motor range

Motor version U / UN, non flameproof

Leakage sensor

- Conductive sensor electrode
- 1 qty. of sensor screwed at bottom side bearing bracket for motor ratings from 5.5 kW - 62 kW (frame size DKN 132 to DKN 226), motor versions U
- 2 qtys, for K frame sized motors, motor version UN, motor ratings >24kW, internally connected moisture sensors in parallel - one at upper bearing bracket and one at lower bearing bracket (bearing housing)
- Sensor voltage must be alternating voltage in order to prevent electrochemical effects
- Max. voltage 250 V
- $R > 60\text{ k}\Omega$
- To be connected to earth leakage circuit breaker (ELCB)

Thermal monitoring of ball bearing

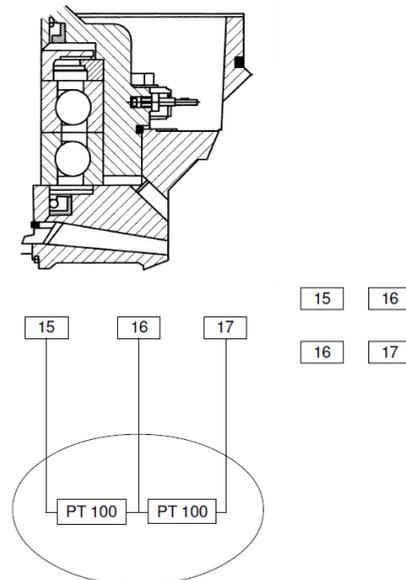


Fig. 7: Thermal monitoring applicable for $\geq 24\text{kW}$

2553.455385/01-EN

Motor version UN, non flameproof

Motor frame sizes K22, K28, K31

- Connected via PT100 tripping relay with the following parameters
 - warning temperature: +130 °C
 - switching off temperature : +150 °C

PT100 - Bearing temperature sensor

- PT100 resistance thermometer
- M8 thread in bearing housing
- analog, continuous temperature signal
- max. voltage 6 V
- 15-16: bottom side bearing
- 16-17: upper side bearing

Mechanical seal monitoring

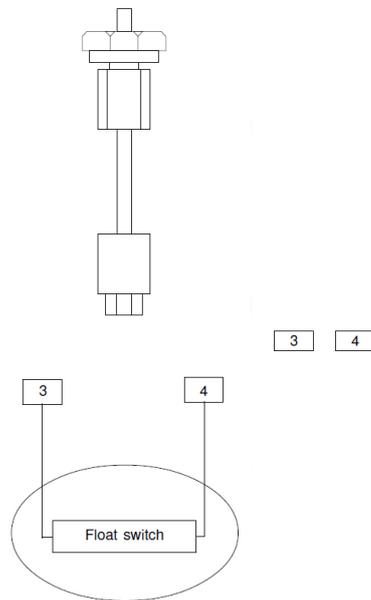


Fig. 8: Mechanical seal monitoring applicable for $\geq 30\text{kW}$

Motor version U/UN, non flameproof

Motor frame sizes DKN226, K22, K28, K31

- Connections for alarm or tripping
- $R < 1 \Omega$

Internal float switch

- potential free NC-contact, 250 V AC, 2A
- closed - leakage chamber empty
- open - leakage present, check mechanical seal

	<p>NOTE</p>
<p>The pictures for sensors are representative figures and may change depending upon motor ratings.</p>	

3.10 Wiring diagrams

3.10.1 Wiring diagram for installation type S and P

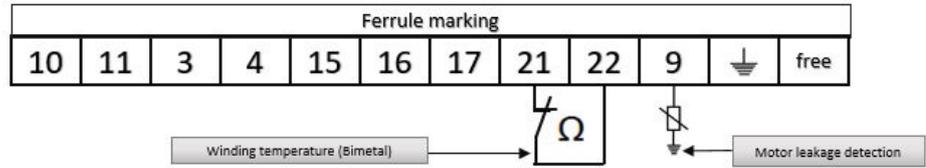


Fig. 9: Wiring diagram 1

Suitable motor frame size: DKN 132/ DKN 160/ DKN 161/ DKN 181

Suitable motor ratings: 5kW to 27kW

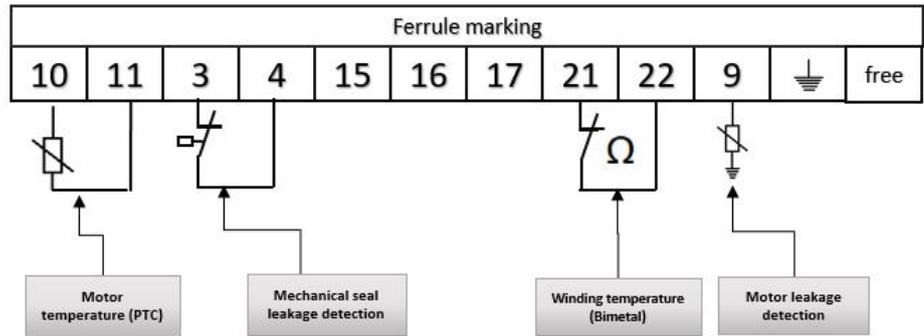


Fig. 10: Wiring diagram 2

Suitable motor frame size: DKN 226

Suitable motor ratings: 30kW to 62kW

3.10.2 Wiring diagram for installation type K and S

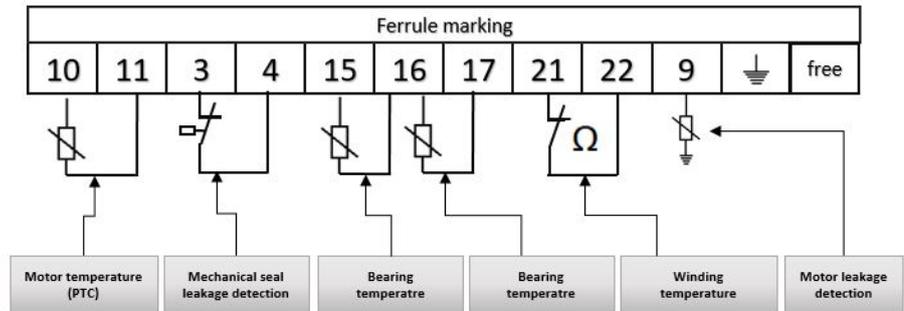


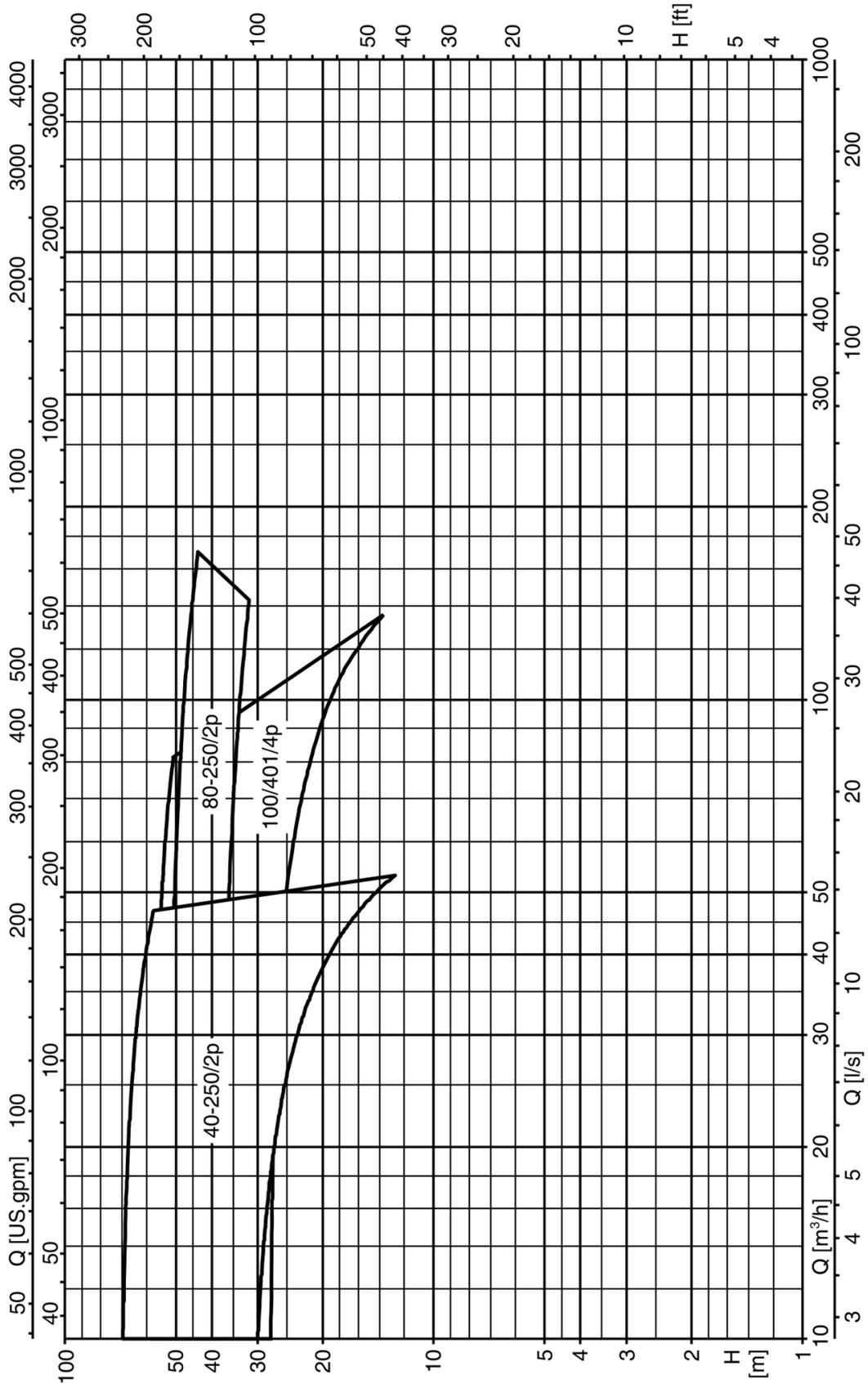
Fig. 11: Wiring diagram 3

Suitable motor frame size: K 22/ K28/ K31

Suitable motor ratings: 24kW to 350kW

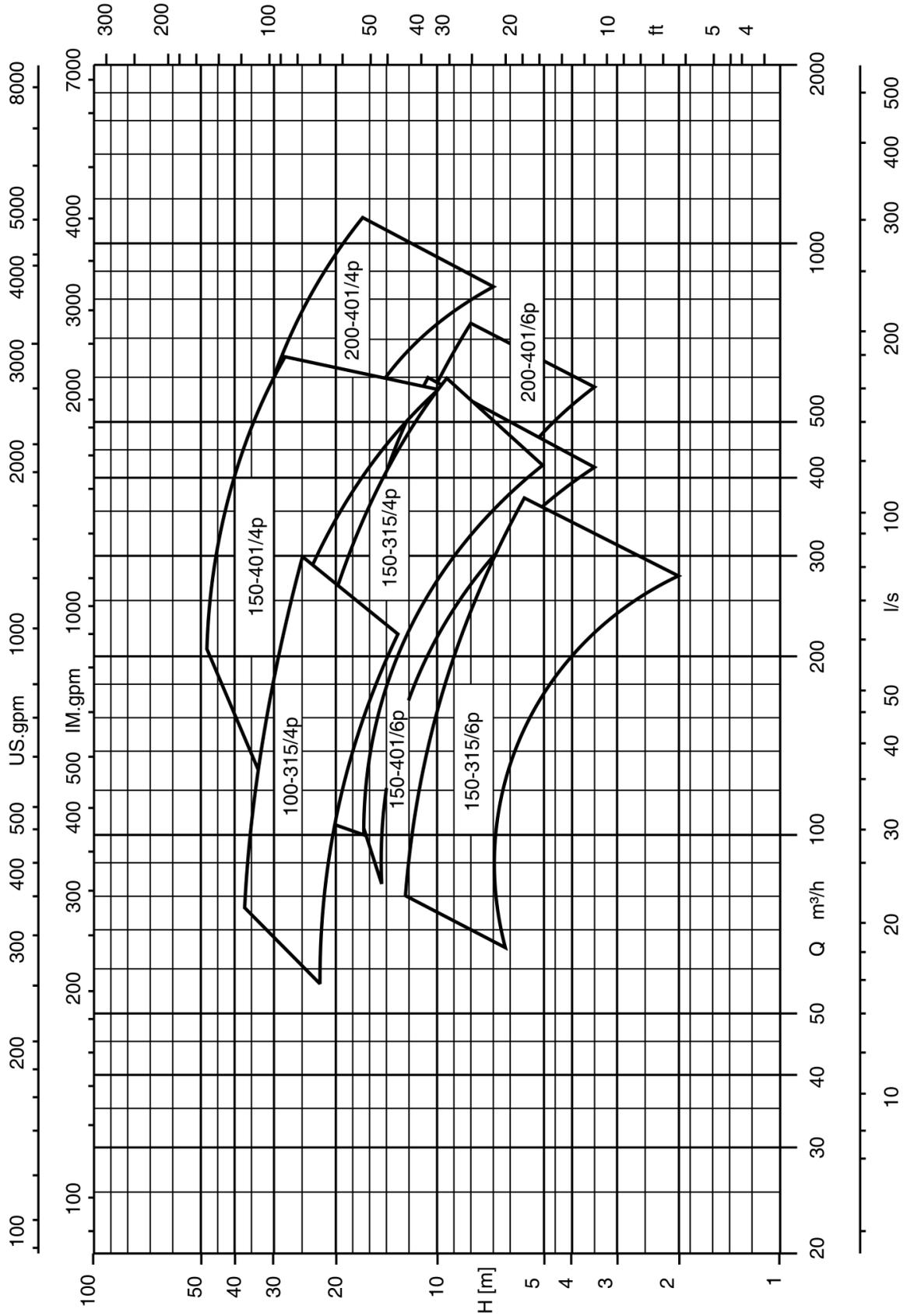
4 Selection charts

4.1 Amarex KRT F, n = 2900 + 1450 rpm



Operating data is guaranteed to DIN EN ISO 9906 / HI / 2B

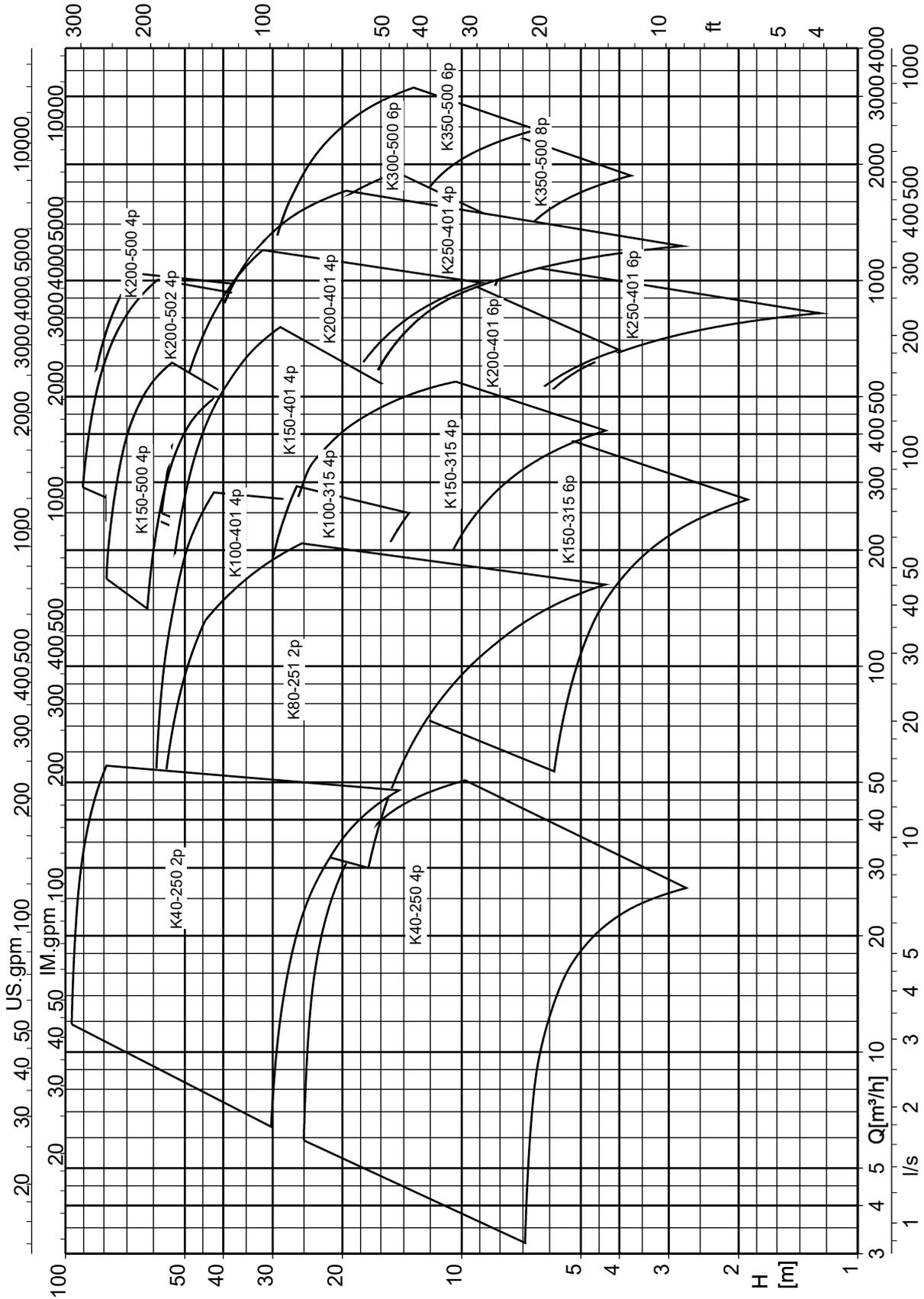
4.2 Amarex KRT E, n = 1450 + 960 rpm



Operating data is guaranteed to DIN EN ISO 9906 / HI / 2B

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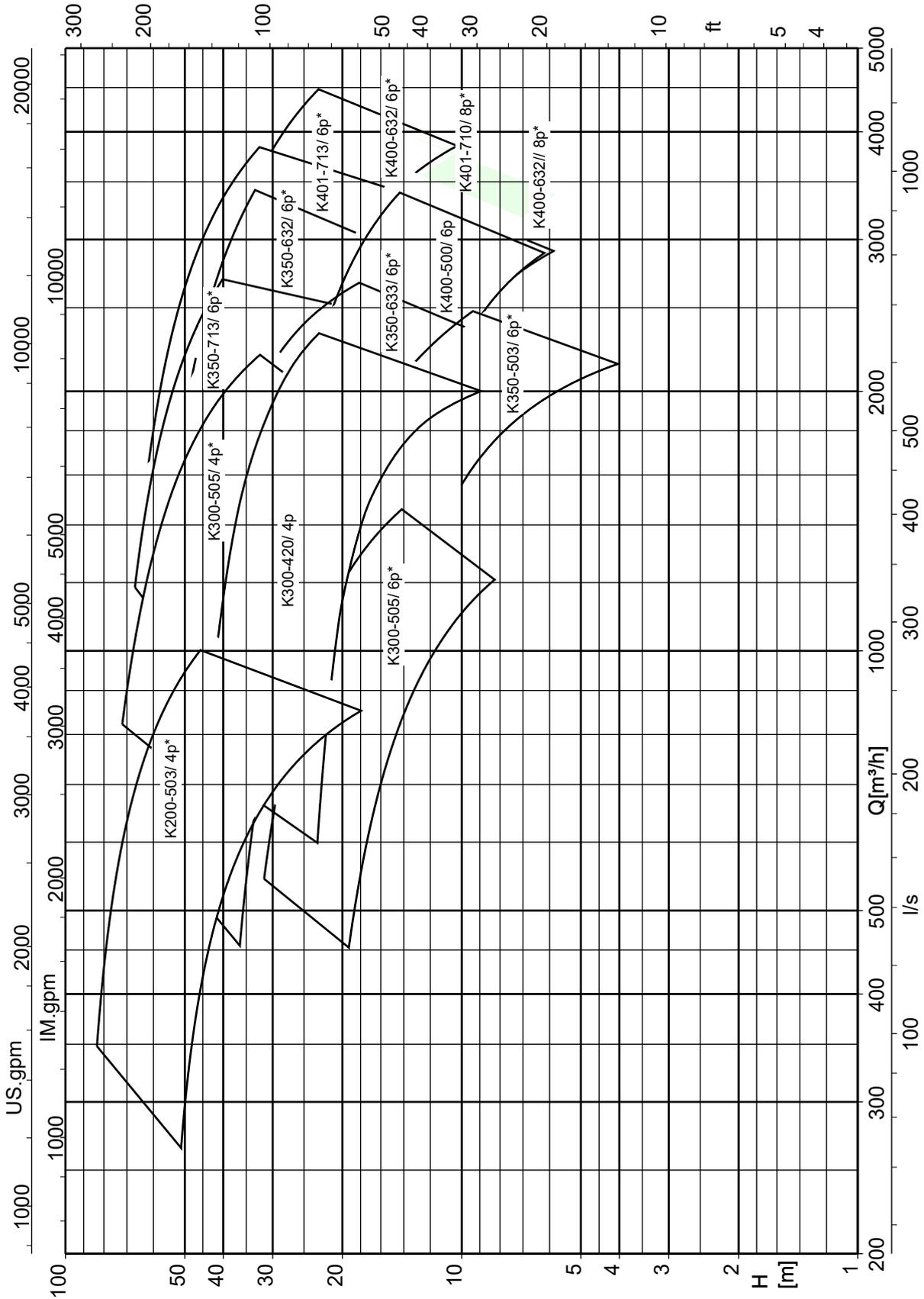
4.3 Amarex KRT K, n = 2900 + 1450 + 960 rpm



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4.4 Amarex KRT K max, n = 1450 + 960 + 750 rpm



* Before offering these sizes, kindly contact head office.

Operating data is guaranteed to DIN EN ISO 9906 / HI / 2B

5 Characteristic curves

5.1 K impeller

5.1.1 Amarex KRT K 40-250, n = 2900 rpm

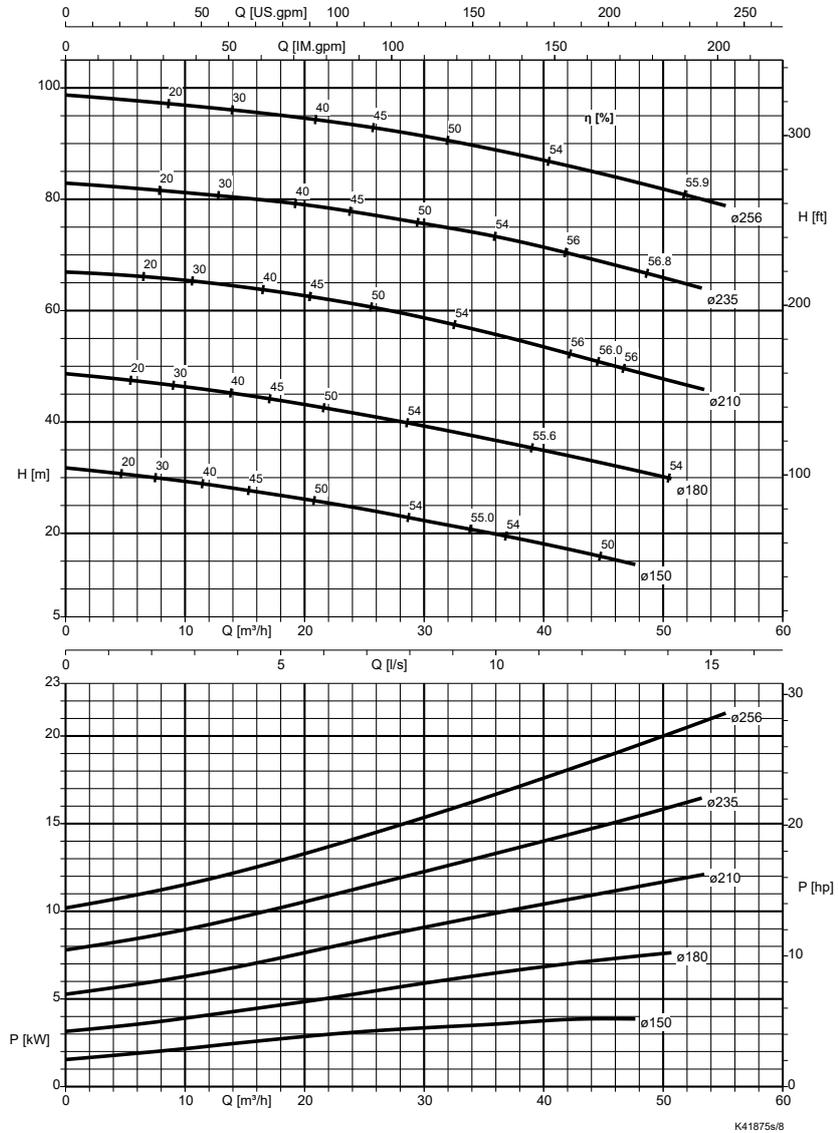


Fig. 12: Free passage = 15 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P Rated Power (P2-kW)
K 40-250	52 U	5
	62 U	6,5
	82 U	8,5
	122 U	12
	172 U	17

5.1.2 Amarex KRT K 80-251, n = 2900 rpm

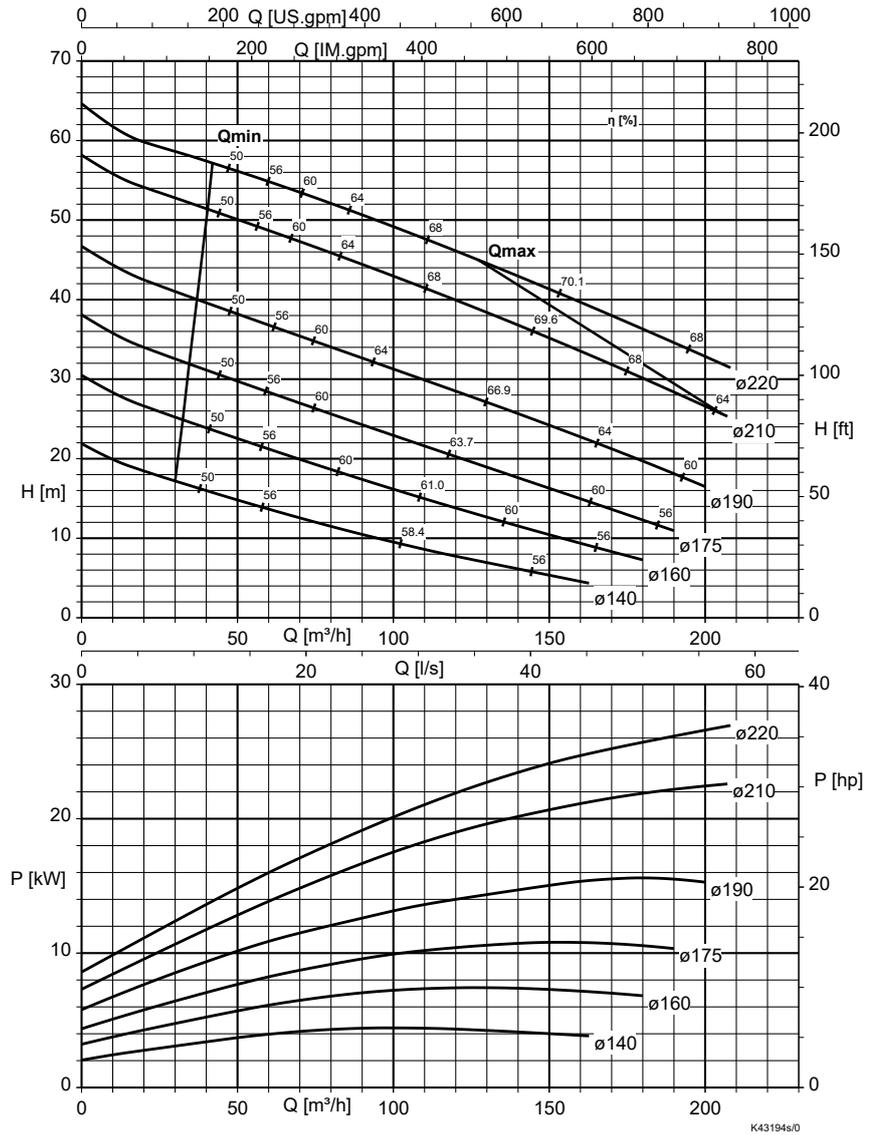


Fig. 13: Free passage = 33 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P
		Rated Power (P2-kW)
K 80-251	122 U	12
	172 U	17
	222 U	22
	252 U	25

2553.455385/01-EN

5.1.3 Amarex KRT K 100-315, n = 1450 rpm

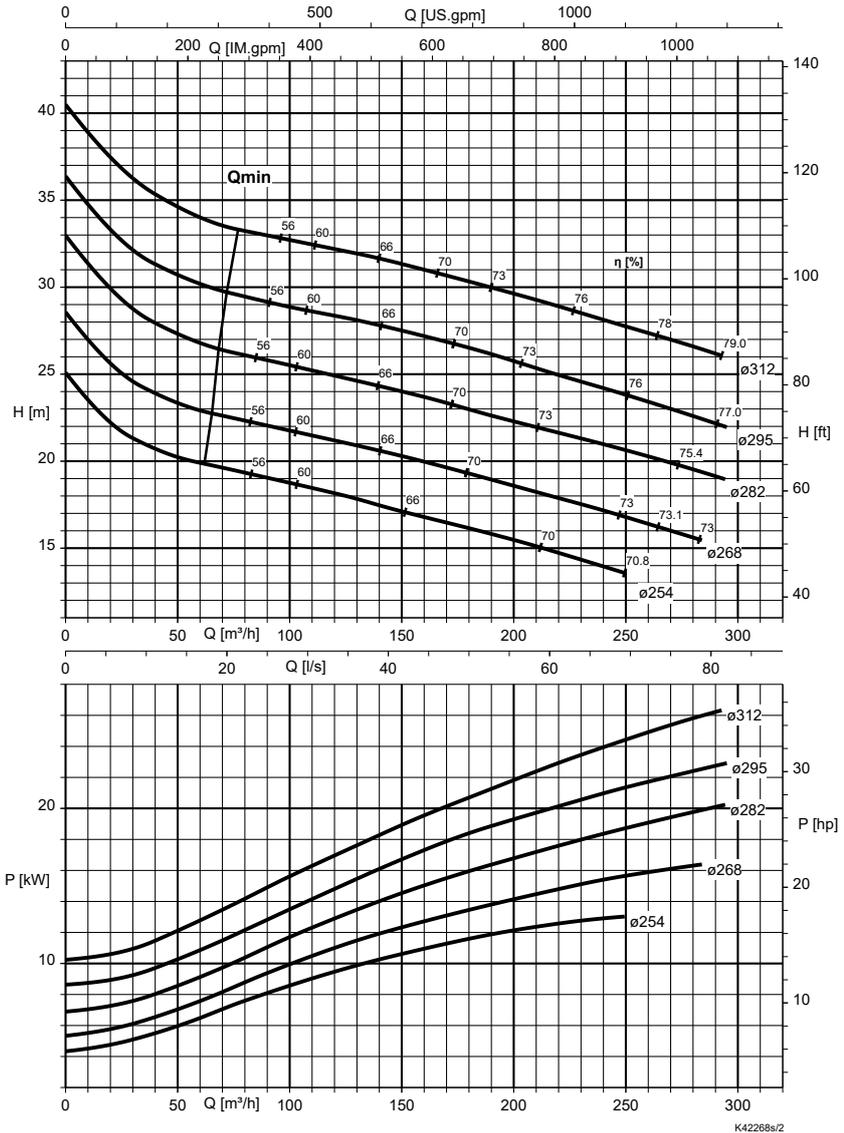


Fig. 14: Free passage = 80 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P
		Rated Power (P2-kW)
K 100-315	114 U	11,8
	164 U	16
	234 U	21
	294 U	27

2553.455385/01-EN

5.1.4 Amarex KRT K 100-401, n = 1450 rpm

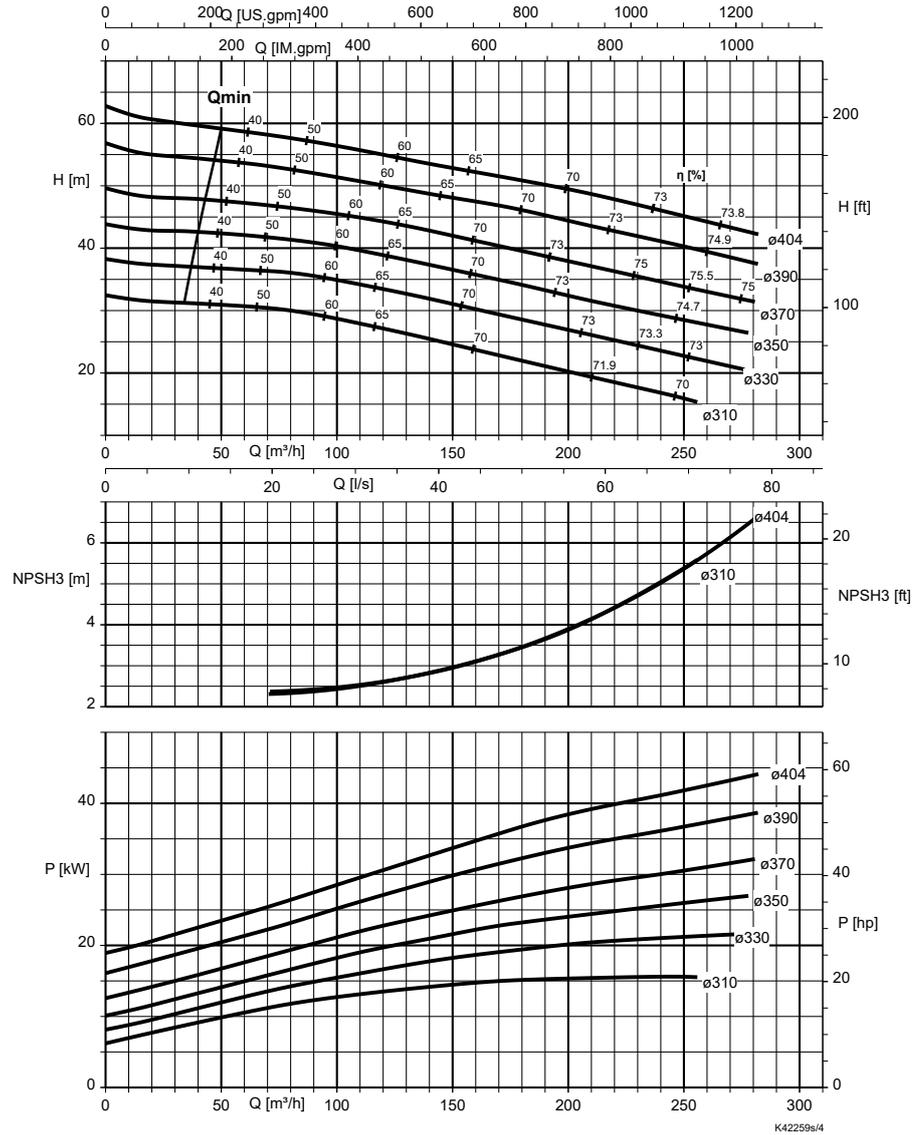


Fig. 15: Free passage = 50 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 100-401	234 U	-	21
	294 U	-	27
	354 U	-	38
	504 U	-	48
	654 U	-	62
	354 UN	32	-
	504 UN	42	-
	654 UN	55	-

2553.455385/01-EN

5.1.5 Amarex KRT K 150-315, n = 1450 rpm

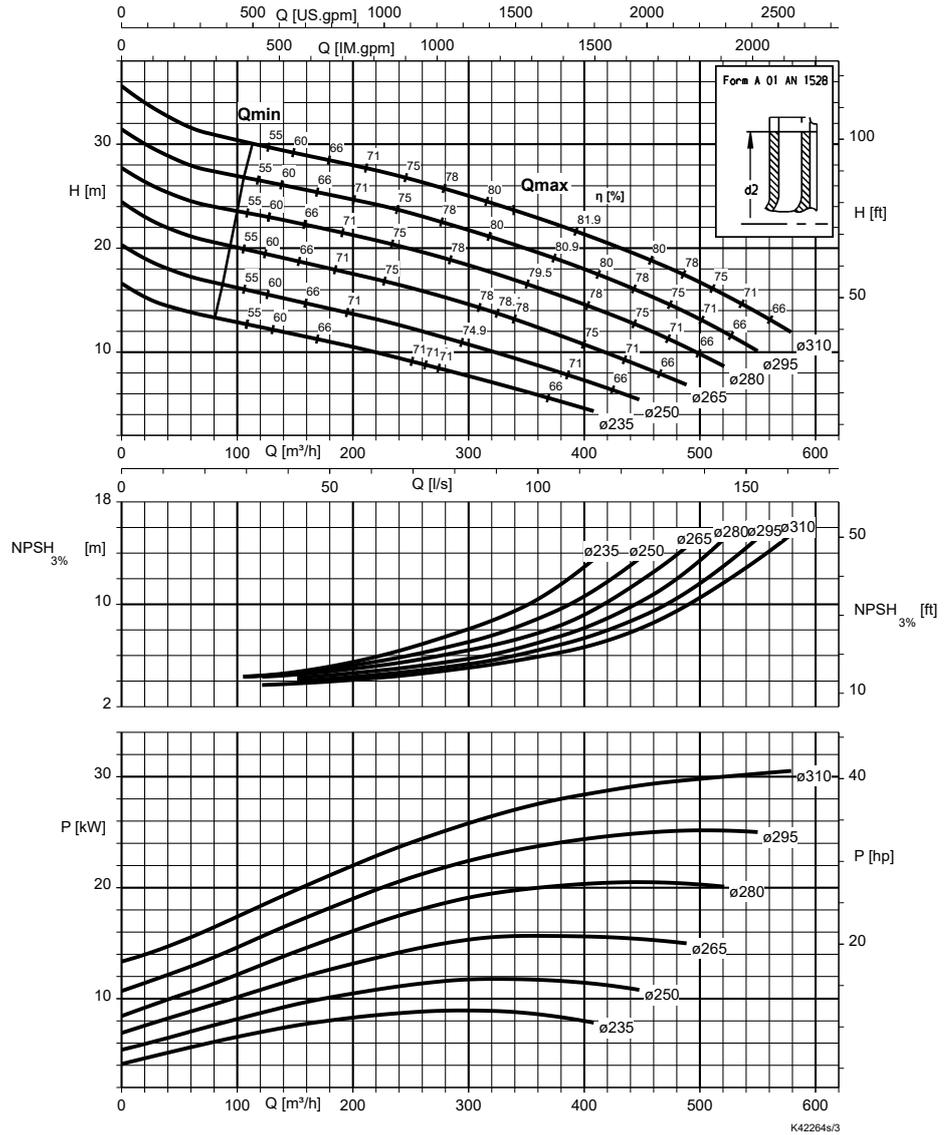


Fig. 16: Free passage = 76 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P
		Rated Power (P2-kW)
K 150-315	114 U	11,8
	164 U	16
	234 U	21
	294 U	27

2553.455385/01-EN

5.1.6 Amarex KRT K 150-401, n = 1450 rpm

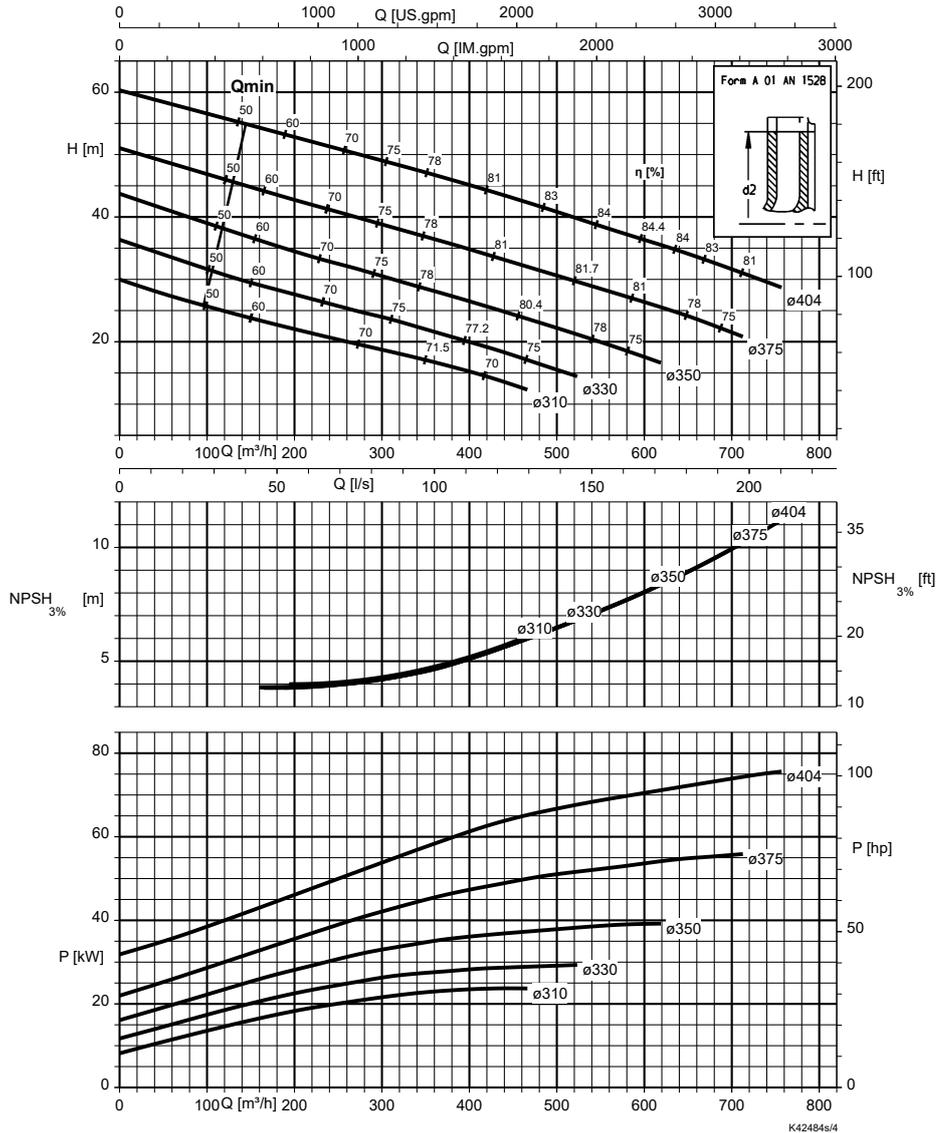


Fig. 17: Free passage = 76 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 150-401	354 U	-	38
	504 U	-	48
	654 U	-	62
	504 UN	42	-
	654 UN	55	-
	804 UN	75	80
	954 UN	90	95
	1104 UN	100	110

2553.455385/01-EN

5.1.7 Amarex KRT K 150-500, n = 1450 rpm

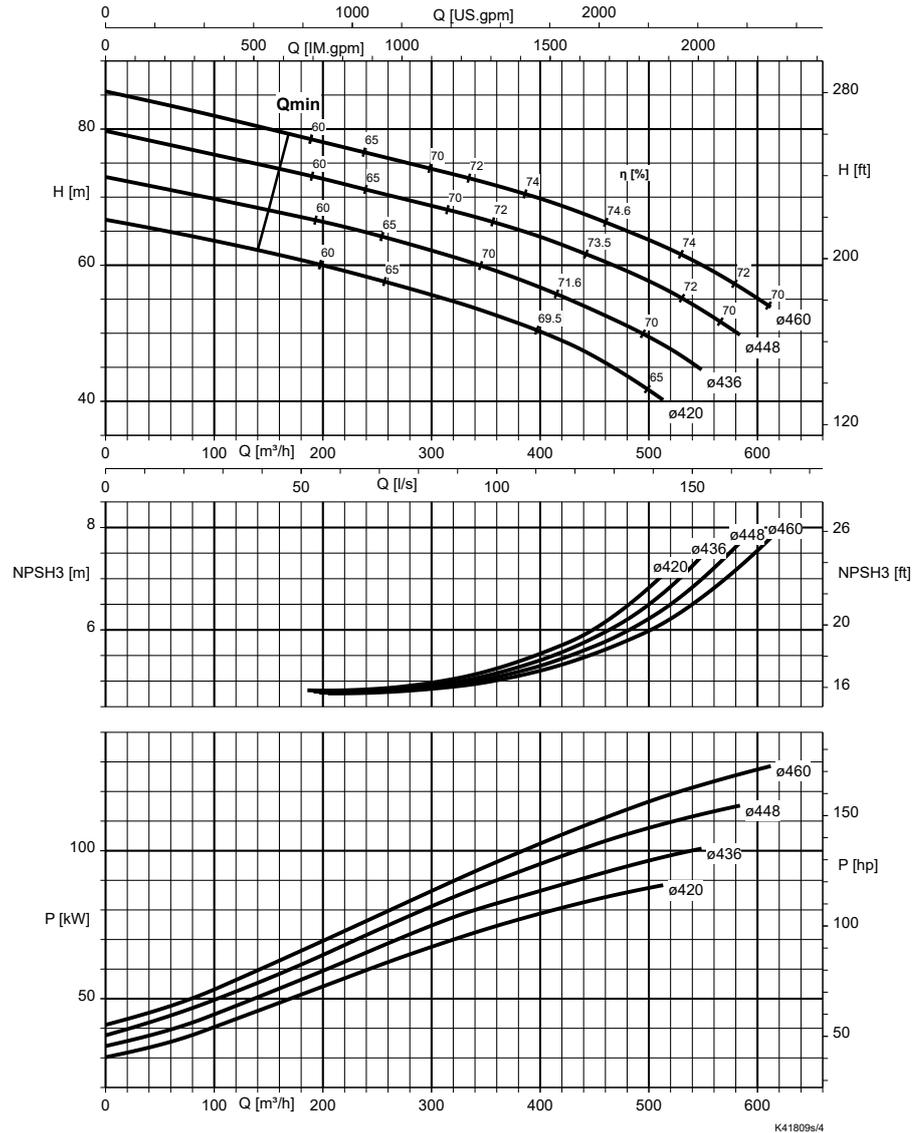


Fig. 18: Free passage = 60 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 150-500	804 UN	75	80
	954 UN	90	95
	1104 UN	100	110
	1304 UN	125	130
	1554 UN	145	155

2553.455385/01-EN

5.1.8 Amarex KRT K 200-401, n = 1450 rpm

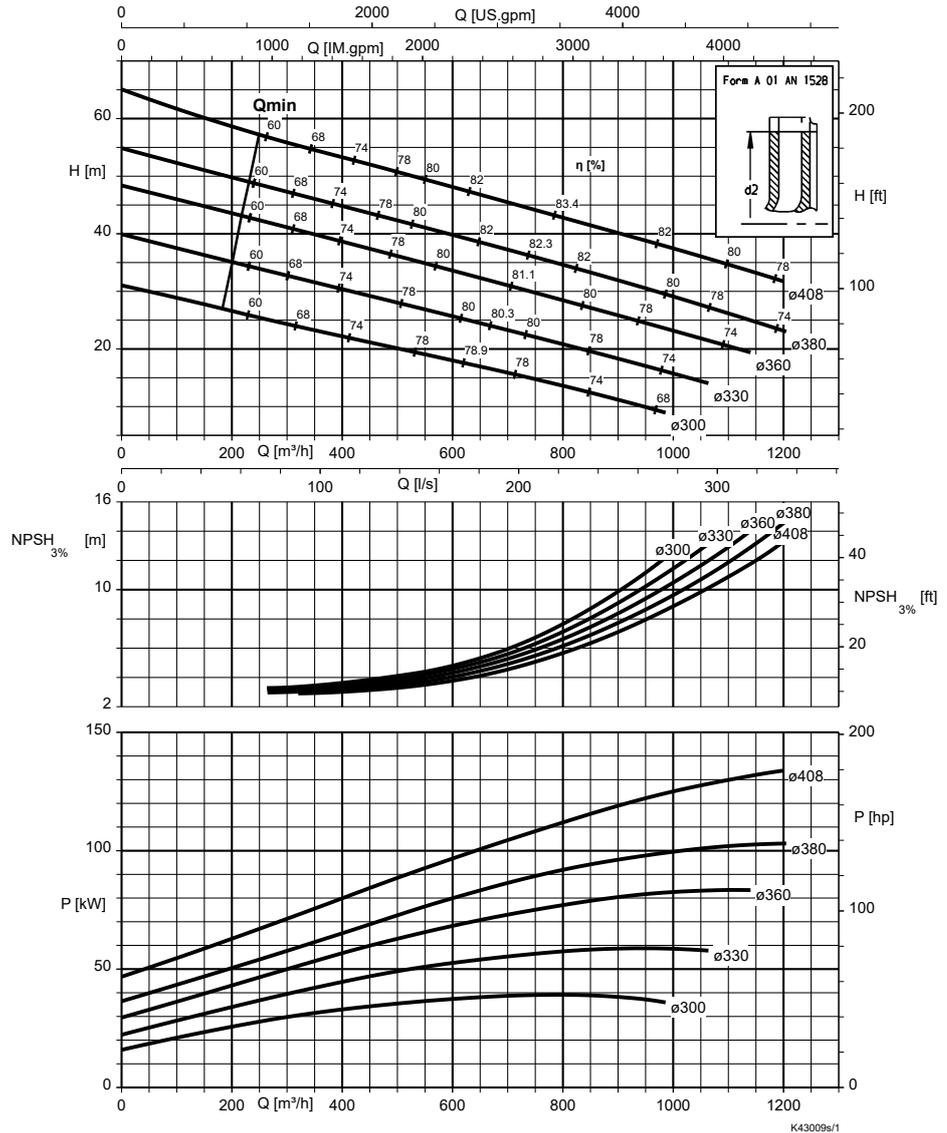


Fig. 19: Free passage = 80 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
Rated Power (P2-kW)			
K 200-401	354 U	-	38
	504 U	-	48
	654 U	-	62
	504 UN	42	-
	654 UN	55	-
	804 UN	75	80
	954 UN	90	95
	1104 UN	100	110
	1304 UN	125	130
	1554 UN	145	155

5.1.9 Amarex KRT K 200-500, n = 1450 rpm

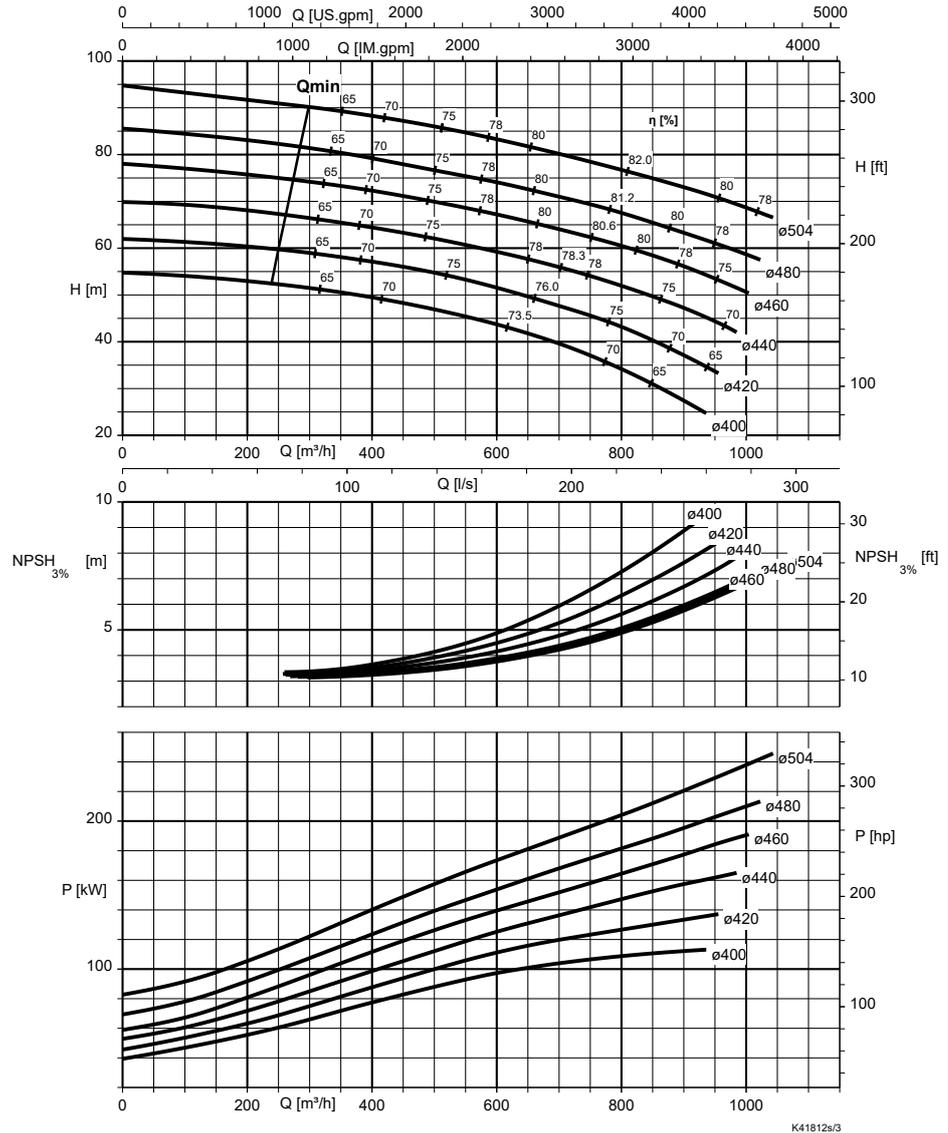


Fig. 20: Free passage = 76 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 200-500	804 UN	75	80
	954 UN	90	95
	1104 UN	100	110
	1304 UN	125	130
	1554 UN	145	155
	1754 UN	165	175

For motor sizes beyond 175 kW, kindly select hydraulic size DN 200-502.

2553.455385/01-EN

5.1.10 Amarex KRT K 200-502, n = 1450 rpm

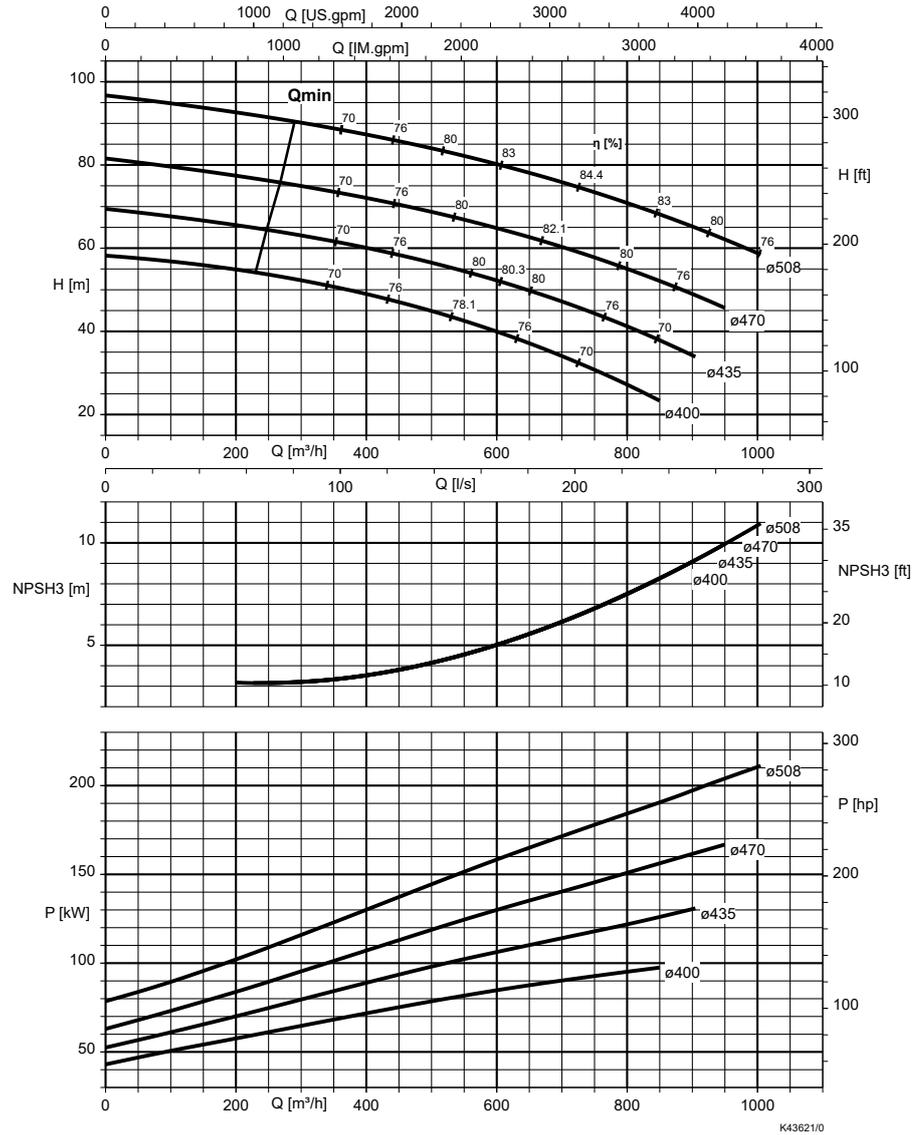


Fig. 21: Free passage = 76 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 200-502	1104 UN	100	110
	1304 UN	125	130
	1554 UN	145	155
	1754 UN	165	175
	2004 UN	180	200
	2504 UN	210	250

2553.455385/01-EN

5.1.11 Amarex KRT K 200-503, n = 1450 rpm

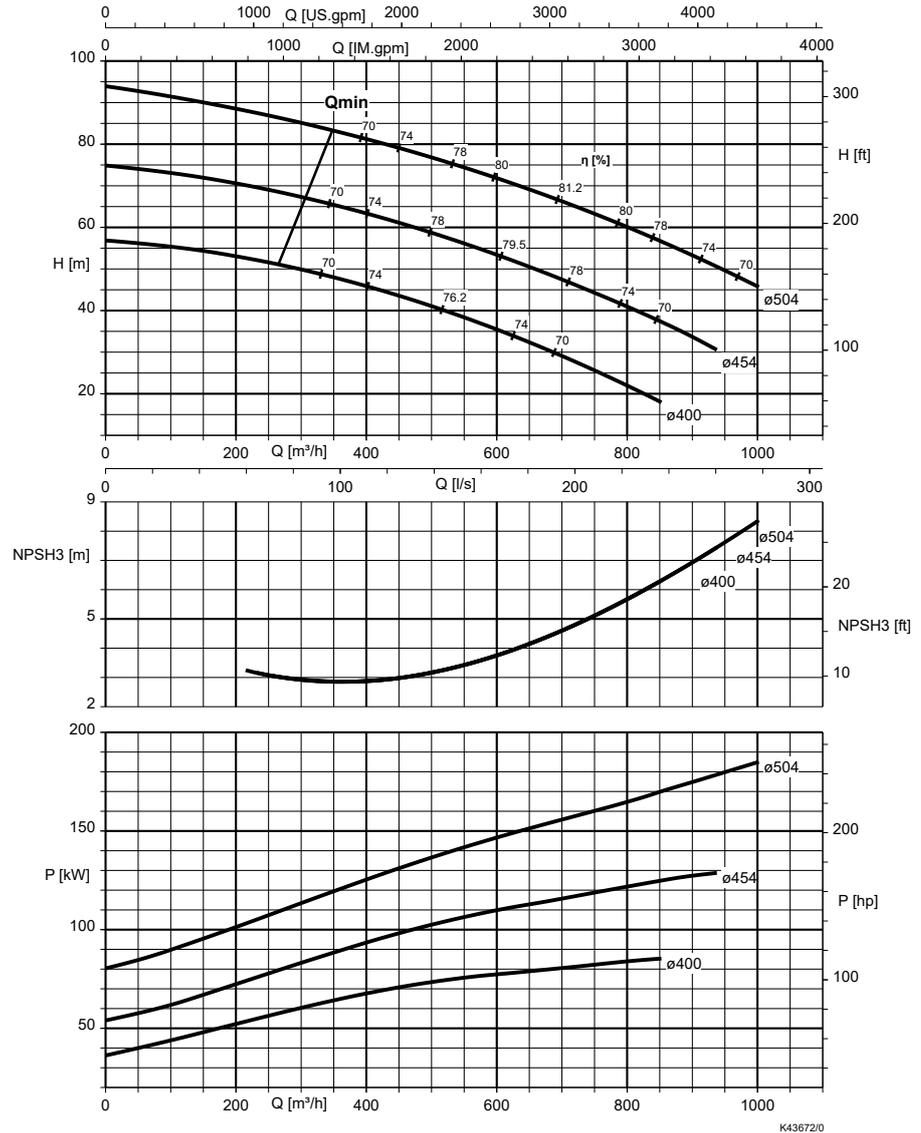


Fig. 22: Free passage = 90 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 200-503	354 UN	32	-
	504 UN	42	-
	654 UN	55	-
	804 UN	75	80
	954 UN	90	95
	1104 UN	100	110
	1304 UN	125	130
	1554 UN	145	155
	1754 UN	165	175
	2004 UN	180	200

2553.455385/01-EN

5.1.12 Amarex KRT K 250-401, n = 1450 rpm

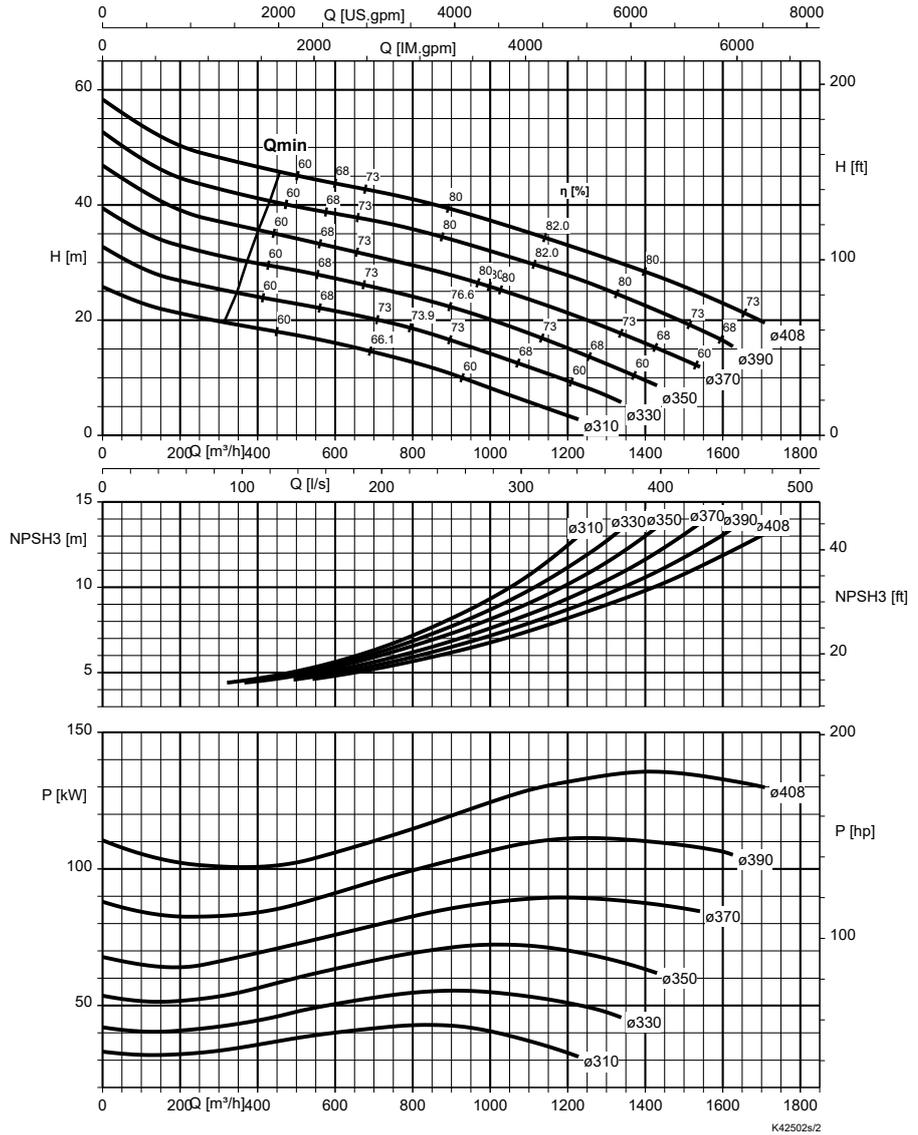


Fig. 23: Free passage = 105 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
Rated Power (P2-kW)			
K 250-401	504 U	-	48
	654 U	-	62
	654 UN	55	-
	804 UN	75	80
	954 UN	90	95
	1104 UN	100	110
	1304 UN	125	130
	1554 UN	145	-

2553.455385/01-EN

5.1.13 Amarex KRT K 300-420, n = 1450 rpm

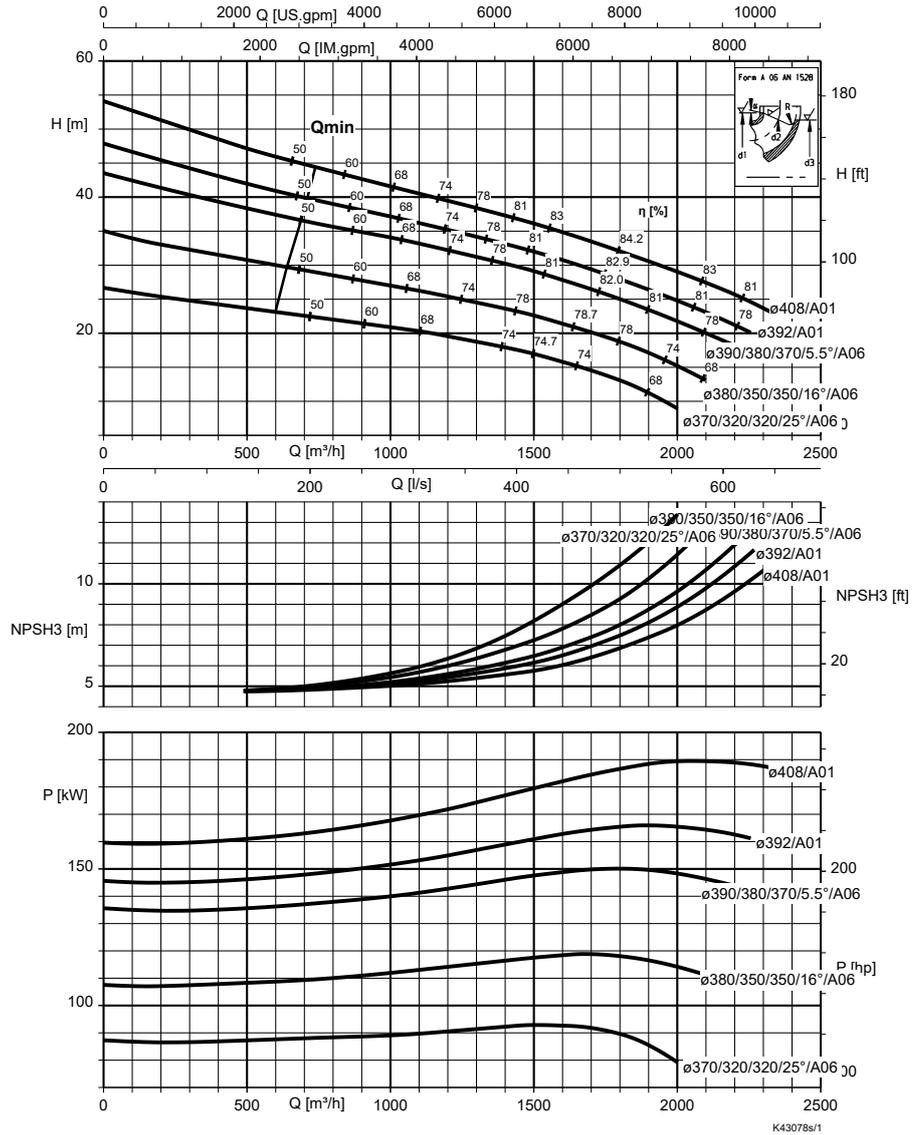


Fig. 24: Free passage = 100 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 300-420	1104 UN	100	110
	1304 UN	125	130
	1554 UN	145	155
	1754 UN	165	175
	2004 UN	180	200
	2504 UN	210	250

2553.455385/01-EN

5.1.14 Amarex KRT K 300-505, n = 1450 rpm

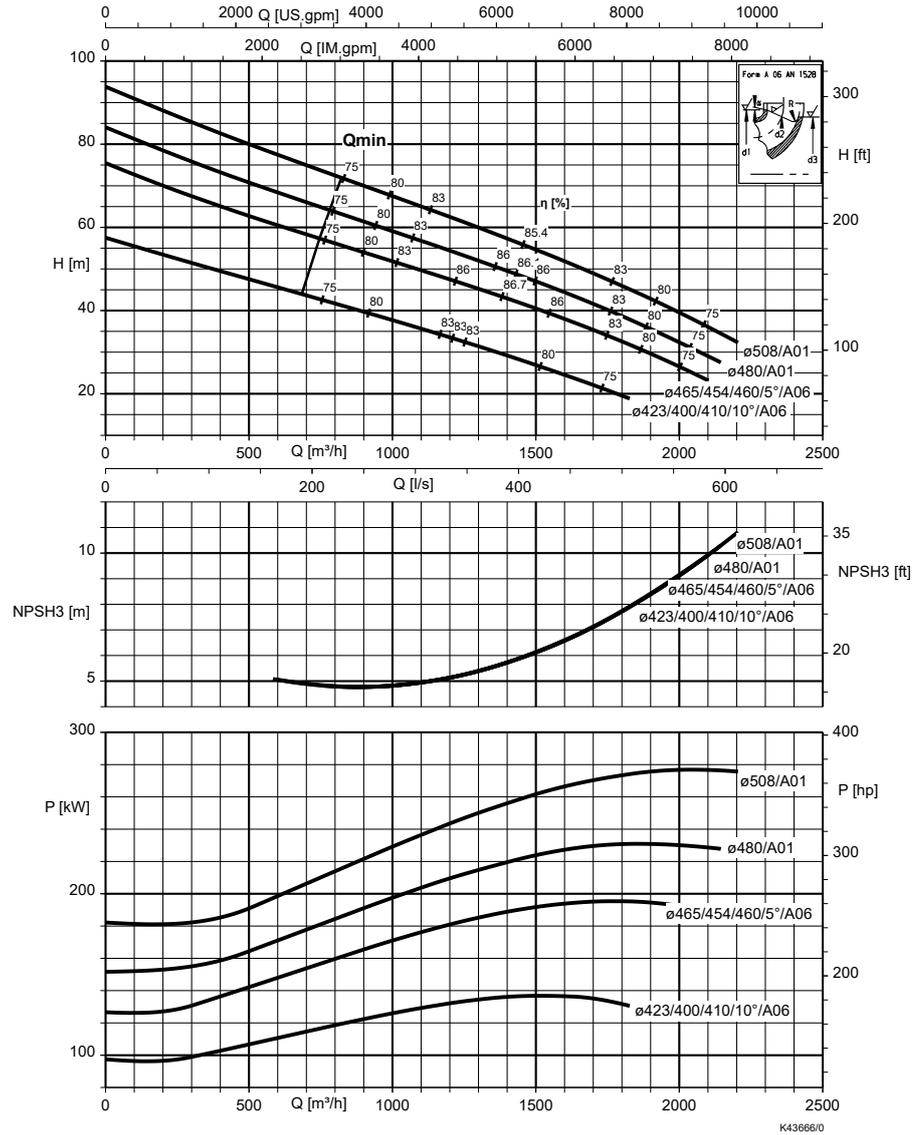


Fig. 25: Free passage = 102 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 300-505	954 UN	90	95
	1104 UN	100	110
	1304 UN	125	130
	1554 UN	145	155
	1754 UN	165	175
	2004 UN	180	200
	2504 UN	210	250
	3004 UN	240	300

2553.455385/01-EN

5.1.15 Amarex KRT K 150-315, n = 960 rpm

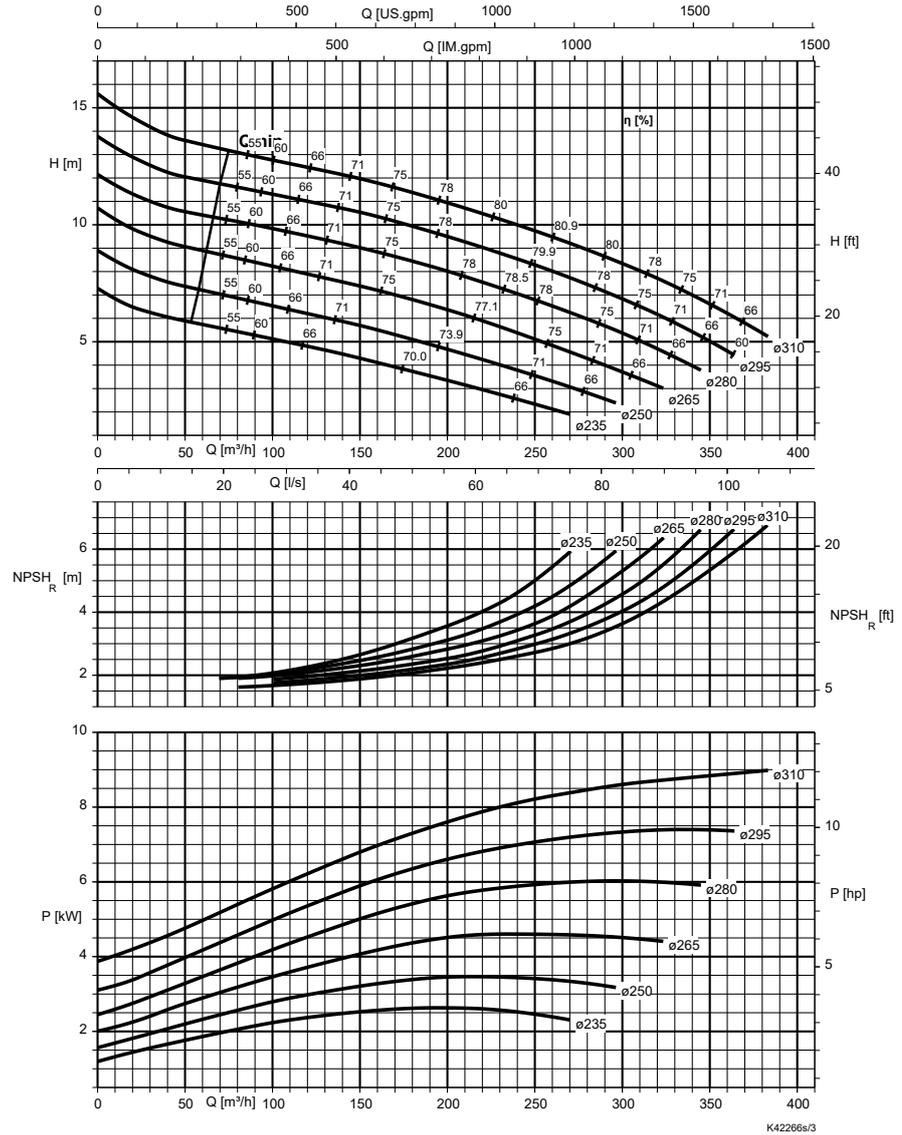


Fig. 26: Free passage = 76 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P
		Rated Power (P2-kW)
K 150-315	96 U	9
	126 U	12,5

2553.455385/01-EN

5.1.16 Amarex KRT K 150-401, n = 960 rpm

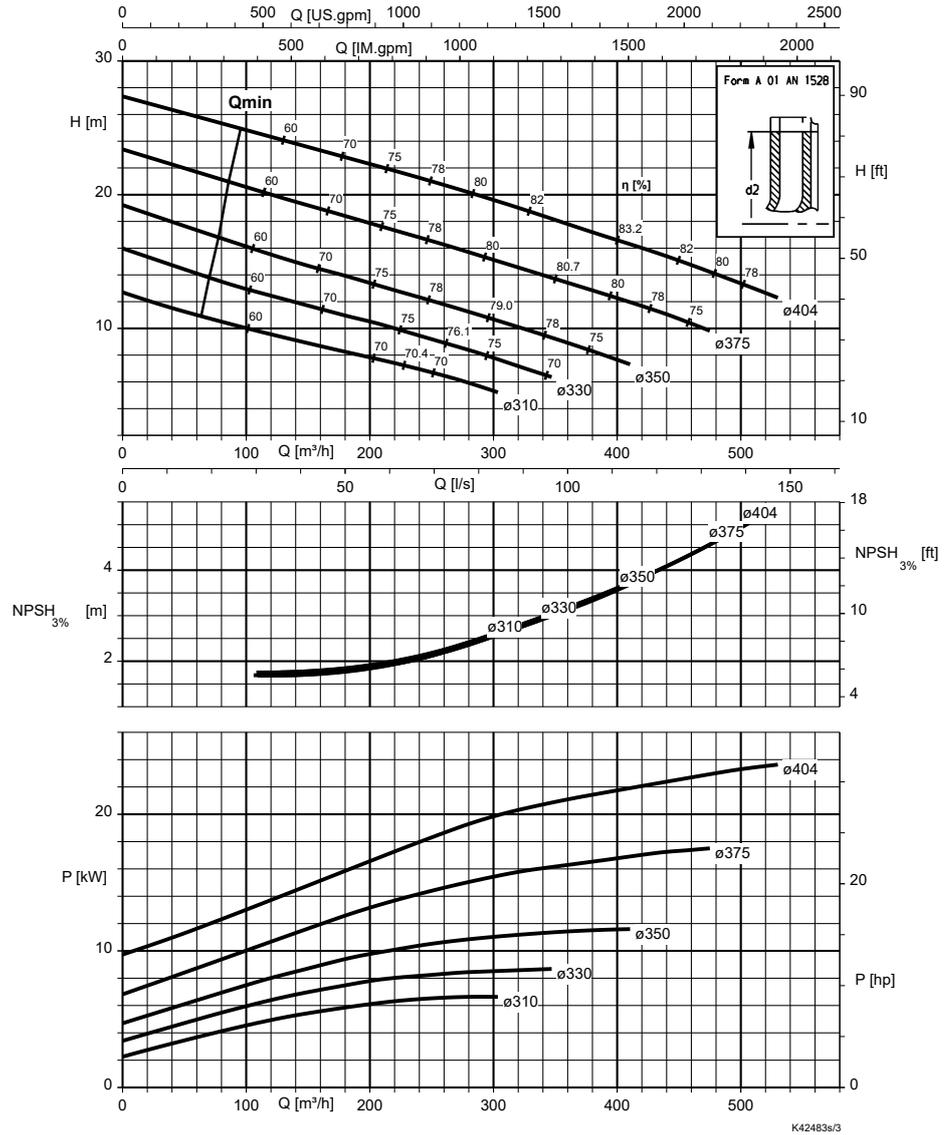


Fig. 27: Free passage = 76 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 150-401	206 U	-	18
	266 U	-	24
	326 UN	24	-
	406 UN	32	-

5.1.17 Amarex KRT K 200-401, n = 960 rpm

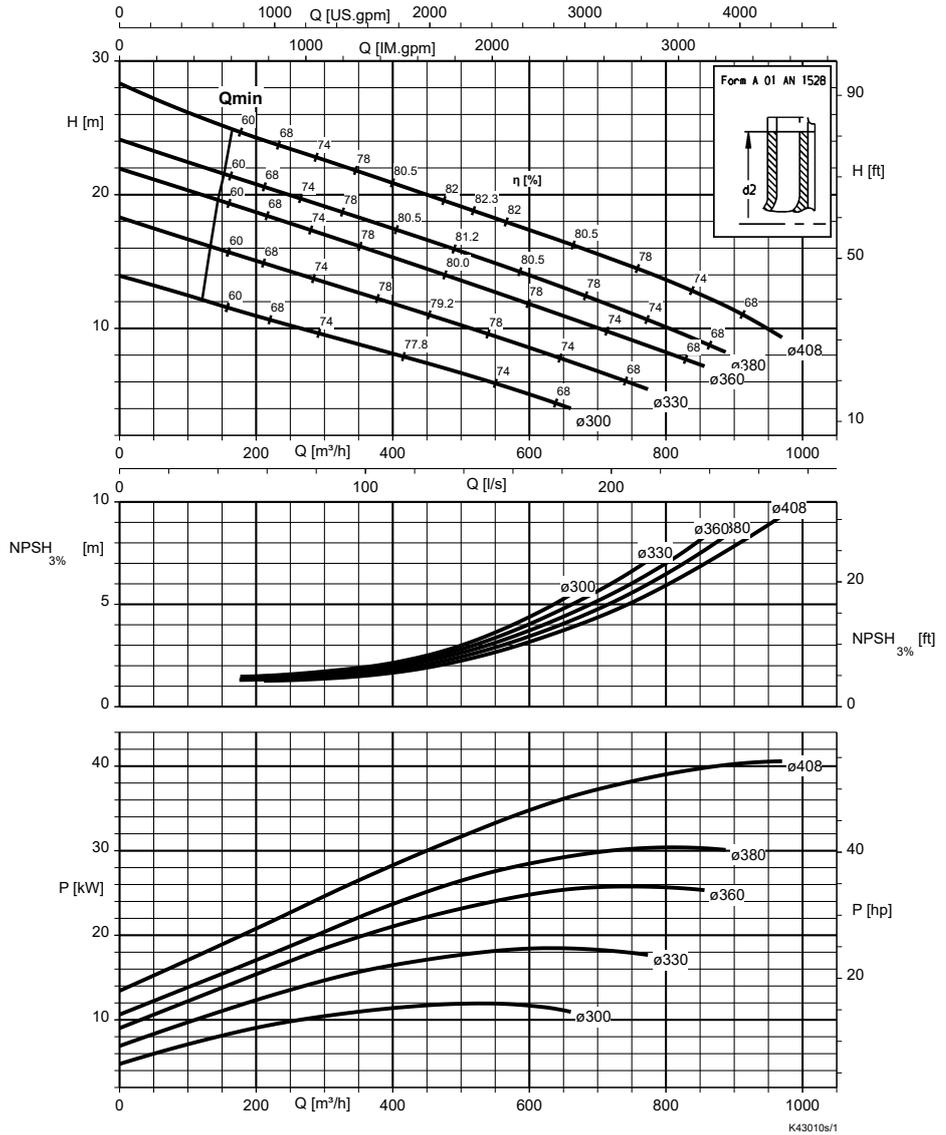


Fig. 28: Free passage = 80 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
Rated Power (P2-kW)			
K 200-401	206 U	-	18
	266 U	-	24
	326 U	-	30
	406 U	-	40
	506 U	-	48
	326 UN	24	-
	406 UN	32	-
	506 UN	40	-
	606 UN	60	60

2553.455385/01-EN

5.1.18 Amarex KRT K 250-401, n = 960 rpm

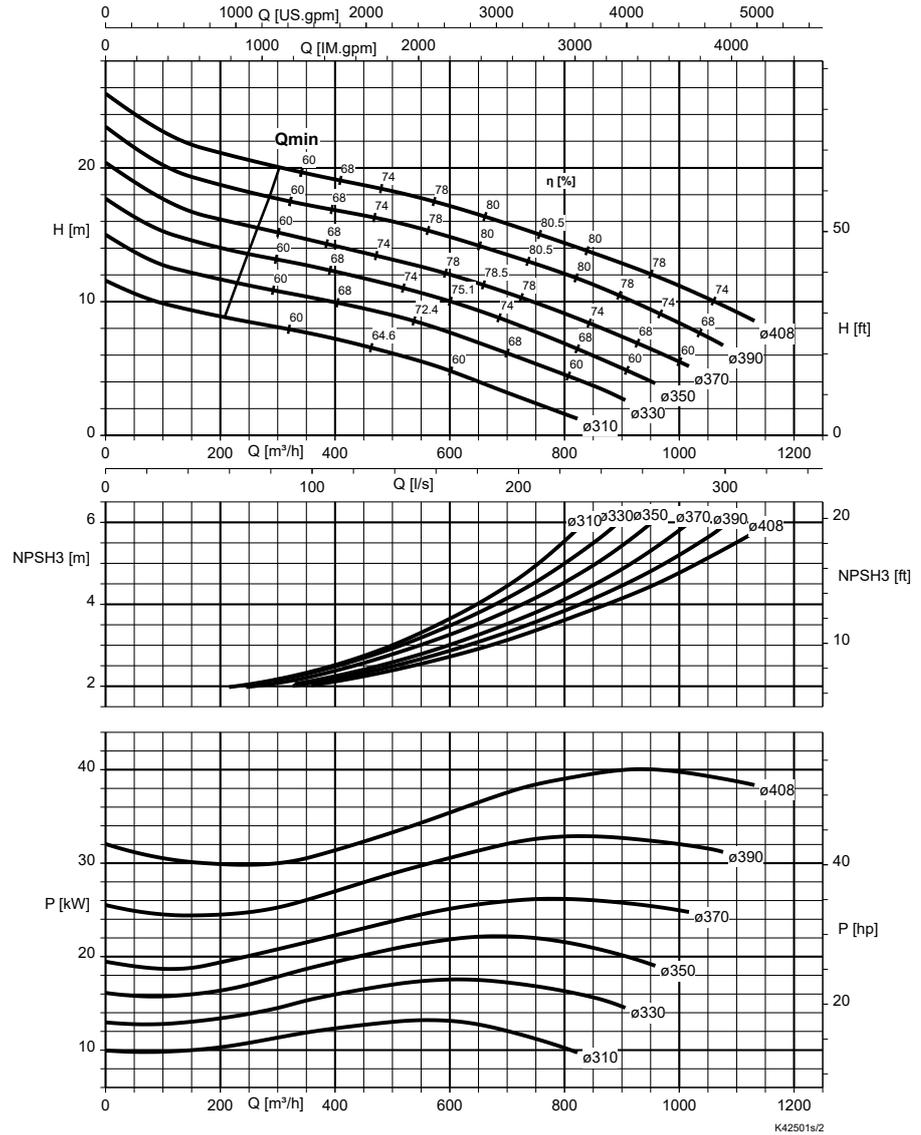


Fig. 29: Free passage = 105 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
Rated Power (P2-kW)			
K 250-401	206 U	-	18
	266 U	-	24
	326 U	-	30
	406 U	-	40
	506 U	-	48
	326 UN	24	-
	406 UN	32	-
	506 UN	40	-
	606 UN	60	60

2553.455385/01-EN

5.1.19 Amarex KRT K 250-632, n = 960 rpm

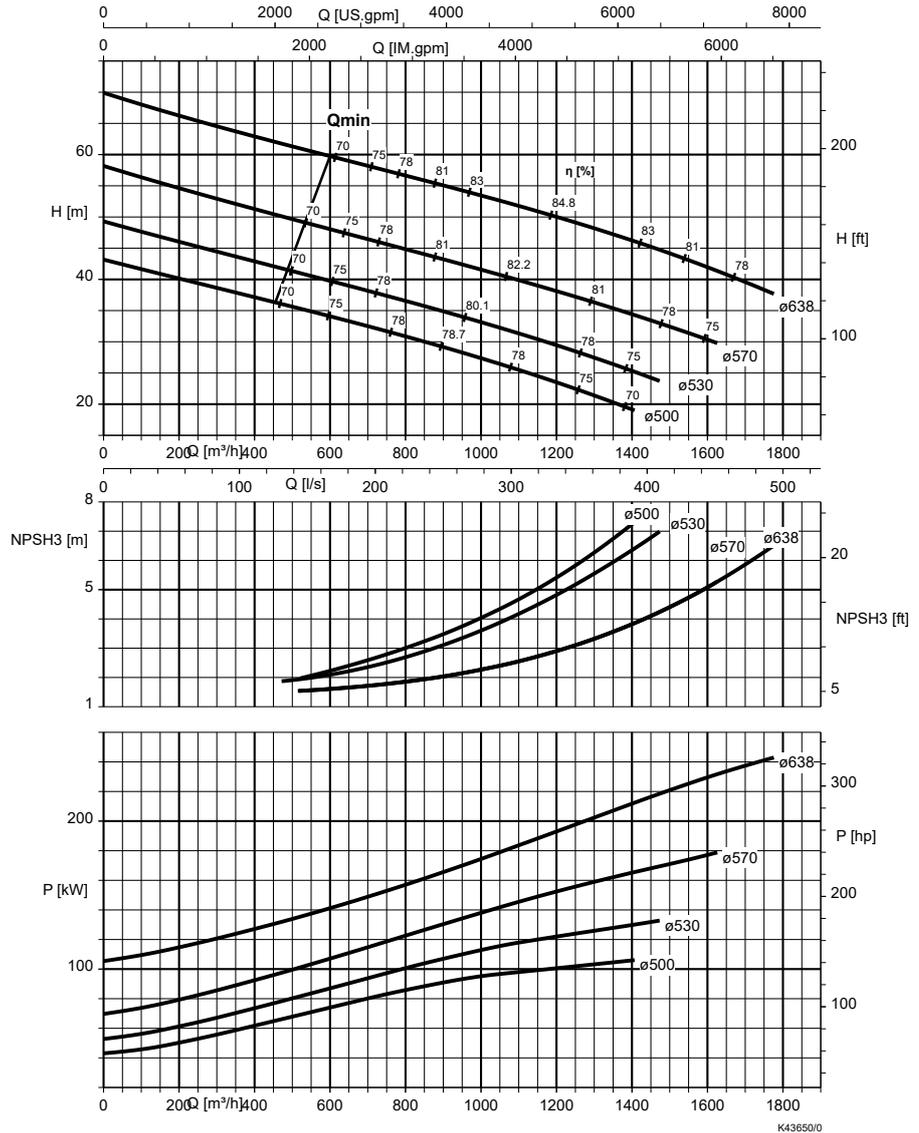


Fig. 30: Free passage = 102 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 250-632	1206 UN	120	120
	1406 UN	140	140
	1656 UN	160	165
	1906 UN	170	190
	2256 UN	200	225
	2606 UN	235	260

2553.455385/01-EN

5.1.20 Amarex KRT K 300-500, n = 960 rpm

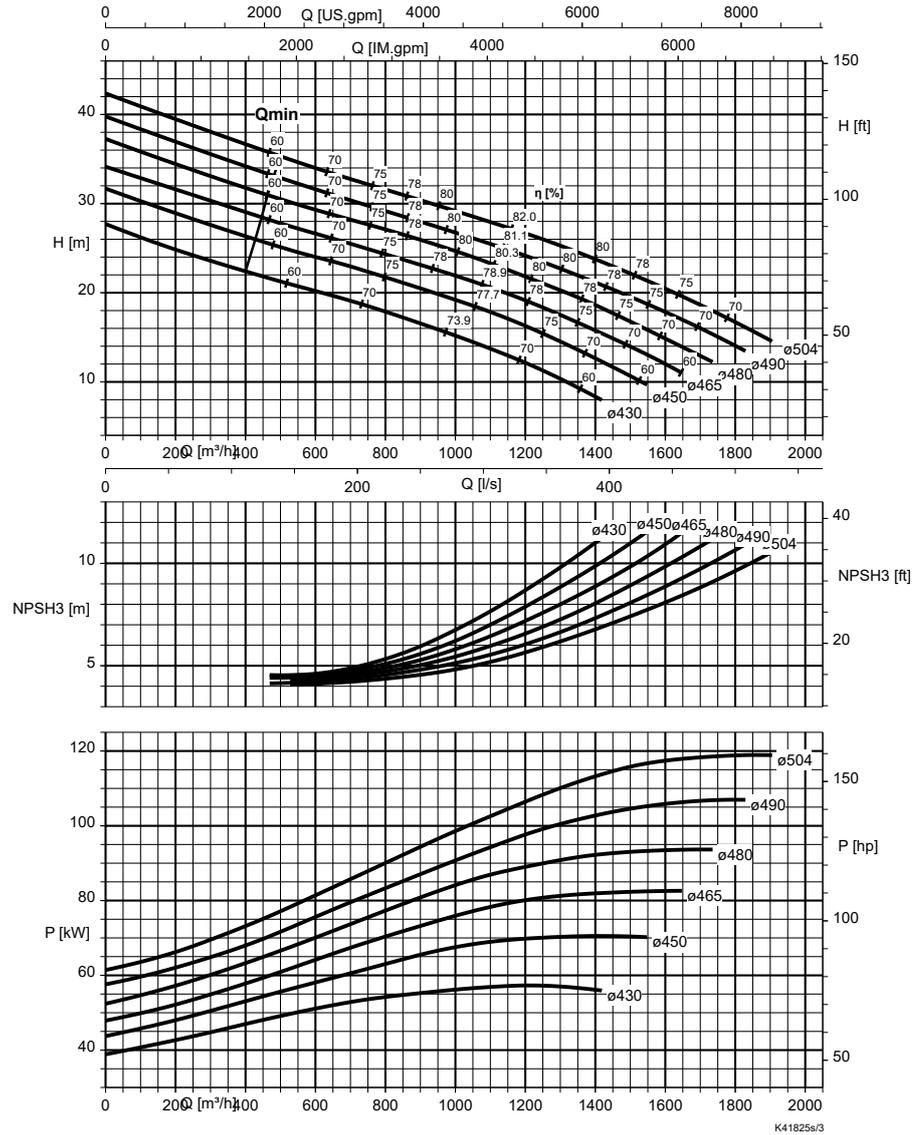


Fig. 31: Free passage = 90 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 300-500	606 UN	60	-
	806 UN	75	80
	1006 UN	90	100
	1206 UN	120	120
	1406 UN	140	140
	1656 UN	160	165

2553.455385/01-EN

5.1.21 Amarex KRT K 300-505, n = 960 rpm

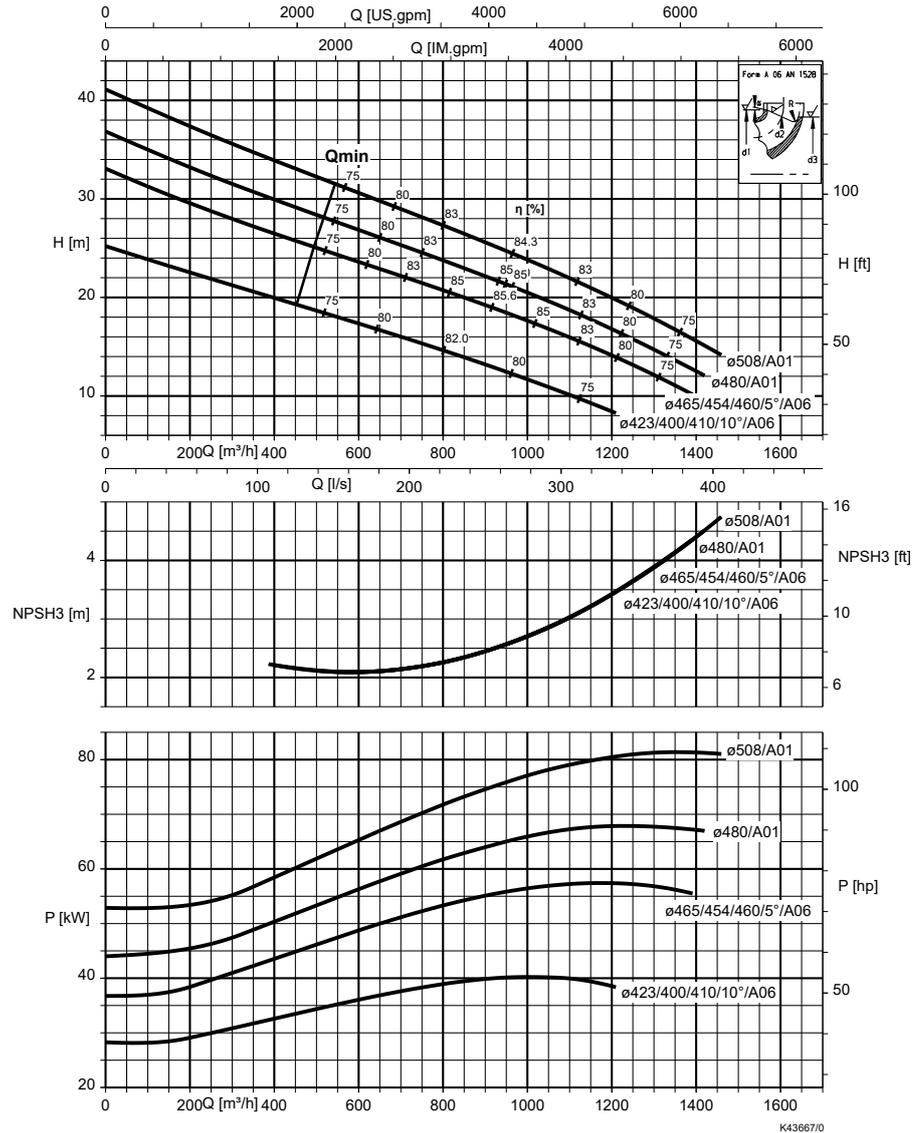


Fig. 32: Free passage = 102 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 300-505	326 UN	24	24
	406 UN	32	32
	506 UN	40	40
	606 UN	60	60
	806 UN	75	80
	1006 UN	90	100

2553.455385/01-EN

5.1.22 Amarex KRT K 350-500, n = 960 rpm

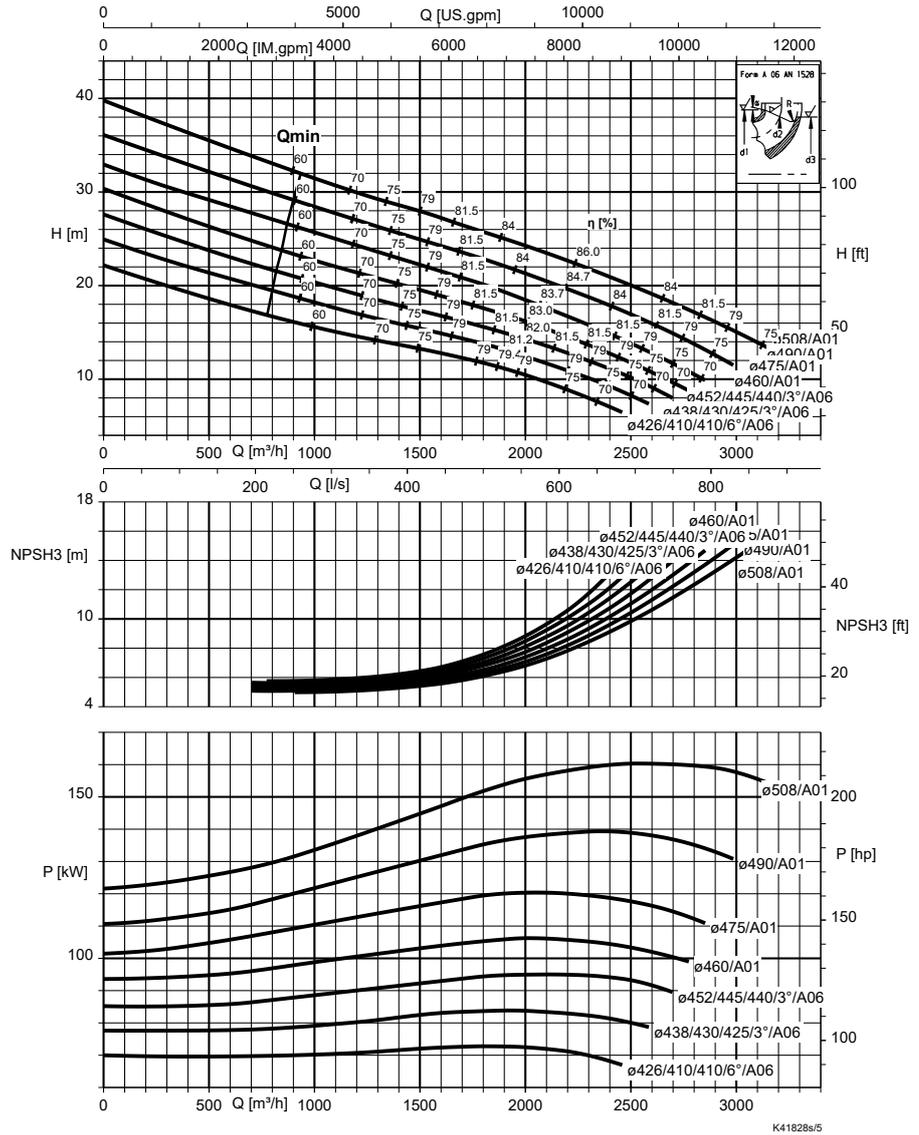


Fig. 33: Free passage = 110 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 350-500	806 UN	75	80
	1006 UN	90	100
	1206 UN	120	120
	1406 UN	140	140
	1656 UN	160	165
	1906 UN	170	190
	2256 UN	200	224

5.1.23 Amarex KRT K 350-503, n = 960 rpm

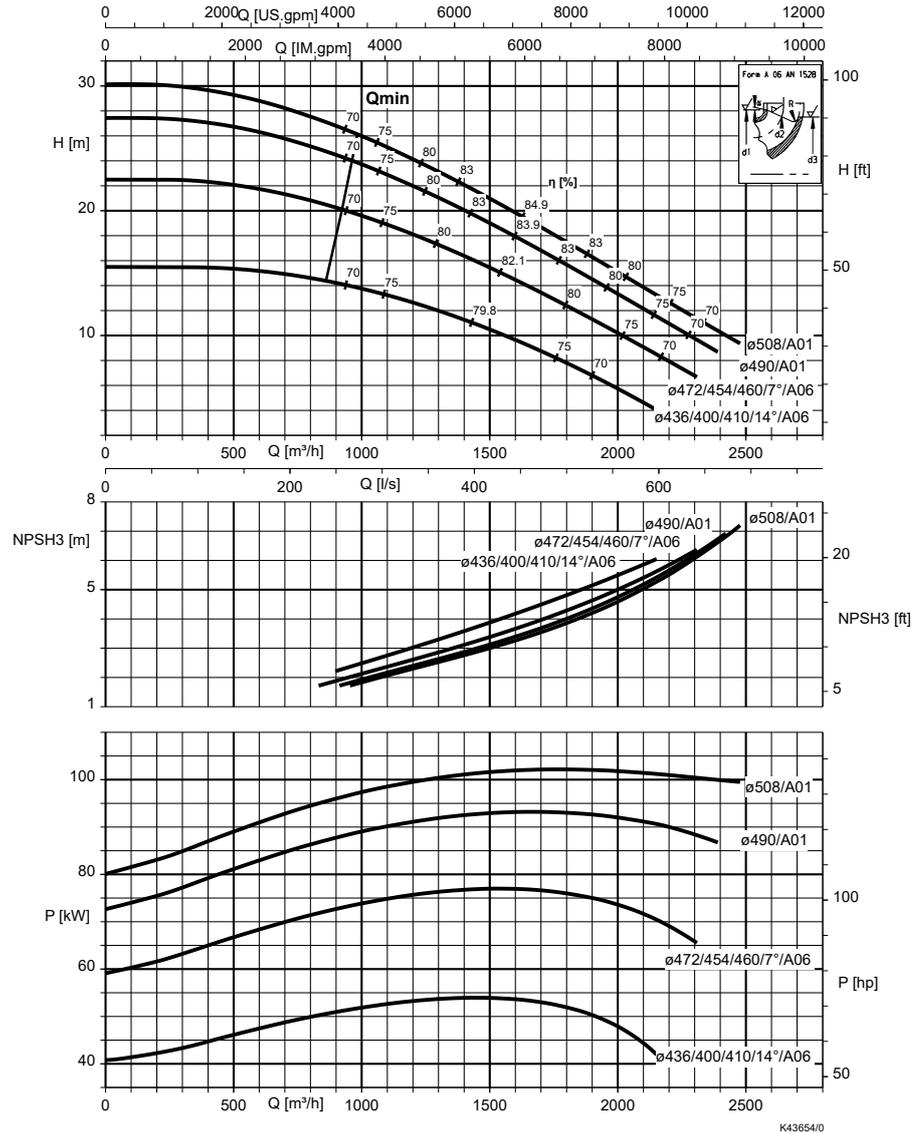


Fig. 34: Free passage = 140 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 350-503	326 UN	24	24
	406 UN	32	32
	506 UN	40	40
	606 UN	60	60
	806 UN	75	80
	1006 UN	90	100
	1206 UN	120	120

2553.455385/01-EN

5.1.24 Amarex KRT K 350-632, n = 960 rpm

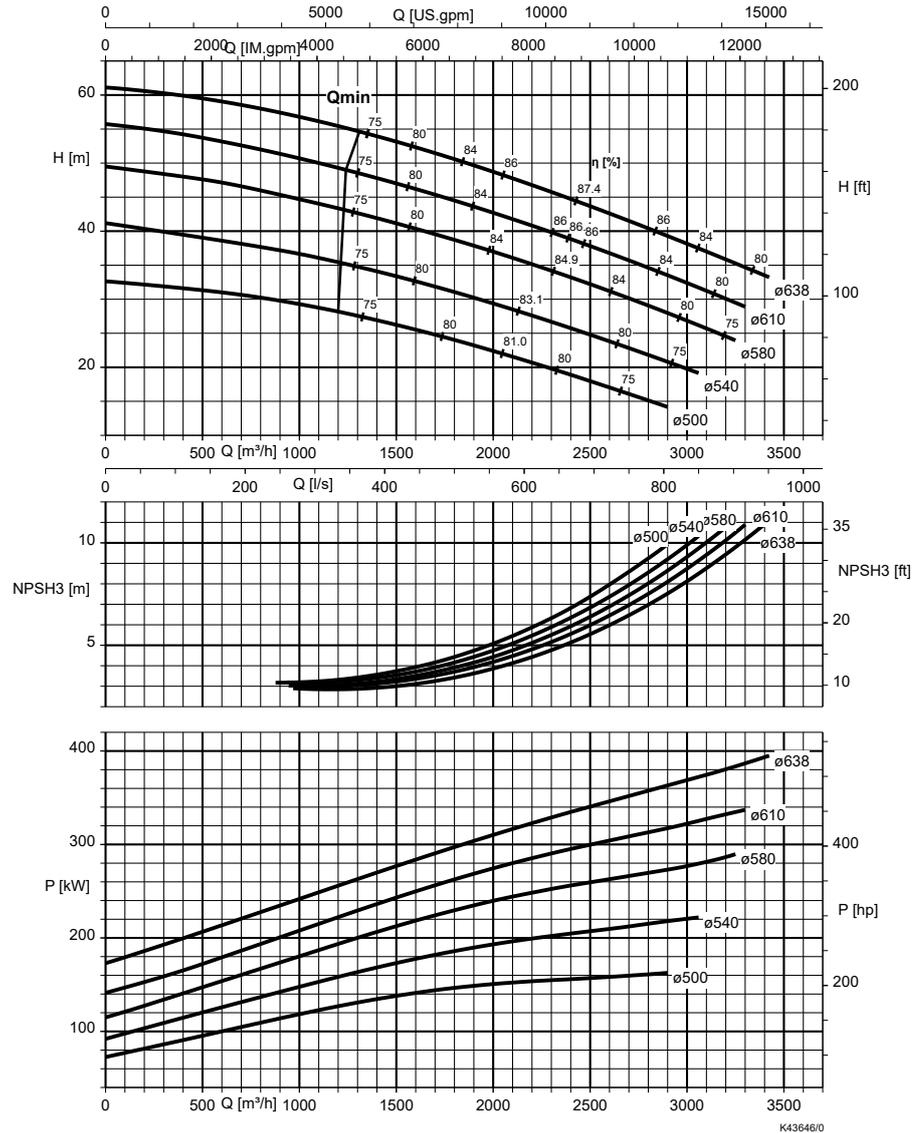


Fig. 35: Free passage = 140 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 350-632	1906 UN	170	190
	2256 UN	200	224
	2606 UN	235	260

NOTE

The motors are developed only up to 260 kW/ 6 Pole with KSB India.
▶ For higher motor sizes/ ratings kindly contact HO.

2553.455385/01-EN

5.1.25 Amarex KRT K 350-633, n = 960 rpm

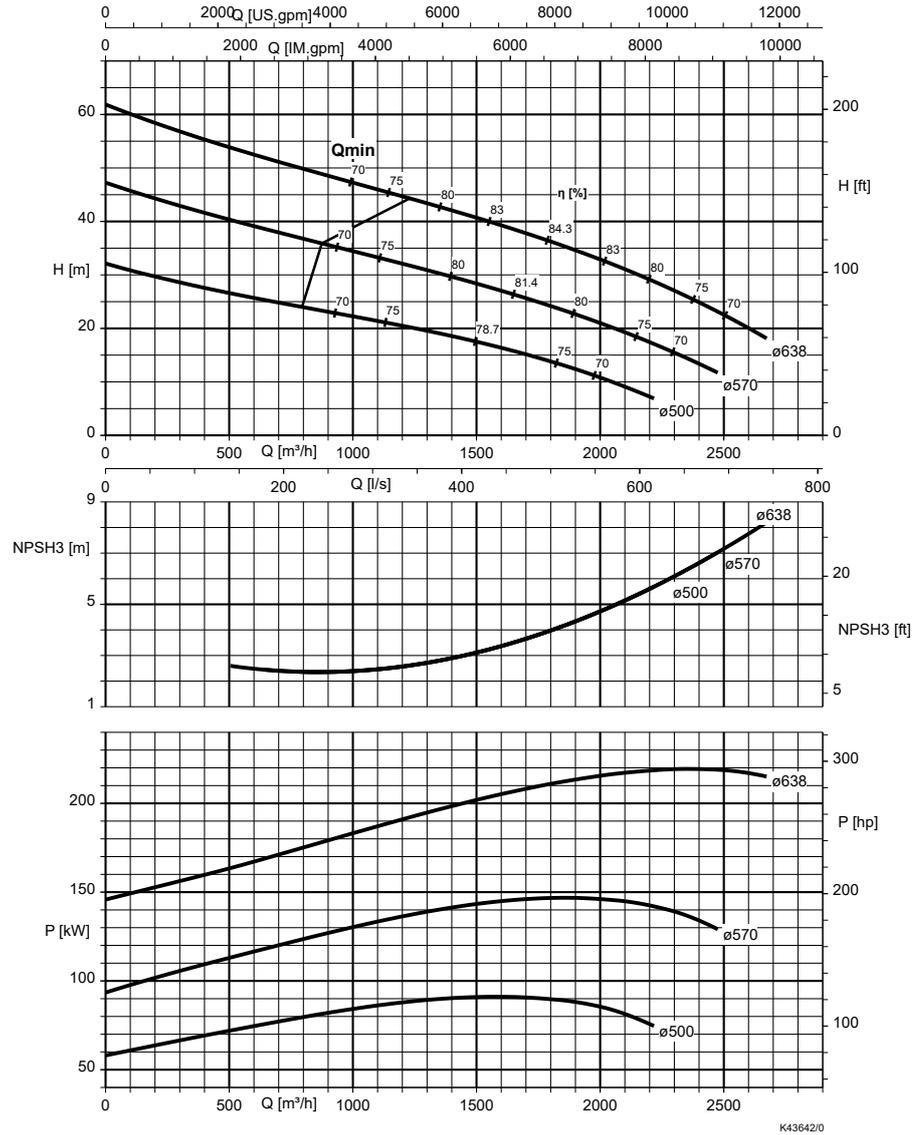


Fig. 36: Free passage = 135 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 350-633	1206 UN	120	120
	1406 UN	140	140
	1656 UN	160	165
	1906 UN	170	190
	2256 UN	200	225
	2606 UN	235	260

2553.455385/01-EN

5.1.26 Amarex KRT K 350-713, n = 960 rpm

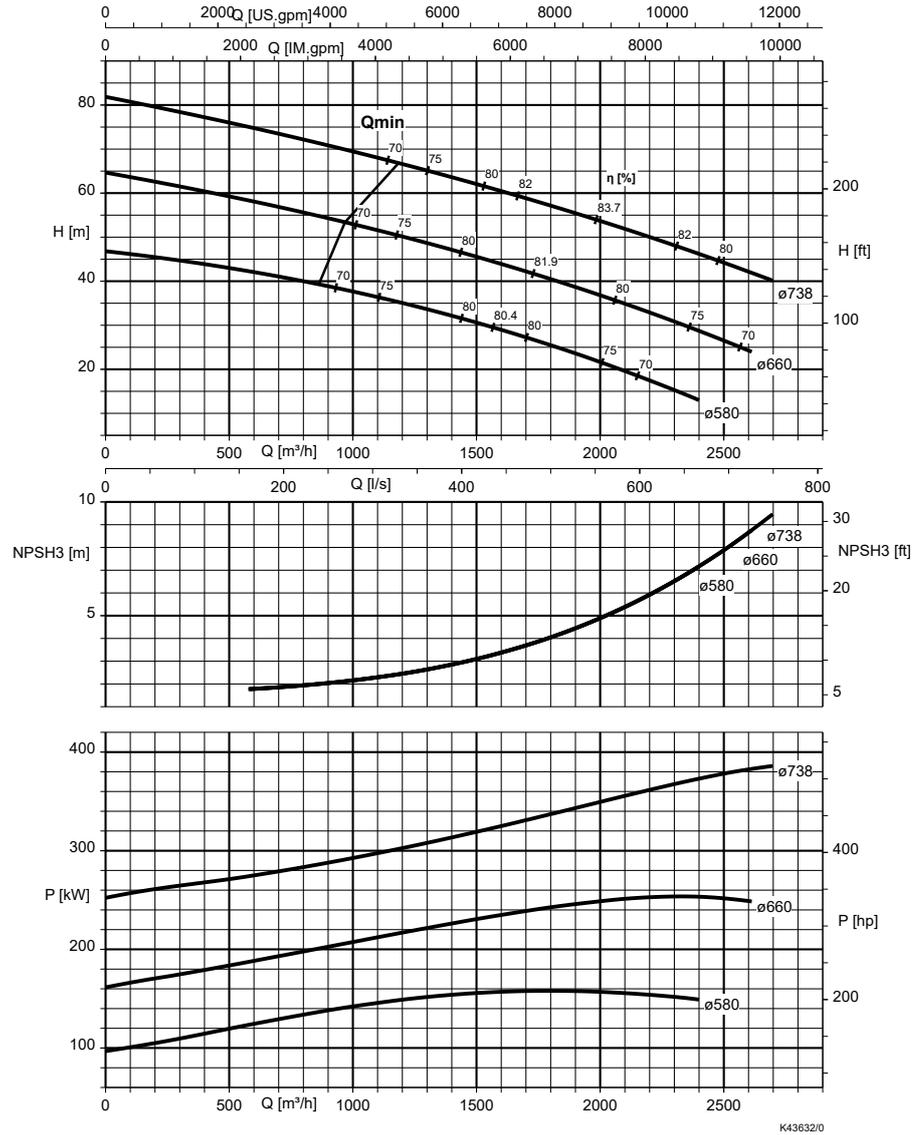


Fig. 37: Free passage = 125 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 350-713	1906 UN	170	190
	2256 UN	200	224
	2606 UN	235	260

NOTE

The motors are developed only up to 260 kW/ 6 Pole with KSB India.
 ▶ For higher motor sizes/ ratings kindly contact HO.

2553.455385/01-EN

5.1.27 Amarex KRT K 400-500, n = 960 rpm

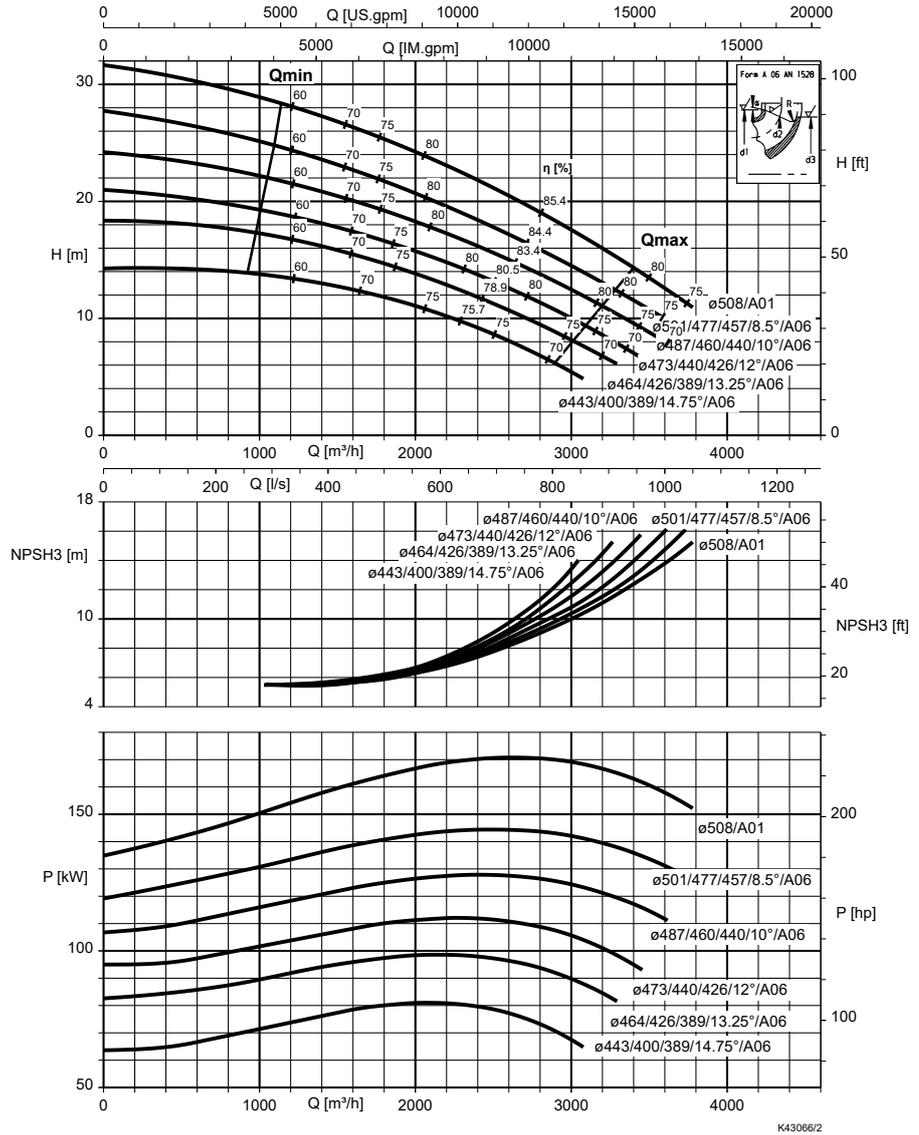


Fig. 38: Free passage = 130 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 400-500	806 UN	75	80
	1006 UN	90	100
	1206 UN	120	120
	1406 UN	140	140
	1656 UN	160	165
	1906 UN	170	190
	2256 UN	200	225

5.1.28 Amarex KRT K 400-632, n = 960 rpm

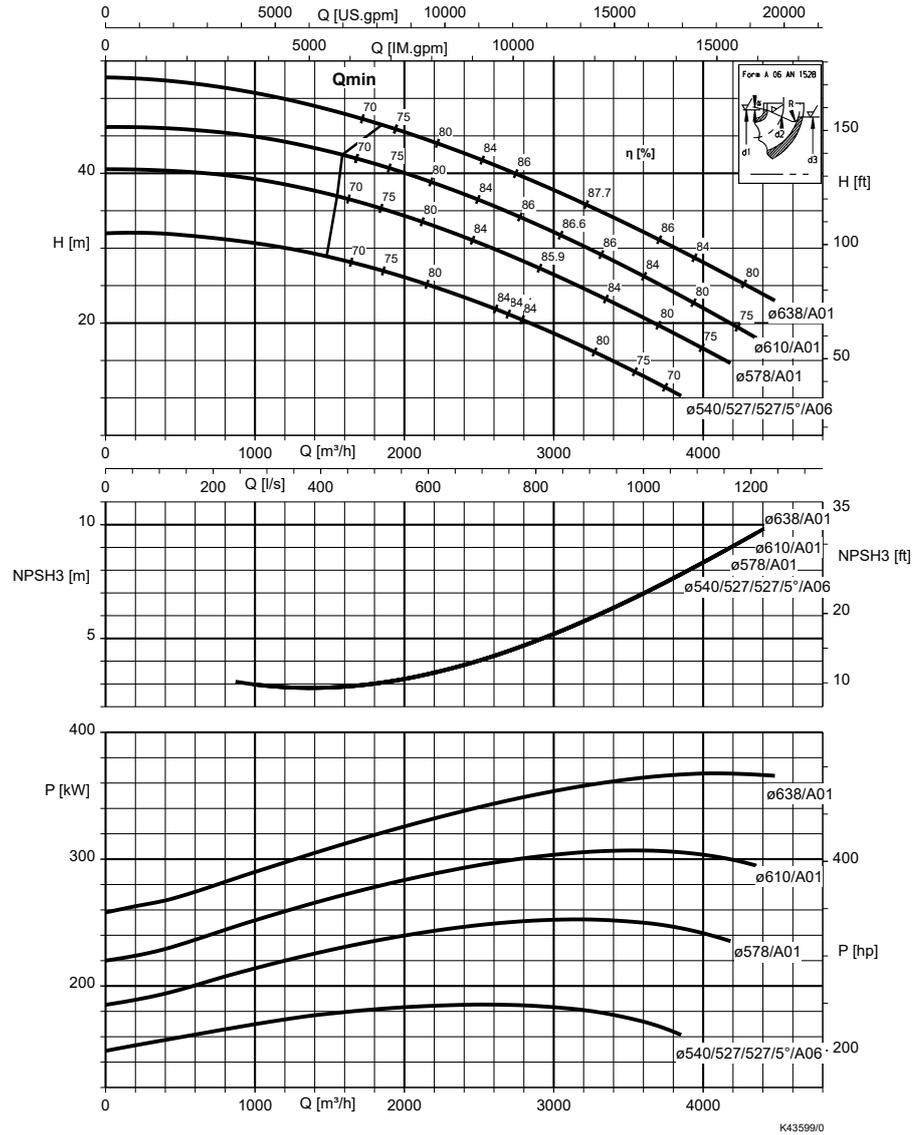


Fig. 39: Free passage = 140 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 400-632	2256 UN	200	224
	2606 UN	235	260



NOTE

The motors are developed only up to 260 kW/ 6 Pole with KSB India.
 ▷ For higher motor sizes/ ratings kindly contact HO.

2553.455385/01-EN

5.1.29 Amarex KRT K 401-713, n = 960 rpm

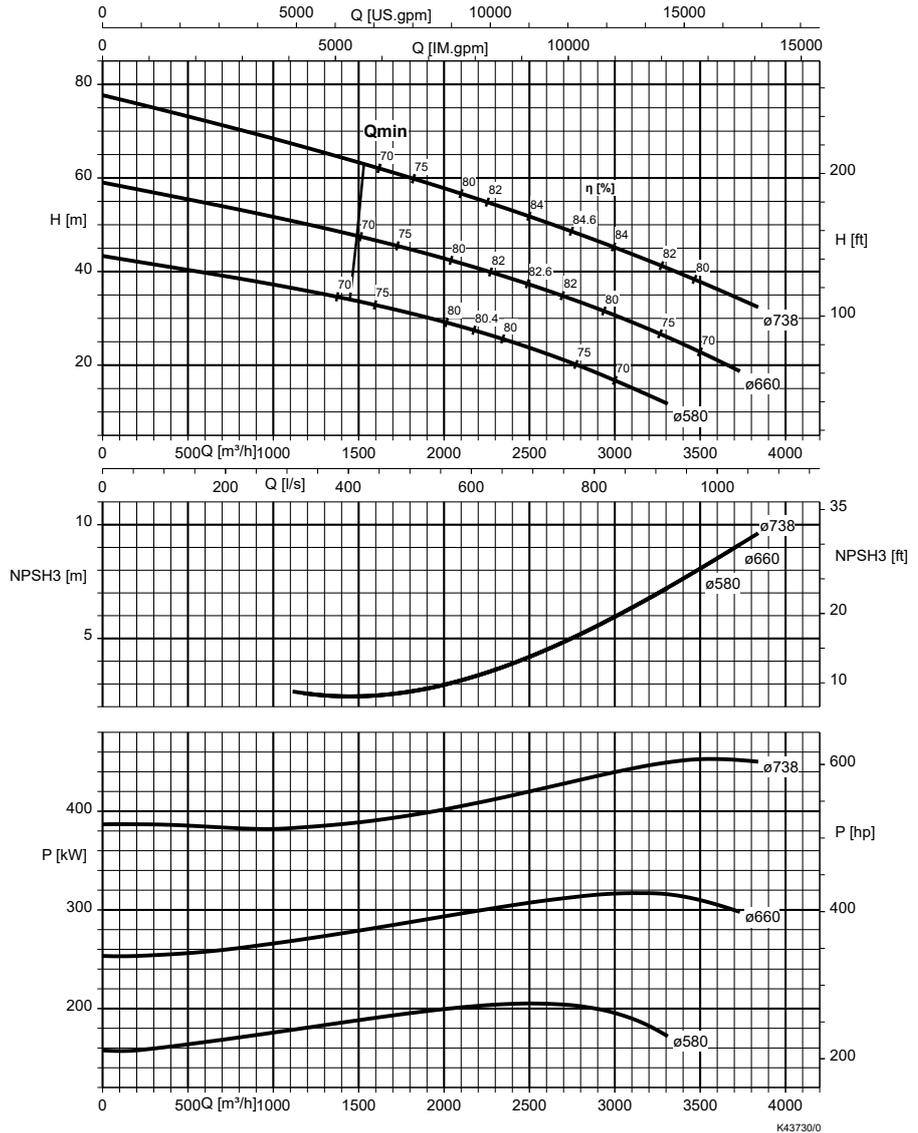


Fig. 40: Free passage = 145 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 401-713	1906 UN	170	190
	2256 UN	200	224
	2606 UN	235	260

NOTE

The motors are developed only up to 260 kW/ 6 Pole with KSB India.
 ▶ For higher motor sizes/ ratings kindly contact HO.

2553.455385/01-EN

5.1.30 Amarex KRT K 350-500, n = 725 rpm

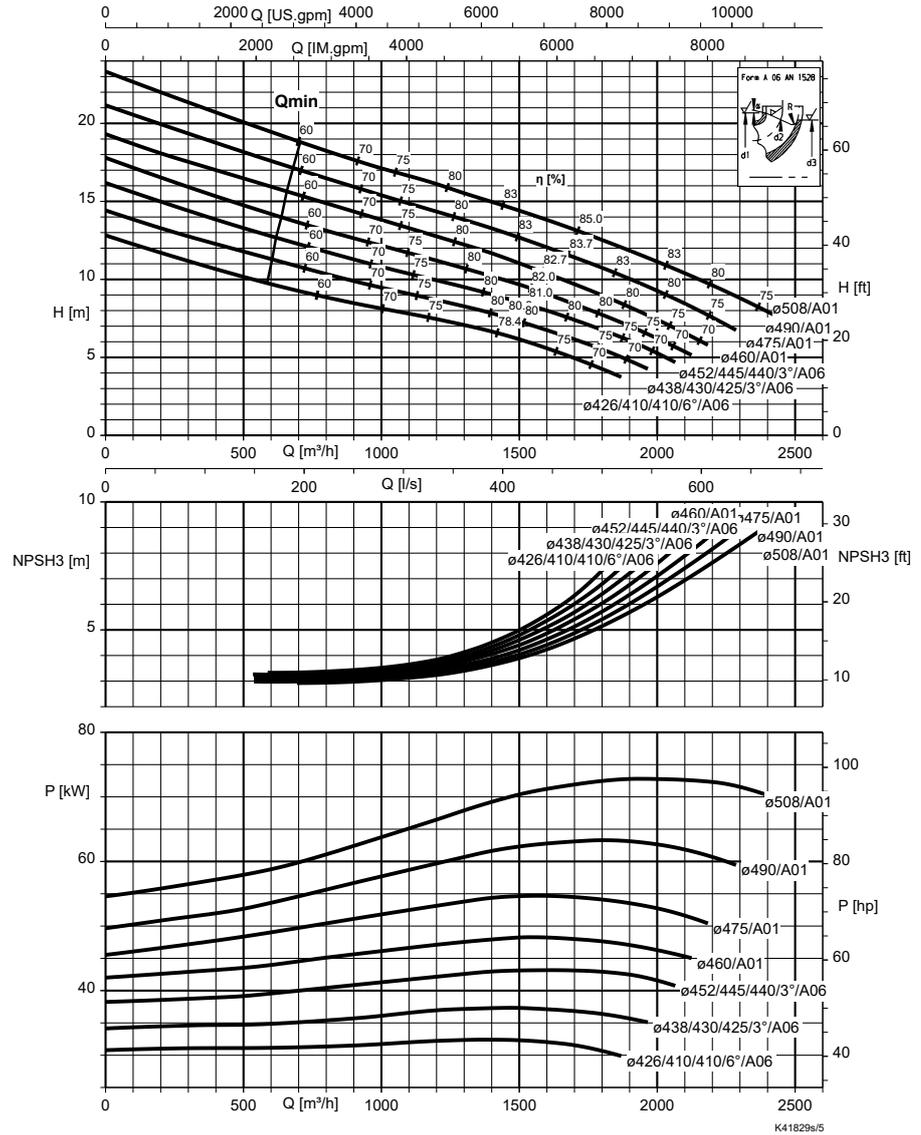


Fig. 41: Free passage = 110 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 350-500	508 UN	50	50
	758 UN	75	75
	908 UN	90	90
	1108 UN	110	110

2553.455385/01-EN

5.1.31 Amarex KRT K 400-632, n = 725 rpm

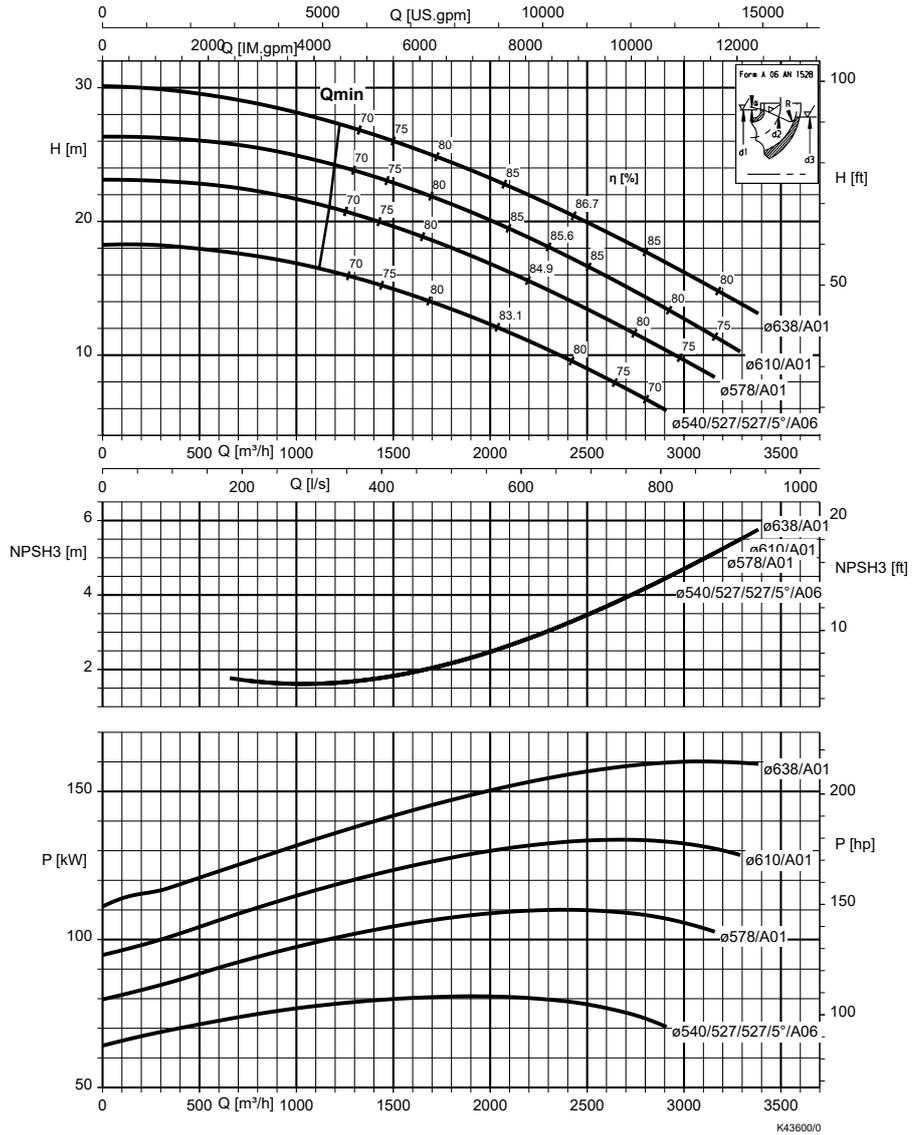


Fig. 42: Free passage = 140 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K 400-632	908 UN	90	90
	1108 UN	110	110
	1508 UN	150	150
	1858 UN	175	185
	2208 UN	200	220

2553.455385/01-EN

5.1.32 Amarex KRT K 401-710, n = 725 rpm

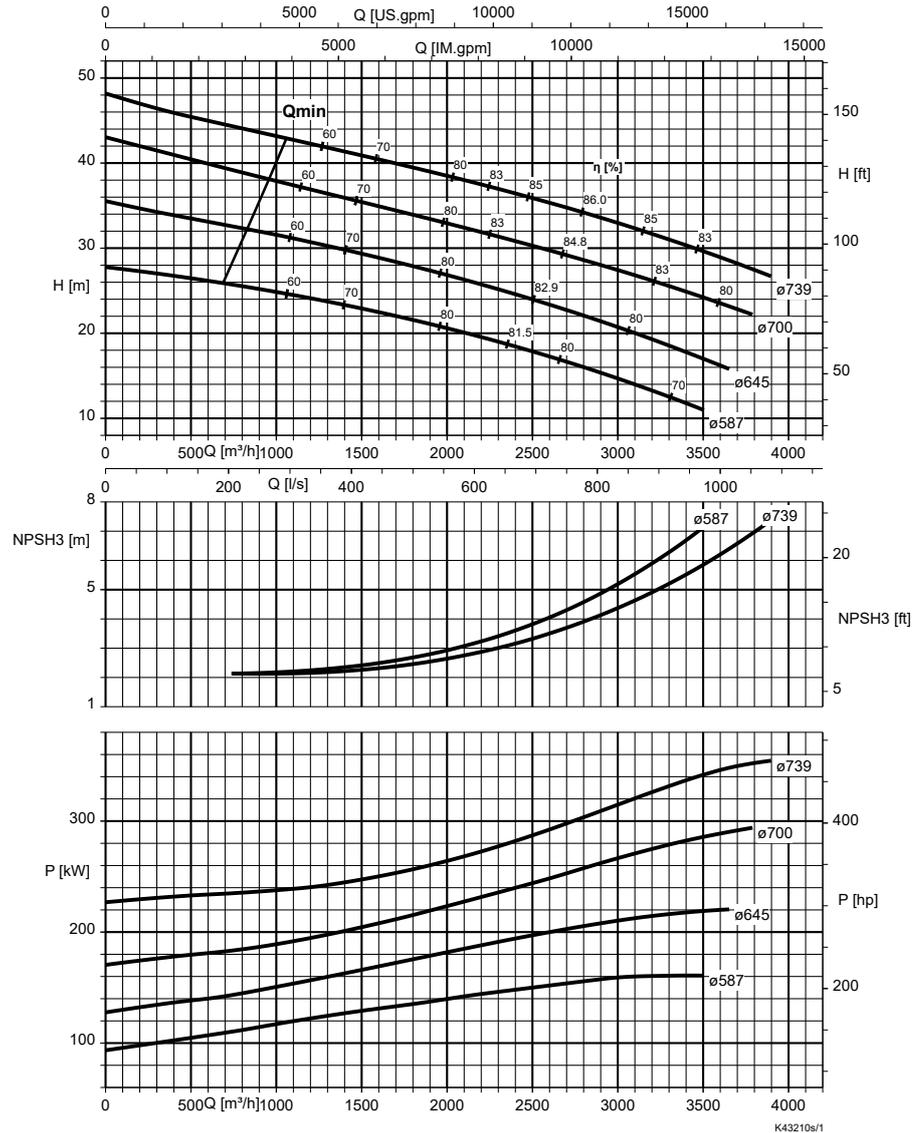


Fig. 43: Free passage = 145 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller can be trimmed to a duty point which is within the boundary of the curve.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
K401-710	1508 UN	150	150
	1858 UN	175	185
	2208 UN	200	220

NOTE

The motors are developed only up to 260 kW/ 8 Pole with KSB India.
 ▶ For higher motor sizes/ ratings kindly contact HO.

2553.455385/01-EN

5.2 F impeller

5.2.1 Amarex KRT F 40-250, n = 2900 rpm

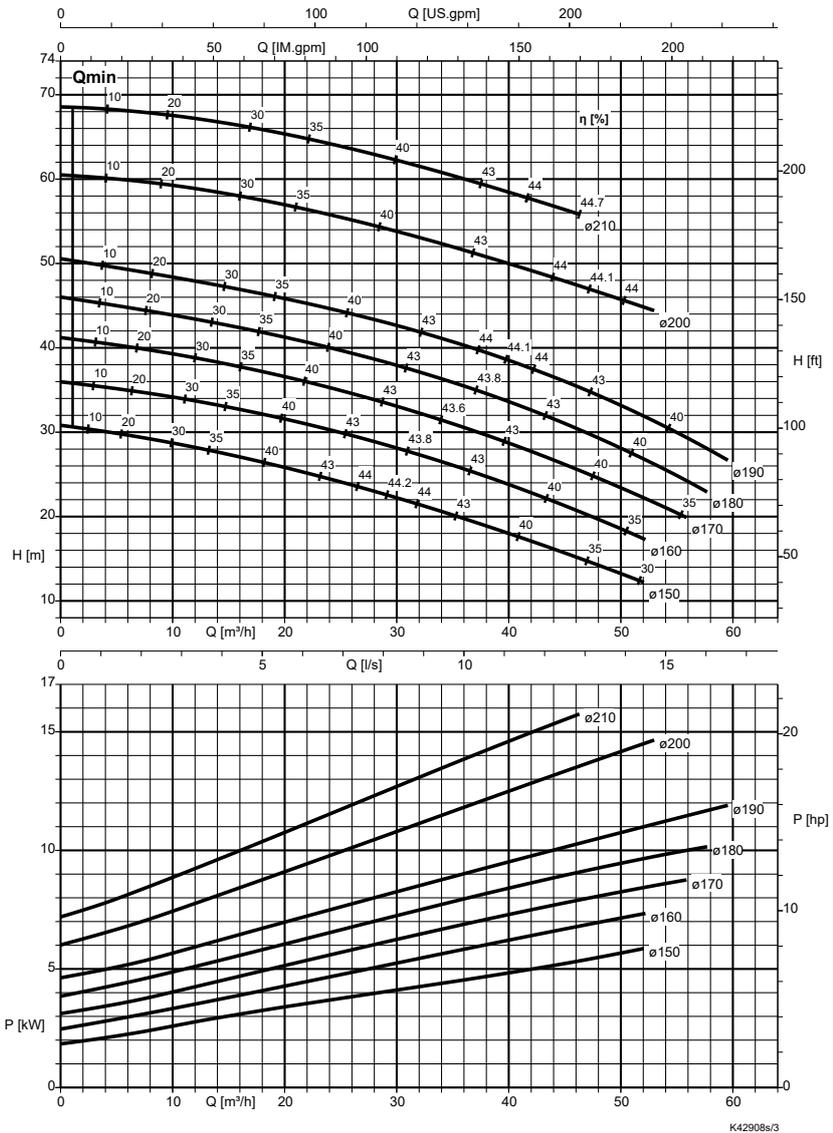


Fig. 44: Free passage = 25 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This Impeller can be trimmed, but only for the duty points that fall on the documented impeller diameters.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P Rated Power (P2-kW)
F 40-250	52 U	5
	62 U	6,5
	82 U	8,5
	122 U	12
	172 U	17

2553.455385/01-EN

5.2.2 Amarex KRT F 80-250, n = 2900 rpm

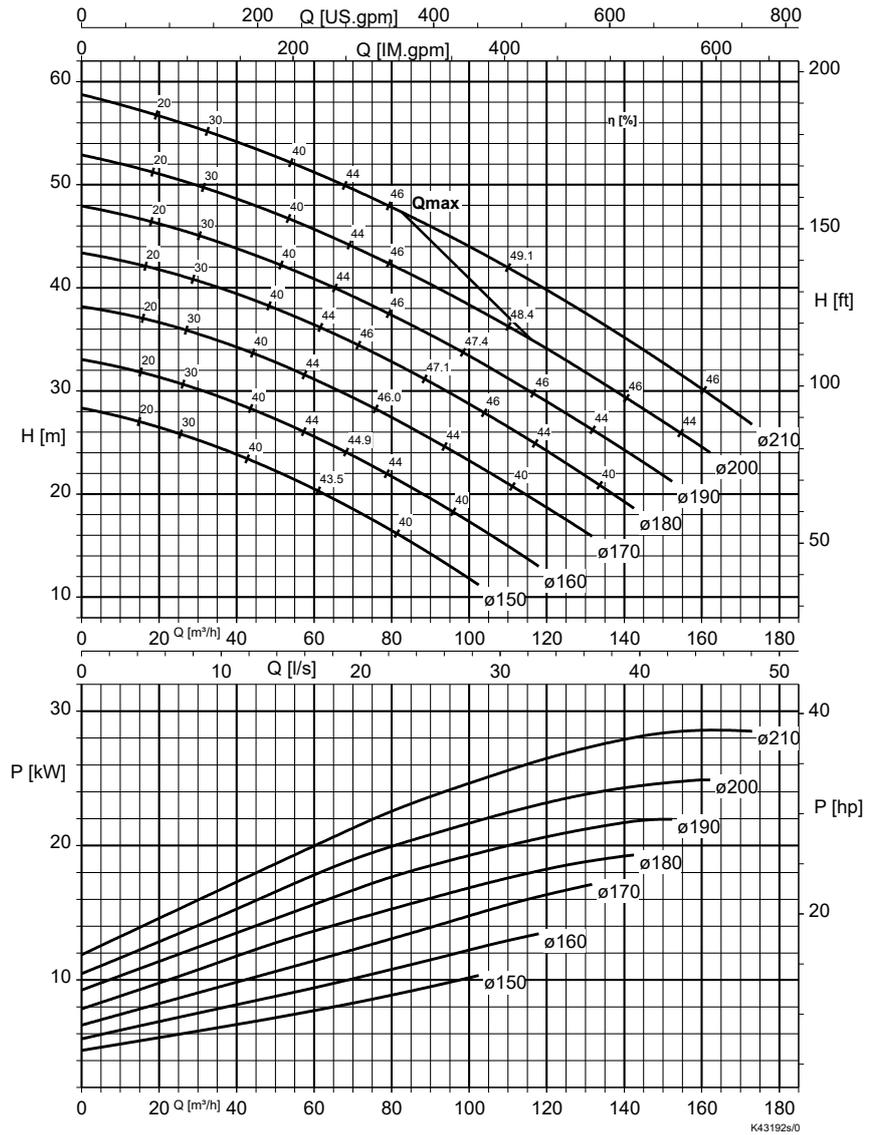


Fig. 45: Free passage = 76 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
 The flange Bend losses are not included in this curve.

This Impeller can be trimmed, but only for the duty points that fall on the documented impeller diameters.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P
		Rated Power (P2-kW)
F 80-250	122 U	12
	172 U	17
	222 U	22
	252 U	25

2553.455385/01-EN

5.2.3 Amarex KRT F 100-401, n = 1450 rpm

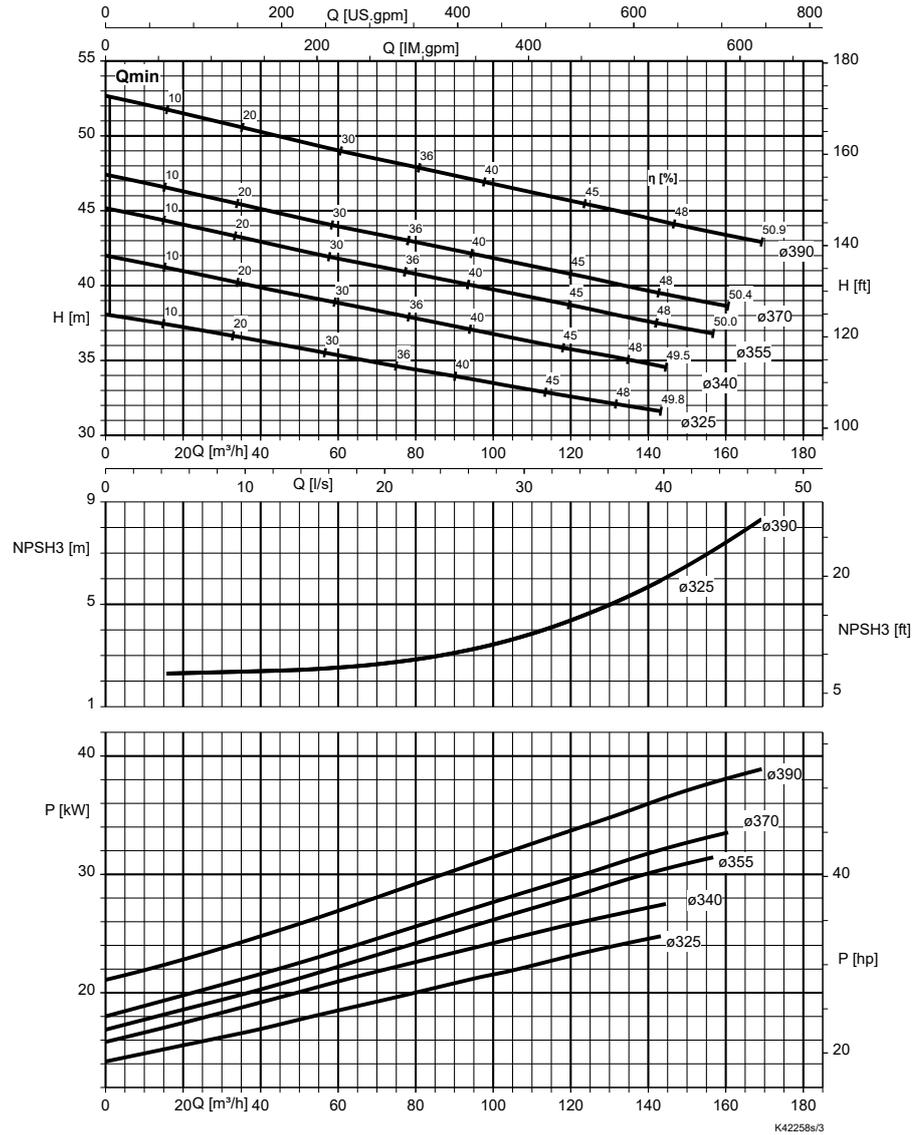


Fig. 46: Free passage = 100 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This Impeller can be trimmed, but only for the duty points that fall on the documented impeller diameters.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P
		Rated Power (P2-kW)
F 100-401	234 U	21
	294 U	27
	354 U	38
	504 U	48

2553.455385/01-EN

5.3 E impeller

5.3.1 Amarex KRT E 100-315, n = 1450 rpm

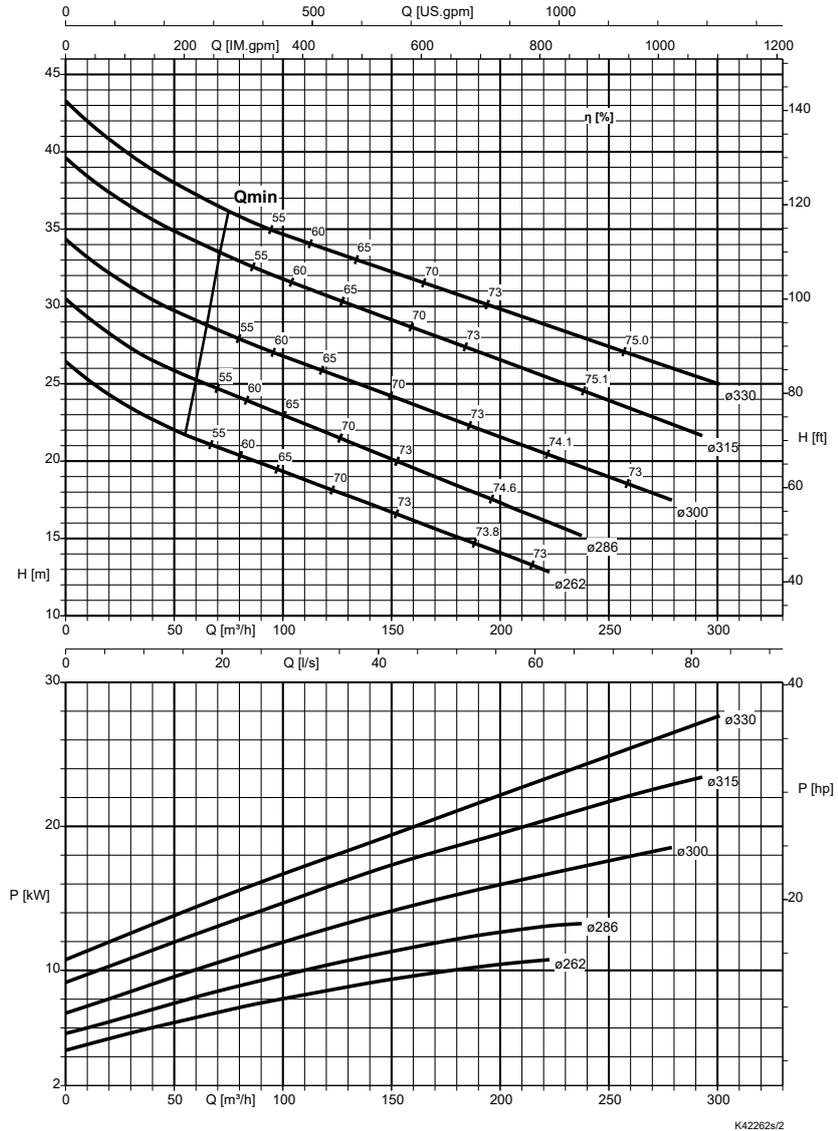


Fig. 47: Free passage = 100 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller cannot be trimmed. Hence the duty points should fall/be offered as per the documented impeller diameters only.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P
		Rated Power (P2-kW)
E 100-315	114 U	11,8
	164 U	16
	234 U	21
	294 U	27

2553.455385/01-EN

5.3.2 Amarex KRT E 150-315, n = 1450 rpm

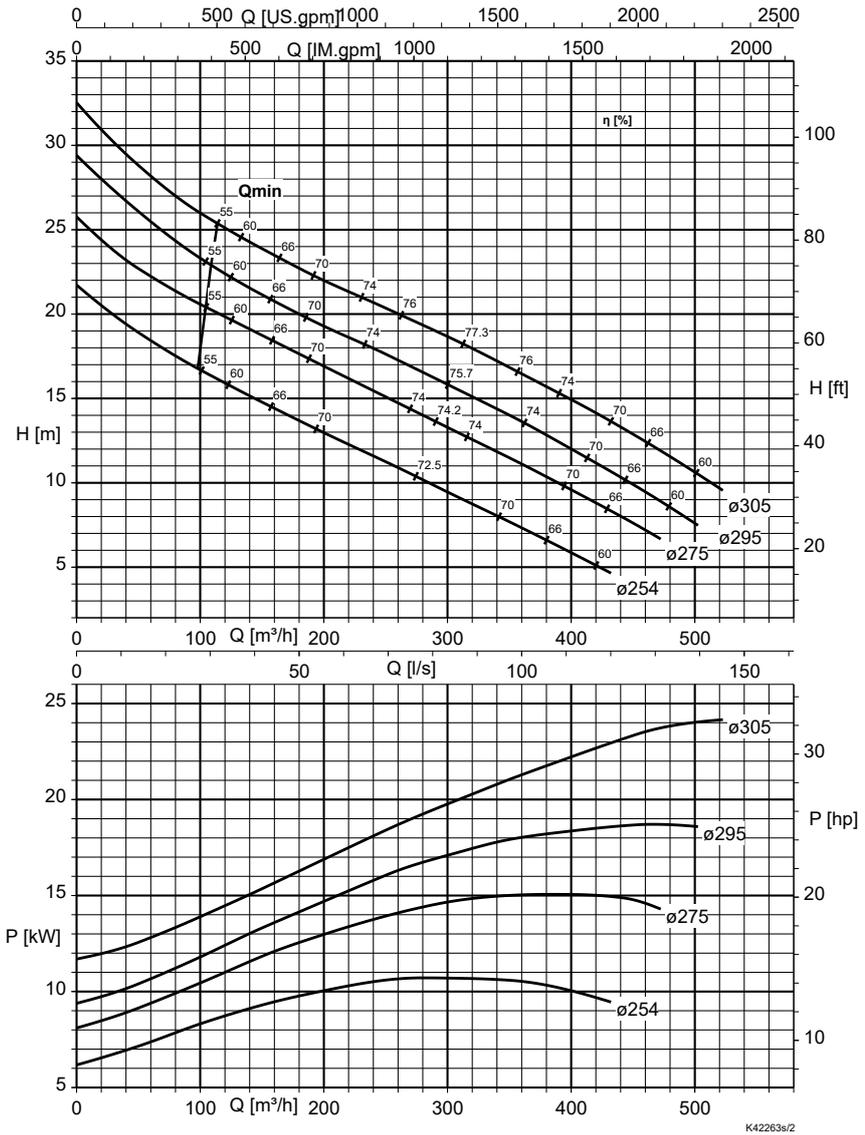


Fig. 48: Free passage = 110 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller cannot be trimmed. Hence the duty points should fall/be offered as per the documented impeller diameters only.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P
		Rated Power (P2-kW)
E 150-315	114 U	11,8
	164 U	16
	234 U	21
	294 U	27

2553.455385/01-EN

5.3.3 Amarex KRT E 150-401, n = 1450 rpm

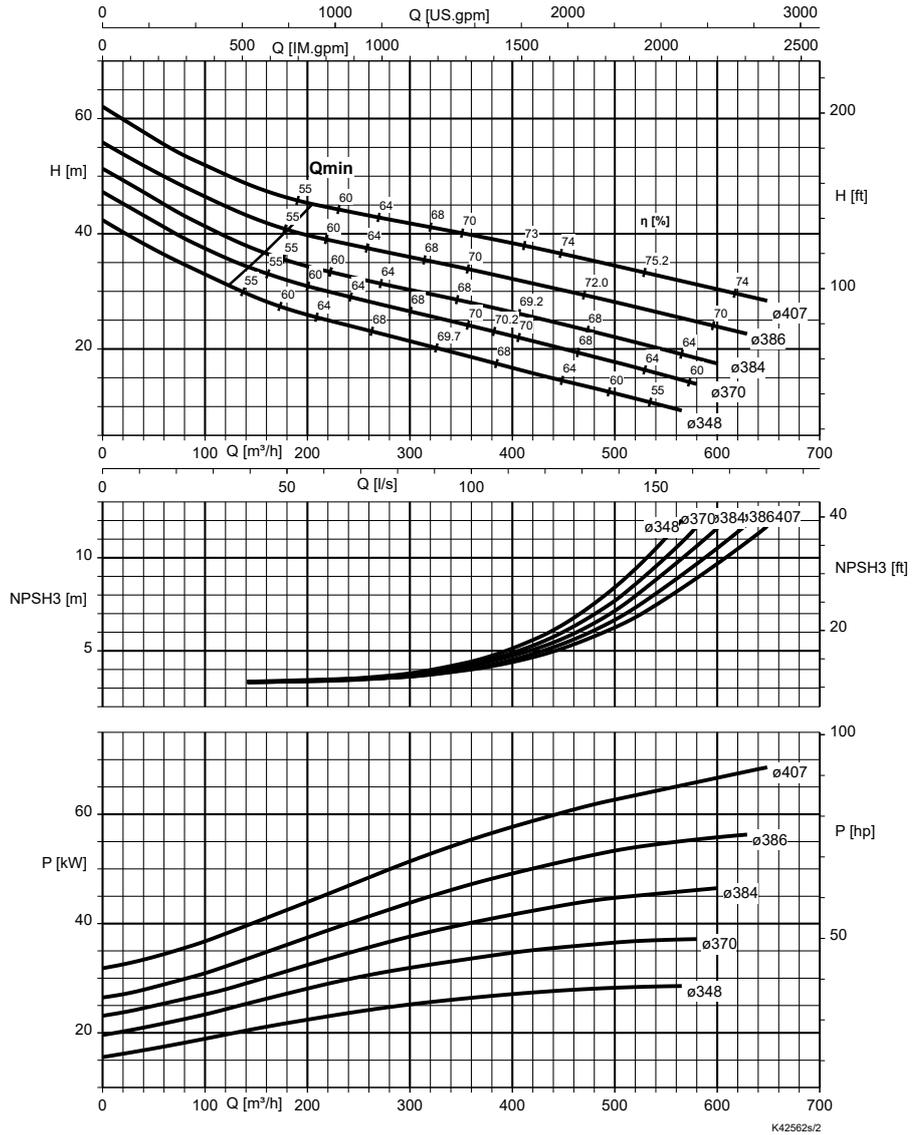


Fig. 49: Free passage = 115 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller cannot be trimmed. Hence the duty points should fall/be offered as per the documented impeller diameters only.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
E 150-401	354 U	-	38
	504 U	-	48
	654 U	-	62
	354 UN	32	-
	504 UN	42	-
	654 UN	55	-
	804 UN	75	80
	954 UN	90	95

2553.455385/01-EN

5.3.4 Amarex KRT E 200-401, n = 1450 rpm

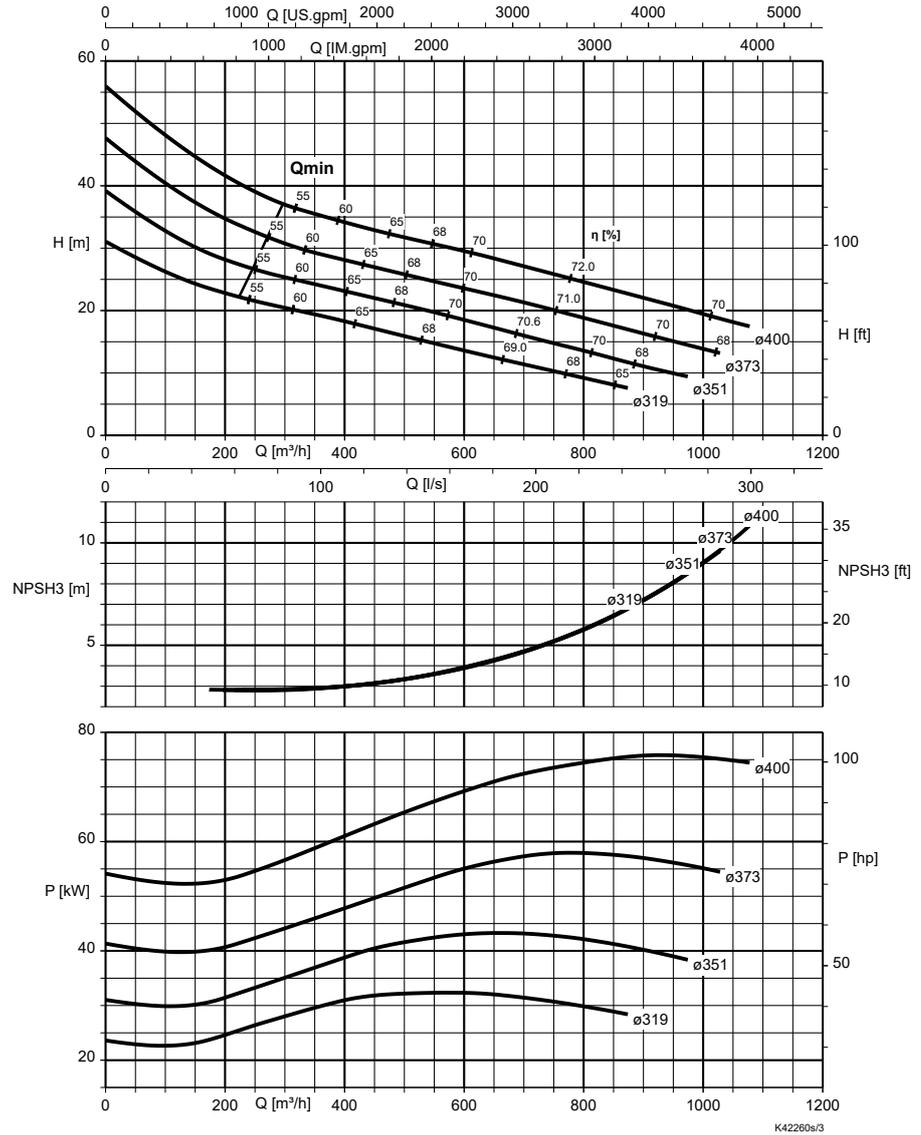


Fig. 50: Free passage = 120

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller cannot be trimmed. Hence the duty points should fall/be offered as per the documented impeller diameters only.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
Rated Power (P2-kW)			
E 200-401	354 U	-	38
	504 U	-	48
	654 U	-	62
	354 UN	32	-
	504 UN	42	-
	654 UN	55	-
	804 UN	75	80
	954 UN	90	95
	1104 UN	100	110

2553.455385/01-EN

5.3.5 Amarex KRT E 150-315, n = 960 rpm

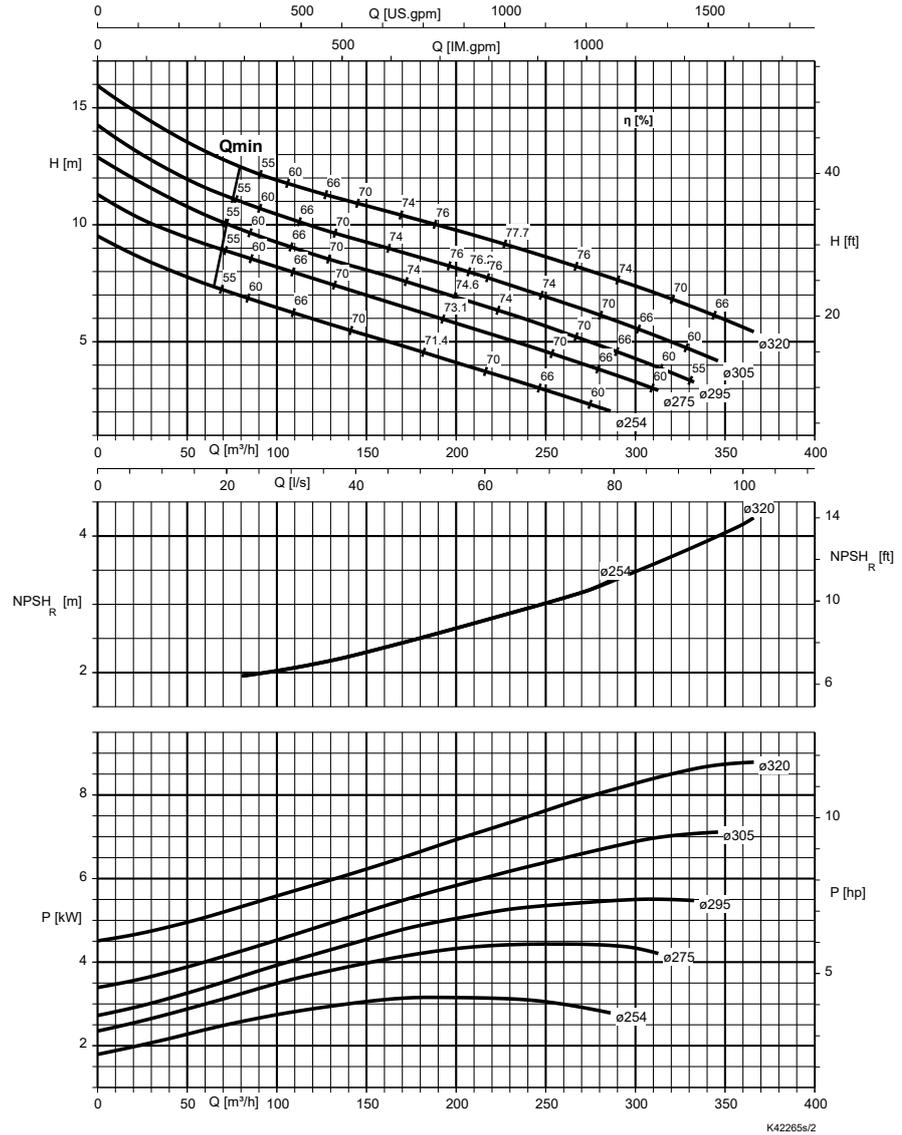


Fig. 51: Free passage = 110 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed
The flange Bend losses are not included in this curve.

This impeller cannot be trimmed. Hence the duty points should fall/be offered as per the documented impeller diameters only.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type
		S/P
		Rated Power (P2-kW)
E 150-315	96 U	9
	126 U	12,5

2553.455385/01-EN

5.3.6 Amarex KRT E 150-401, n = 960 rpm

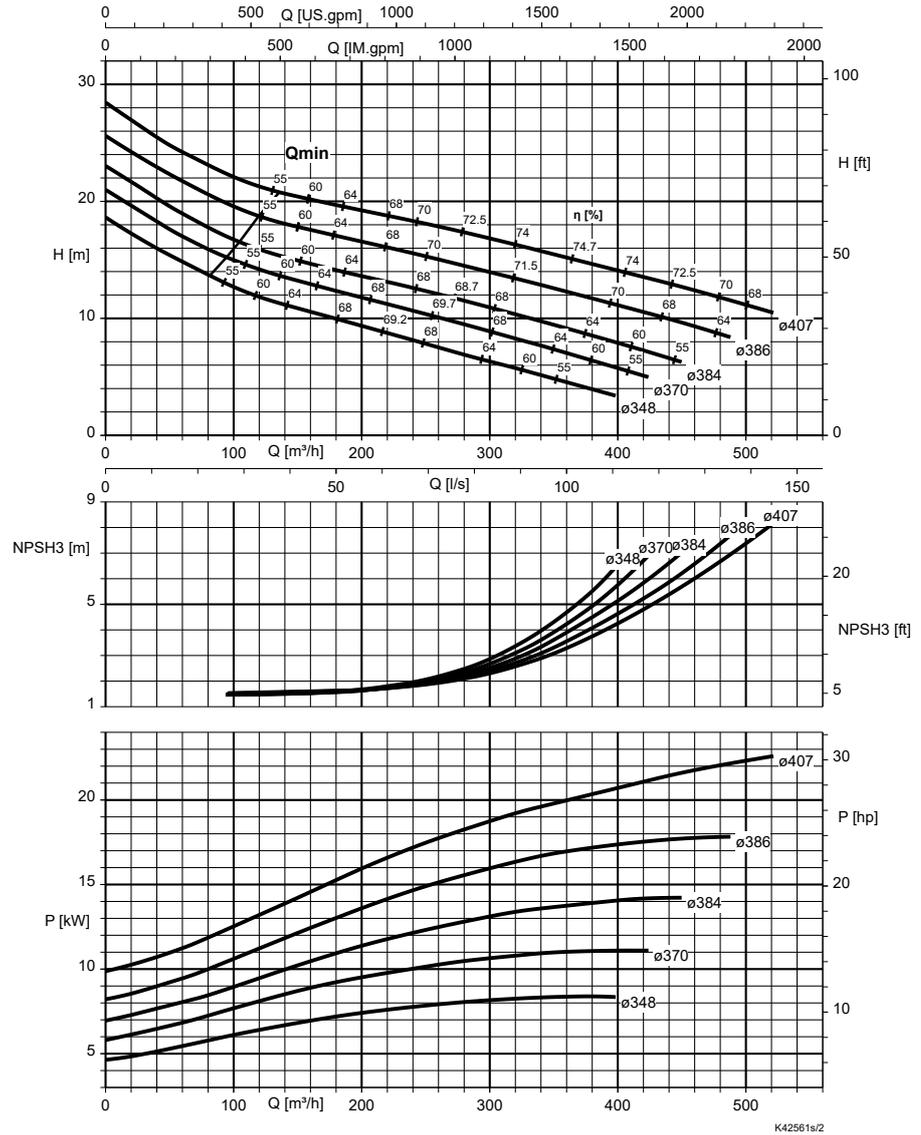


Fig. 52: Free passage = 115 upto 140 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller cannot be trimmed. Hence the duty points should fall/be offered as per the documented impeller diameters only.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
E 200-401	206 U	-	18
	266 U	-	24
	326 UN	24	-
	406 UN	32	-

2553.455385/01-EN

5.3.7 Amarex KRT E 200-401, n = 960 rpm

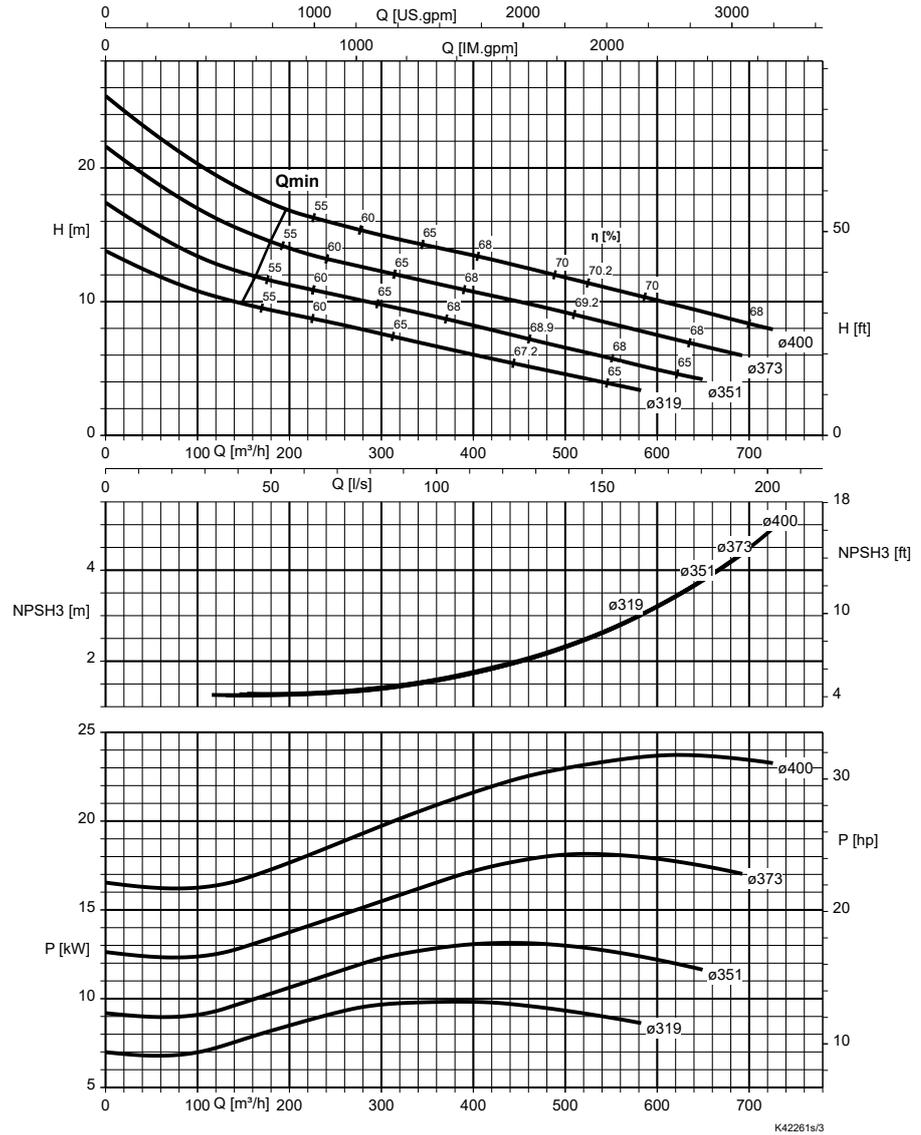


Fig. 53: Free passage = 121 upto 143 mm

Characteristic curves to ISO 9906 Class 3B, below 10 kW to § 4.4.2. n = nominal speed

The flange Bend losses are not included in this curve.

This impeller cannot be trimmed. Hence the duty points should fall/be offered as per the documented impeller diameters only.

For the curve beyond Q max, selection of pump is not recommended.

Pump size	Motor	Installation type	
		K	S/P
		Rated Power (P2-kW)	
E 200-401	206 U	-	18
	266 U	-	24
	326 UN	24	-
	406 UN	32	-

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