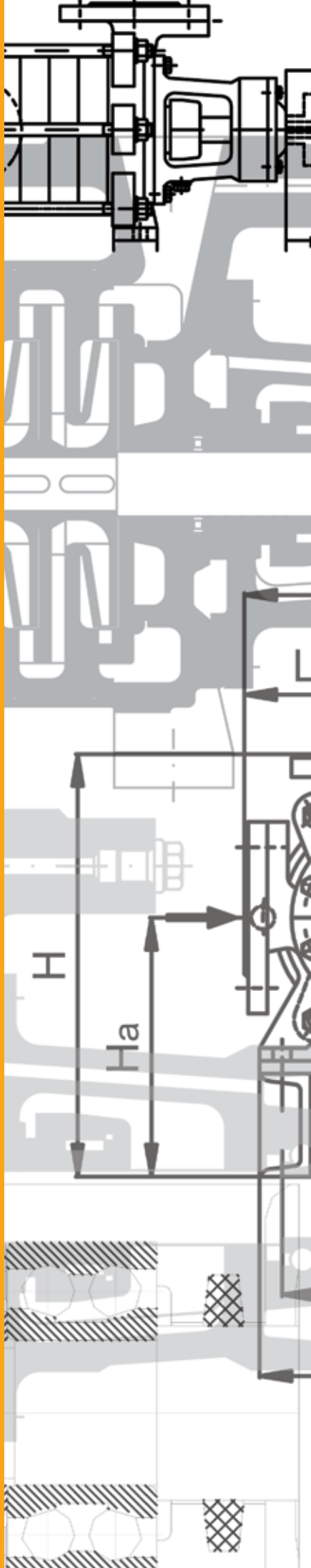




KCP - MULTISTAGE CENTRIFUGAL PUMPS





MZT Pumpi a.d is one of the leading manufacturers of industrial pumps in the region of South-East Europe. With its extensive experience of more than 60 years, justified with existence of broad product range, it continuously strives to satisfy the utmost needs of the customer.

The key elements to survive in this globalized market are flexibility towards market changes and ability to innovate-both in product designs as well as business processes. By following the worldwide development in the pump industry, our staff constantly faces with the growing challenge to keep abreast of the numerous innovations in pump designs and this is justified by having a separate R&D department.

The basic objective of MZT Pumpi is expanding the business partnerships and building the brand name of our products worldwide. All of our employees live up to our motto: "Pump your way to success".

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GENERAL DATA

Technical data:

Capacity:	up to 45 l/s
Head:	up to 250 m
Temperature:	up to 105 °C

Pump type key

Example:				KCP 42 - 3
design code	_____	_____	_____	
capacity l/s x10	_____	_____	_____	
stages	_____	_____	_____	

design code execution:

C – standard execution

KCP – for higher temperature

VCP – vertical execution

Design:

The C type range is the basic range of our centrifugal ring section multistage pumps. The simplified design, utilising hydraulically balanced impellers by means of holes into impeller, or by “back to back” impeller execution, provides the optimum pumping solution for medium pressure applications. Pump casing is consisting of suction and discharge housing, middle chambers and bearing brackets.

All pump's parts are connected by strong bolts. The shaft made of high grade steel, equipped with impellers is guided by means of roller bearings on both ends of it, the one of the bearing also bears of axial thrust.

All of the impellers are centrifugal of closed type, all are statically and dynamically balanced. As standard the shaft is sealed by means of gland packing, as an option the mechanical seals are available.

Applications:

- Agriculture irrigation
- Boiler feed
- Chemical and light hydrocarbon transfer
- Coating and surface treatment
- High rise building sprinklers
- Paper mill shower water
- Pressure boosting systems
- Sanitary wash down services
- Rotating equipment lube and seal oil supply

Standard material executions:

Casing.....	Gray iron
Impeller.....	Cast iron or bronze
Middle chamber.....	Cast iron
Shaft.....	High grade steel
Sleeve.....	Hardened stainless steel
Wear rings.....	Gray iron or bronze

Delivery options

The pumps can be ordered as individual pump or as complete pumping unit which consist of pump, driver, flexible coupling and mounted base frame. As standard the pumps drivers are electrical motors, but it could be any other device as: internal combustion engine, turbine etc.

Besides the pump aggregate we could deliver all necessary equipment (valves, pipes, suction strainers, piping, and equipment for automatic pump operation...)



Flexible coupling:

- Standard version
- Spacer coupling

Bearing assembly with shaft:

The bearings are located in two bearing housings, which are positioned at both sides of the pump lubricated with nipple greasers. The protection ring on the shaft prevents liquid from entering the bearing housing. KCP pumps can be supplied with plain journal bearings with ring oil lubrication.

Shaft sealing:

The shaft sealing could be arranged by soft packing or mechanical seal. In soft packing arrangements the shaft is protected by replaceable stainless sleeve while the stuffing box is furnished with lantern ring for introduction of cooling liquid into the packing.

On special demand the pumps could be furnished with mechanical seal in accordance with the characteristics of the liquid and the operating conditions.

Wear Rings

KCP pumps have replaceable wear rings, providing consistent pump efficiency. The inner diameter of the KCP pumps wear rings matches the impeller inlet diameter, which produces undisturbed flow conditions.

Cylindrical clearance between impeller and wear ring is of a special design which reliability and effectiveness have been well proven. Leakage is therefore limited, which ensures high efficiency and no fibres trapped in the clearance.

Range of program:

A wide variety of models makes it possible to select a pump to suit any fields of the industry and the agriculture. Proper choice is important in order to minimize the energy consumption and to assure long trouble-free operation of the pump.

Performance

The performance curves are given in the diagrams below, indicating: Q-H, Q-P, Qefficiency, and Q-NPSH. KCP pumps can operate continuously in whole the operating region within the motor power limitation.

All the pumps can run at different speeds, depending on the size of the pump and the customer requirements. For higher speeds it is necessary to check the pump limitation.

The performance curves are based on a liquid density of 1000 kg/m³. For working fluid density below or above 1000 kg/m³ it is necessary to multiply the power.

Drive

The drive is generally a direct coupled electric motor, using a flexible coupling. For sizing of the drivers you have to add a minimum of 10 to 15% to the pump absorbed power, depending on operating condition, eventually a higher could be necessary.

GENERAL DATA— Design of KCP pump

Impellers

Fully shrouded impellers statically and dynamically balanced

O-rings

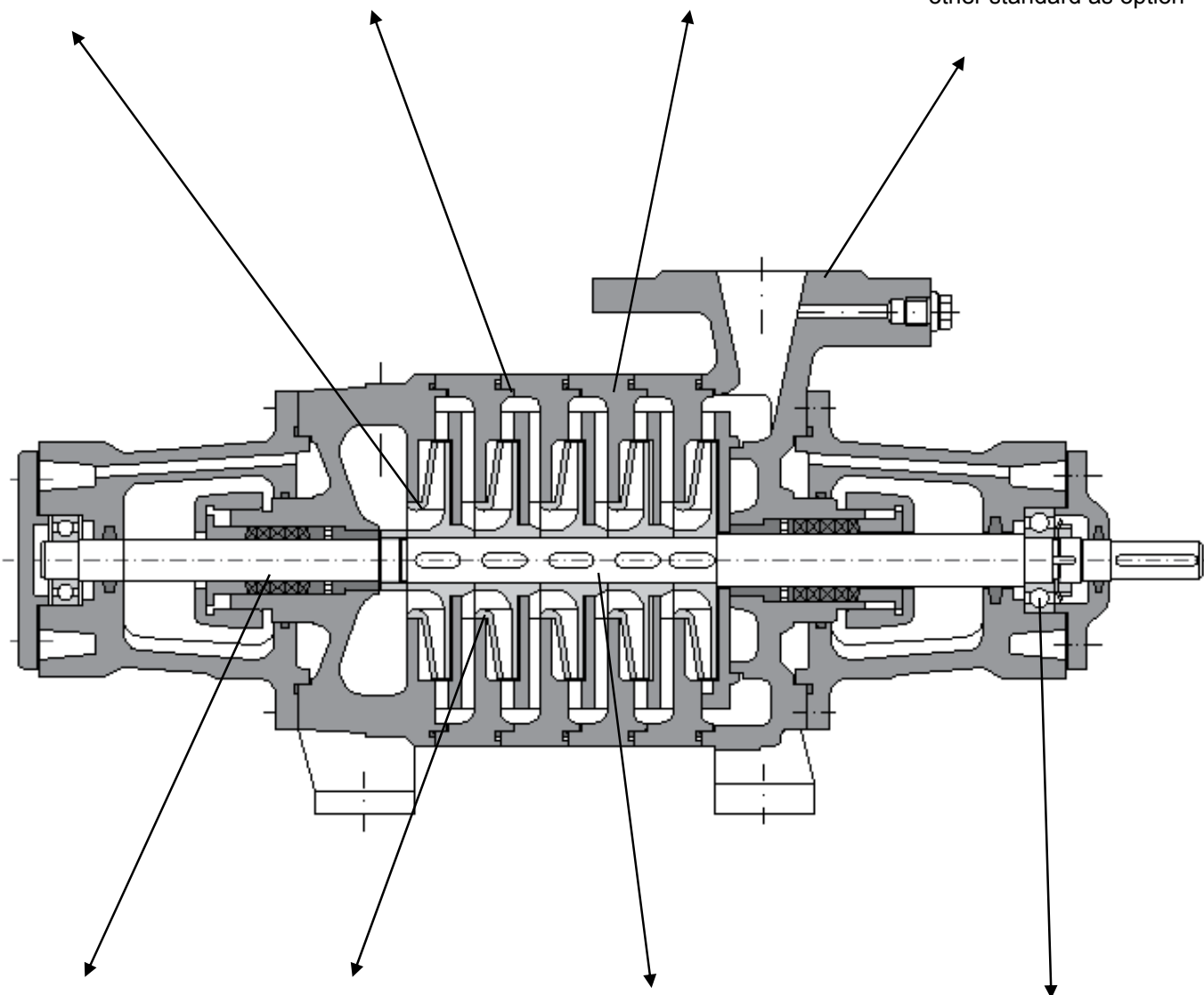
O-rings sealed casing stages means leak less operation

Casing

Gray iron as standard, other material executions available

Flanges

Suction and discharge flanges designed According DIN standard other standard as option



Shaft sealing

Gland packing as standard mechanical seals as option

Wear rings

Easily replaceable and highly resistant gray iron or bronze wear rings at each pumps stage

Shaft

Stainless steel shaft, precisely machined and ground

Ball bearings

Grease lubricated ball bearings to handle axial thrust in either direction

GENERAL DATA– Design of DMS pump

Impellers

“Back to back” impeller execution provides an axial thrust balancing

Casing

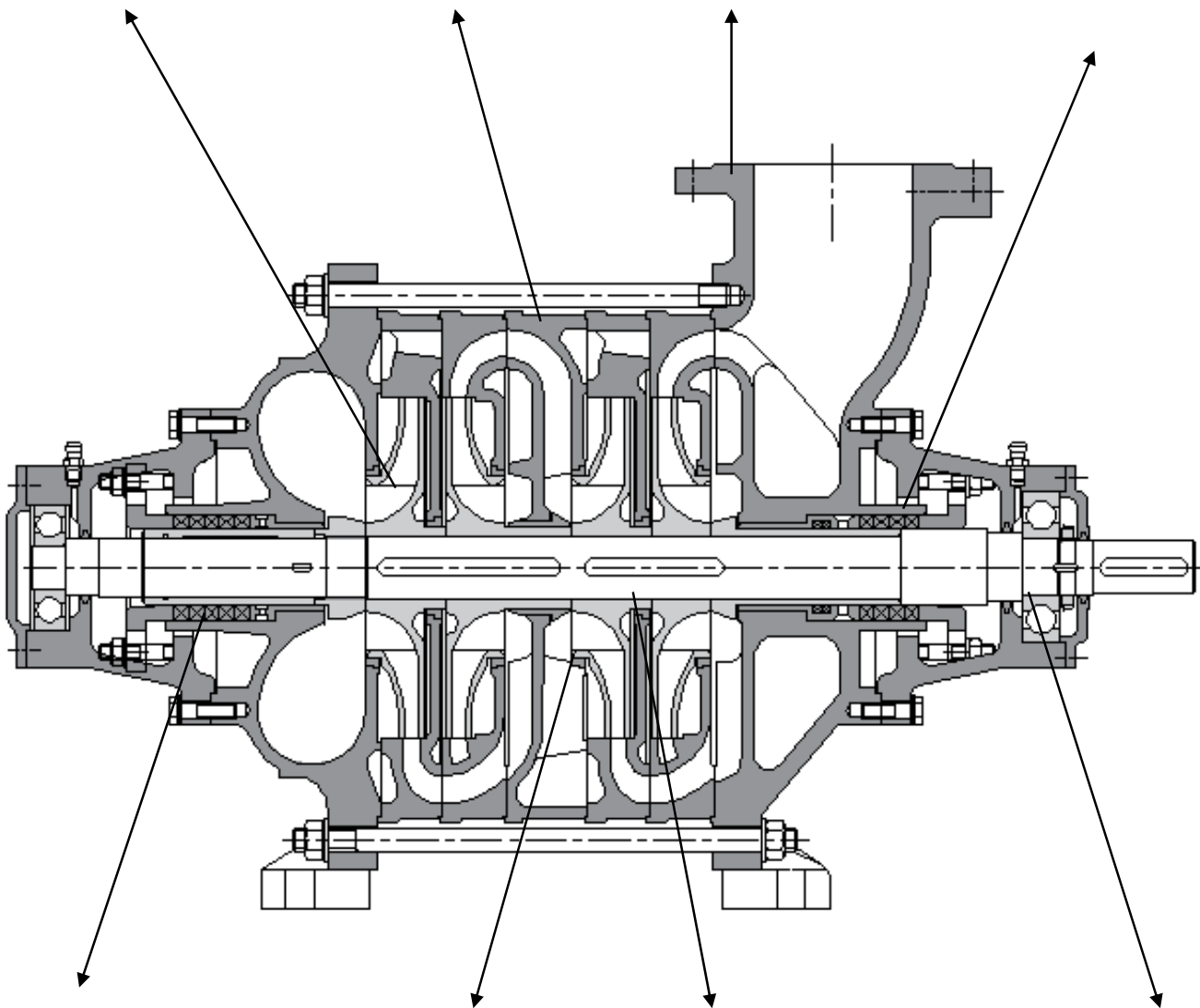
High quality casings available in grey iron as standard, other material combinations as option

Flanges

Suction and discharge flanges designed According DIN standard other standard as option

O-ring

O-rings is used when hot water is a working medium, seals chamber protecting it of leaking operation



Shaft sealing

Gland packing as standard mechanical seals as option

Wear rings

Replaceable wear rings fitted to casing as standard, through the pump life efficiency is maintained

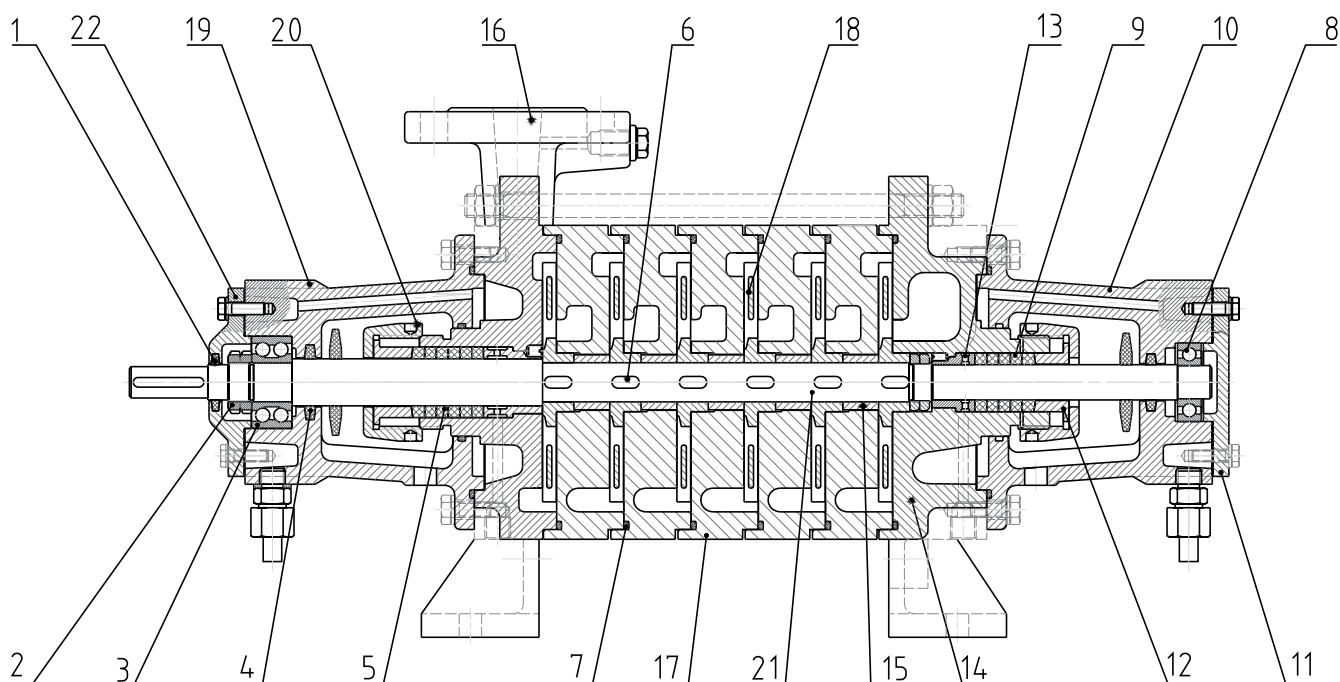
Shaft

Heavy-duty shaft available in different materials

Ball bearings

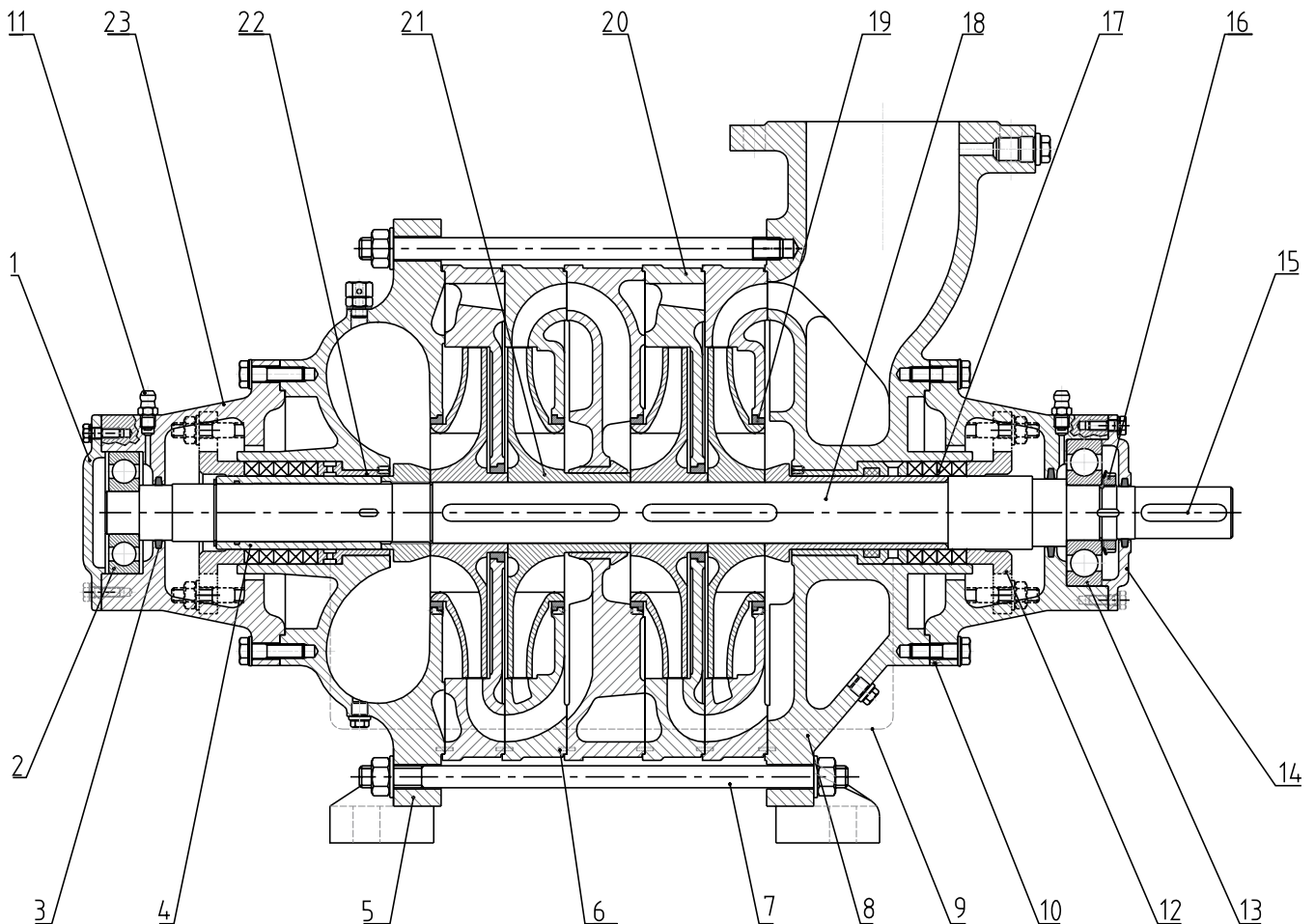
Grease lubricated ball bearings to handle axial thrust in either direction

GENERAL DATA– Sectional drawing of K06



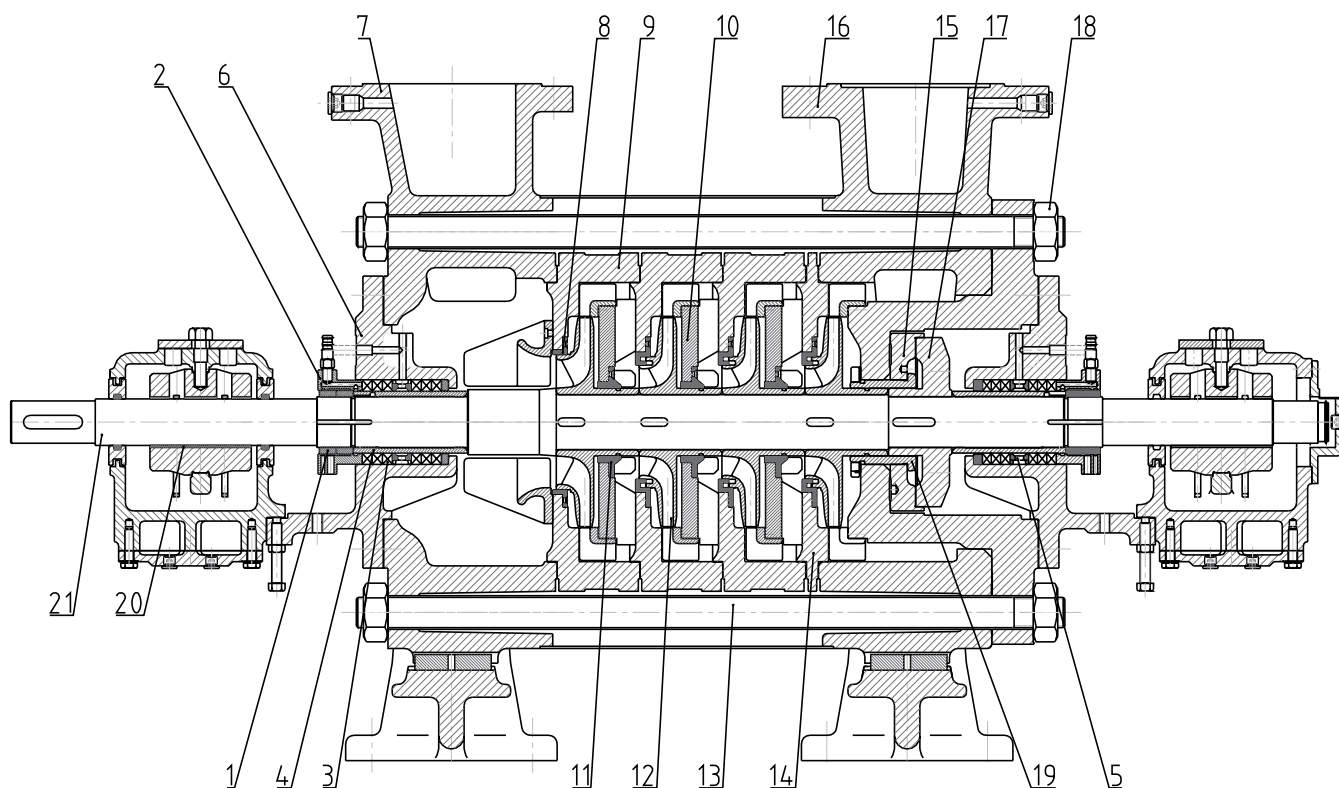
Pos.	Description	Pos.	Description
1.	Cord	12.	Gland cover
2.	Lock nut	13.	Lantern ring
3.	Double row ball bearing	14.	Suction casing
4.	Cord	15.	Shaft protecting sleeve
5.	Gland packing	16.	Discharge casing
6.	Key	17.	Stage casing
7.	O-ring	18.	Impeller
8.	Single row ball bearing	19.	Bearing housing
9.	Gland packing	20.	Gland cover
10.	Bearing housing	21.	Shaft
11.	Cover	22.	Bearing cover

GENERAL DATA– Sectional drawing of KCP 122-C12



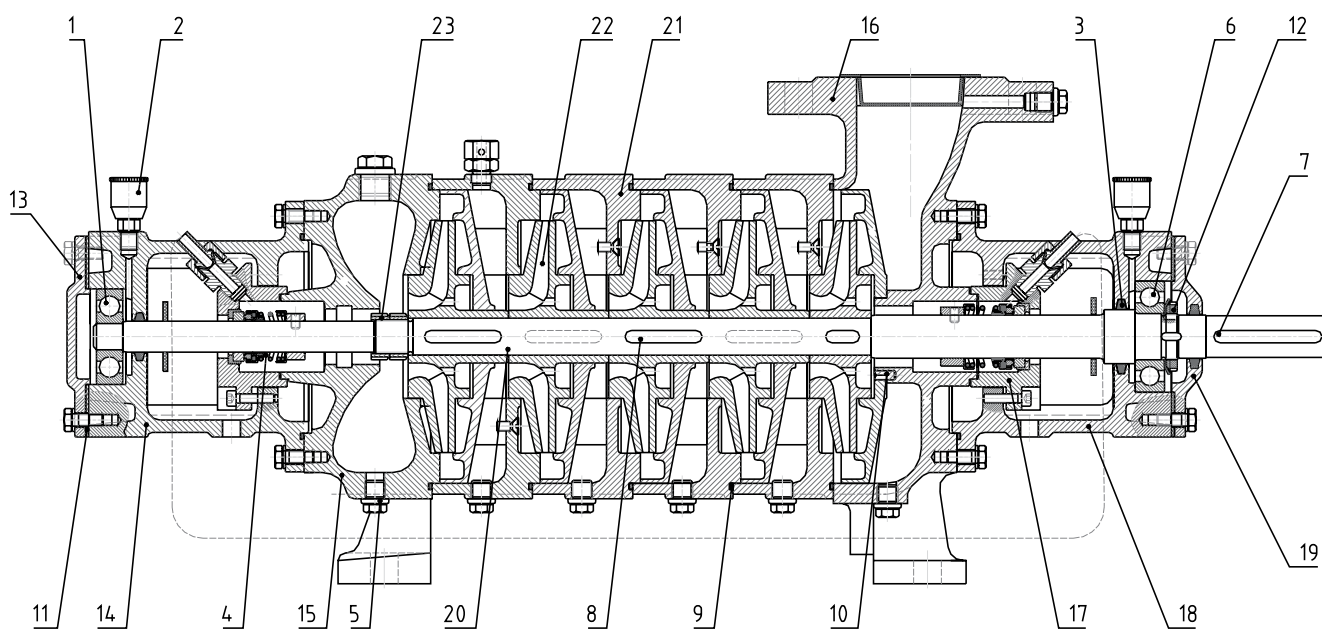
Pos.	Description	Pos.	Description
1.	Bearing cover	13.	Single row bearing
2.	Single row bearing	14.	Bearing cover
3.	Cord	15.	Key
4.	Shaft protecting sleeve	16.	Lock nut
5.	Suction casing	17.	Soft packing/Gland packing
6.	Stud	18.	Shaft
7.	Double side stud	19.	Casing wear ring
8.	Discharge casing	20.	Stage casing
9.	Piping	21.	Impeller
10.	Bearing housing	22.	Shaft sleeve
11.	Lubricating nipple	23.	Bearing housing
12.	Gland		

GENERAL DATA– Sectional drawing of KCP 162



Pos.	Description	Pos.	Description
1.	Nut	12.	Impeller
2.	Gland cover	13.	Tie bolt
3.	Gland packing	14.	Stage casing
4.	Shaft protecting sleeve	15.	Disc
5.	Cooling ring – Lantern ring	16.	Discharge casing
6.	Cover	17.	Balance drum
7.	Suction casing	18.	Screwed plug
8.	Wear ring	19.	Shaft sleeve
9.	Stage casing	20.	Plain bearing
10.	Stage casing	21.	Shaft
11.	Wear ring		

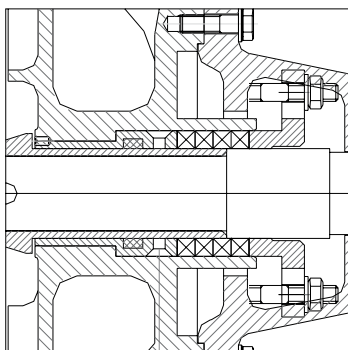
GENERAL DATA– Sectional drawing of KCP 32 – C3



Pos.	Description	Pos.	Description
1.	Single row ball bearing	13.	Bearing cover
2.	Lubricating nipple	14.	Bearing housing
3.	Cord	15.	Suction casing
4.	Mechanical seal	16.	Discharge casing
5.	Joint ring	17.	Seal cover
6.	Single row ball bearing	18.	Bearing housing
7.	Key	19.	Bearing cover
8.	Key	20.	Shaft
9.	O-ring	21.	Stage casing
10.	Tie bolt	22.	Impeller
11.	Lip seal	23.	Lock nut
12.	Lock nut		

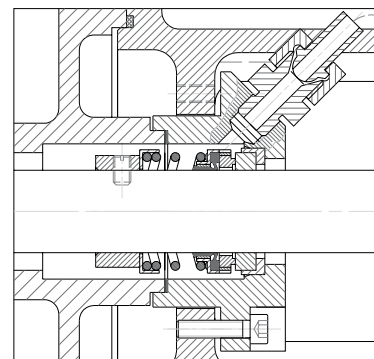
GENERAL DATA

Stuffing boxes



- Cooled stuffing box with internal barrier fluid for pumping of clean liquids in suction operation or at inlet pressures up to 4 bar.

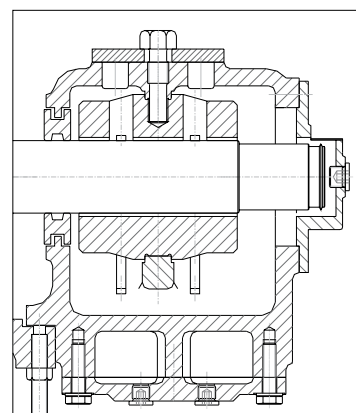
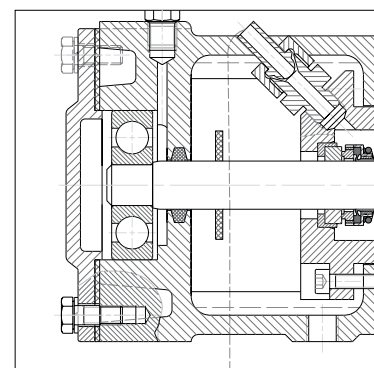
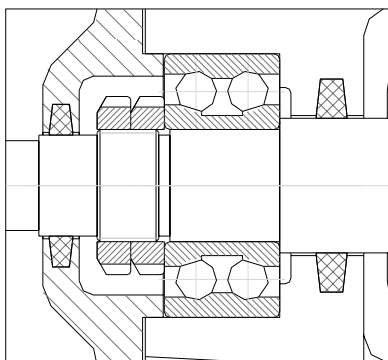
Single mechanical shaft seal



- Mechanical seal with cooling of seal surface (connection with pump case)

Bearing Bracket

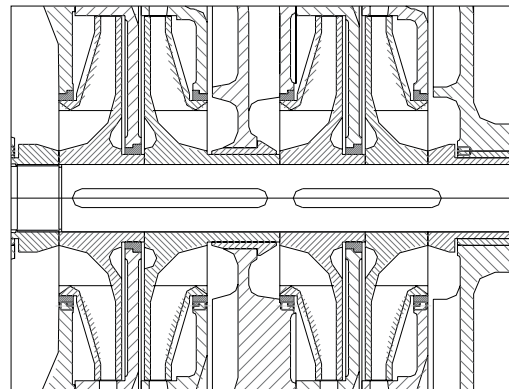
- Depending on pump size, a deep groove double row ball bearings is used, or a single row roller bearing. Plain bearings are used at some special design of these multistage pumps. The bearings are protected against moisture and dirt ingress.



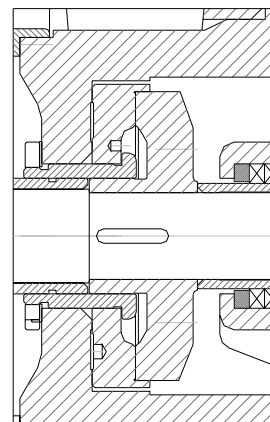
GENERAL DATA

Balancing the axial thrust

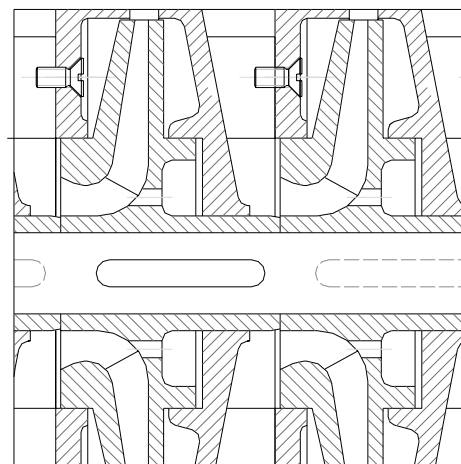
- One way to balance the axial thrust in pumps is to arrange the impellers in opposed direction. With even number of impellers, such an arrangement can eliminate the axial thrust complete.

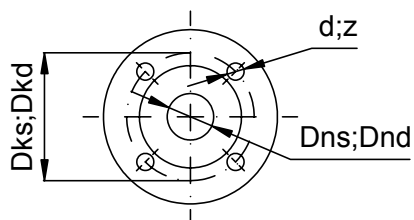
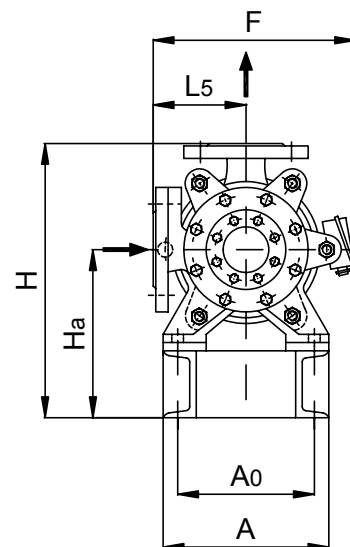
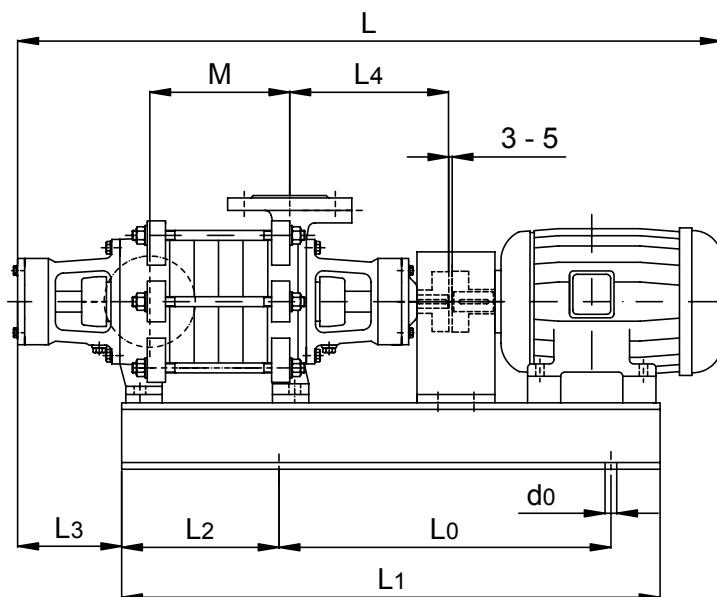


- Another way to balance the axial thrust is to use a balancing disc. In such case, the axial thrust is being taken up by a single disc. This device is subjected to total pressure developed by the pump on one of its faces. On its other face, it is subjected to the suction pressure at the inlet of the first impeller.



- Balancing holes provided in the impeller for balancing on hydraulic axial thrust



TECHNICAL DATA – Main dimensions: Pump unit 2900 [rpm]

FLANGES :

suction DIN. 2533

discharge DIN. 2533,
DIN. 2544

DIMENSION																				mm		
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	A ₀	H	Ha	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)		
	rpm	kW					L ₄							dns	dnd		s	s		Pump	Agr.	
KCP 12 – 2	2900	1.1	680	500	370	64	130	83	200	160	328	200	245				4	4	14	27	53	
KCP 12 – 3	2900		725	530	345	88		113												28	58	
KCP 12 – 4	2900	2.2	805	640	435	96	177	143			360	200	272	110	110		4	4		29	66	
KCP 12 – 5	2900		835	940	450	112		173						40	40					110	18	18
KCP 12 – 6	2900	3	910	705	490	128		203			374		286							31	79	
KCP 12 – 7	2900		940	735	505	142		233												32	82	
KCP 12 – 8	2900	4	975	770	530	115		263	240	195	400		334							33	95	

TECHNICAL DATA – Main dimensions: Pump unit 2900 [rpm]

DIMENSION																				mm	
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	A ₀	H	H _a	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)	
	rpm	kW					L ₄													Pump	Agr.
KCP 22 – 2	2900	2.2	870	635	465	90		105			412		300							40	83
KCP 22 – 3	2900	3	950	700	500	110		141	255	215	430		320							48	110
KCP 22 – 4	2900	4	995	745	530	120		177			450		340							56	128
KCP 22 – 5	2900	5.5	1095	820	590	140	158	213				252								64	150
KCP 22 – 6	2900		1130	860	610	160	236	249	280	240	427		360	125	125		4	4		72	159
KCP 22 – 7	2900	7.5	1165	895	625	180		285						50	50	140	18	18	18	80	175
KCP 22 – 8	2900		1200	930	640	195		321												88	184
KCP 22 – 9	2900	11	1385	1090	750	210		357												96	230
KCP 22 – 10	2900		1420	1125	775	230		393	325	280	480	270	400							104	245
KCP 22 – 11	2900		1455	1160	780	250		429												112	254
KCP 22 – 12	2900		1495	1195	795	270		465												120	236

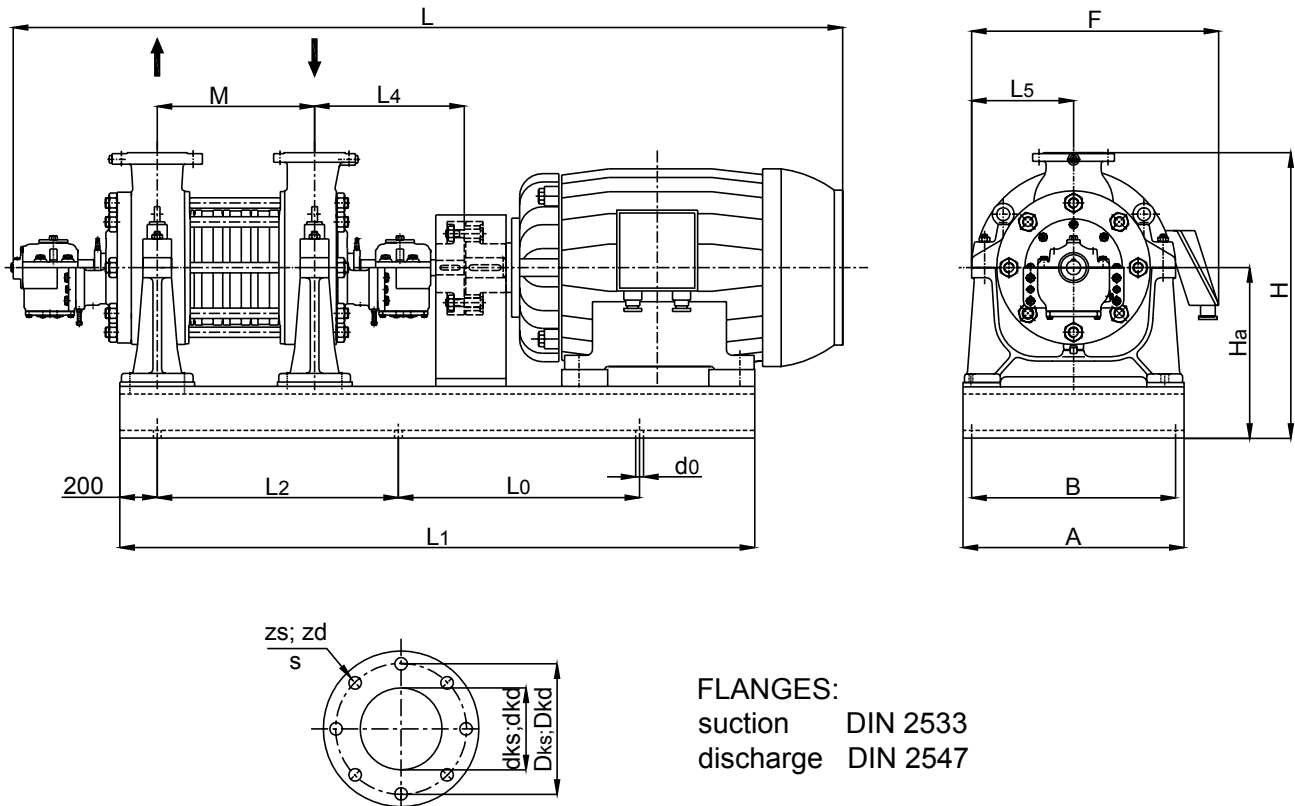
DIMENSION																				mm	
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	A ₀	H	H _a	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)	
	rpm	kW					L ₄													Pump	Agr.
KCP 32 - 2	2900	5.5	1070	795	590	115		160	270	220										62	154
KCP 32 - 3	2900	7.5	1135	895	655	150		225			480	272	380							72	190
KCP 32 - 4	2900	11	1350	1075	735	180		290	335	285										82	228
KCP 32 - 5	2900	15	1415	1115	770	210	165	355						145	145		4	4		92	259
KCP 32 - 6	2900	19	1525	1125	870		271	420	325	280				65	65	165	18	18	18	102	284
KCP 32 - 7	2900		1590	1270	920			485			500	292	425							112	292
KCP 32 - 8	2900	22	1670	1325	975	200		550	350	300										122	366
KCP 32 - 9	2900		1735	1450	1065			615												132	378
KCP 32 - 10	2900	30	1905	1565	1050			680	410	350	685	375	480							142	499

DIMENSION																				mm	
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	A ₀	H	H _a	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)	
	rpm	kW					L ₄													Pump	Agr.
KCP 42 - 2	2900	7.5	1110	820	595	115		160	270	220	480	272	380							62	160
KCP 42 - 3	2900	11	1285	980	600	150		225												72	216
KCP 42 - 4	2900	15	1340	1050	735	180		290	335	285										82	250
KCP 42 - 5	2900		1415	1115	770	210	165	355			500	292		145	145		4	4		92	259
KCP 42 - 6	2900	19	1525	1225	870		271	420						65	65	165	18	18	18	102	284
KCP 42 - 7	2900	22	1605	1285	935			485	350	300	550	312	445							112	329
KCP 42 - 8	2900	30	1775	1440		200		550												122	474
KCP 42 - 9	2900		1840	1505	1050			615	410	350	685	375	480							132	486
KCP 42 - 10	2900		1905	1565				680												142	499

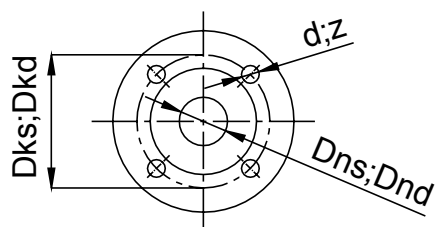
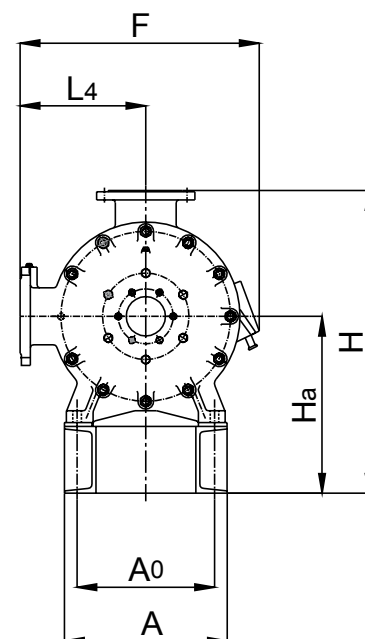
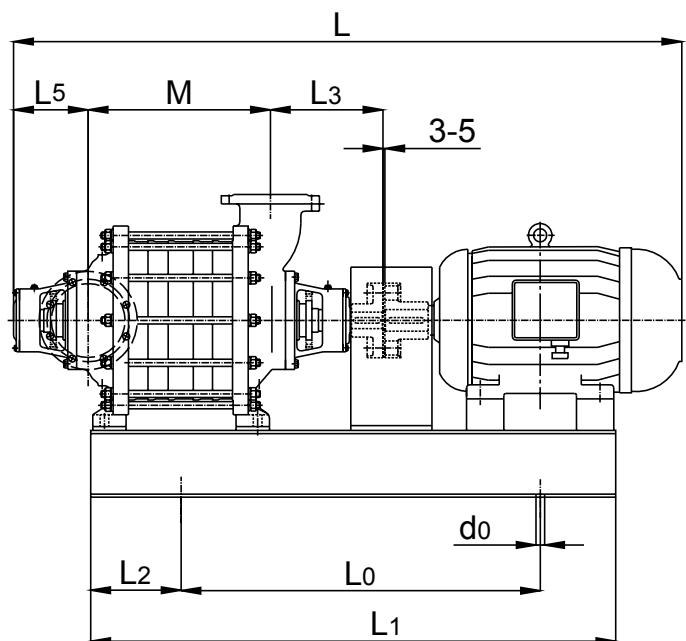
TECHNICAL DATA – Main dimensions: Pump unit 2900, 1450 [rpm]

DIMENSION																					mm										
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	A ₀	H	Ha	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)											
	rpm	kW					L ₄							dns	dnd		s	s		Pump	Agr.										
KCP 52 - 2	2900	15	1340	1020	750	140	186 304	216	410	360	580	340	500	160	160	240	8	8	18	130	306										
KCP 52 - 3	2900	22	1480	1150	820	180		296			570	330	520							150	360										
KCP 52 - 4	2900	30	1665	1315	905	200		376			600	340	555							80	80	18	18	170	446						
KCP 52 - 5	2900	37	1745	1395	1000			456																190	495						
KCP 52 - 6	2900		1825	1475				536																210	530						
KCP 52 - 7	2900	45	1980	1570	1180			220																616	445	385	685	400	585	230	650
KCP 52 - 8	2900	55	2135	1750	1310																			696	505	445	750	430	610	250	785

DIMENSION																					mm							
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	A ₀	H	Ha	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)								
	rpm	kW					L ₄							dns	dnd		s	s		Pump	Agr.							
KCP 62 – 2	1450	5.5	1165	870	639	120	185 317	172	271	225	512	312	455	180 100	160 80	240	8 18	8 18	18	111	216							
KCP 62 – 2a	1450	4	1100	825	600				252	205	492	292	440								196							
KCP 62 – 3	1450	11	1390	1070	780	160		253	315	265	525	325	500							125	281							
KCP 62 – 3a	1450	7.5	1280	985	698				271	225	512	312	455								250							
KCP 62 – 4	1450	11	1470	1155	803	200		333	315	265	525	325	500							139	308							
KCP 62 –4a	1450	7.5	1365	1070	738				271	225	512	312	455								266							
KCP 62 – 5	1450	15	1600	1275	866	240		414	315	265	525	325	500							180 100	160 80	240	8 18	8 18	18	153	350	
KCP 62 – 5a	1450	11	1555	1235	844																						494	350
KCP 62 – 6	1450	18.5	1695	1365	913	280			494	315	265	525	325													500	167	405
KCP 62 – 6a	1450	15	1675	1355	906					315	265	525	325													500		365
KCP 62 – 7	1450	18.5	1780	1445	953	320			575	350	290	550	312													520	181	423
KCP 62 – 7a	1450	15	1760	1440	947					315	265	525	325													500		385
KCP 62 – 8	1450	22	1896	1565	1012	360	655		350	290	550	312	520	195	466													
KCP 62 – 8a	1450	18.5	1860	1525	1020										445													

TECHNICAL DATA – Main dimensions: Pump unit 2900 [rpm]


DIMENSION																			mm						
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₄	M	A	B	H	Ha	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)					
	rpm	kW												dns	dnd		s	s		Pump	Agr.				
KCP 162 – 2	2900	75	2360	1755	1035	350	516	326	770	710	1000	600	723			355		8	8	27	762	1650			
KCP 162 – 3	2900	110	2560	1925	770	770		426					802								852	1900			
KCP 162 – 4	2900	160	2892	2215	840	840		526													942	2475			
KCP 162 – 5	2900	200	2990	2315	890	890		626	780				935	240	250		35	8	8		1032	2635			
KCP 162 – 6	2900	250	3395	2775	1060	1060		726					780	150	125			23	33	1122	2902				
KCP 162 – 6a	2900	160	3092	2415	840	890		726						960									1122	3082	
KCP 162 – 7	2900	315	3645	3025	1150	1150		826	780					770									1212	3180	
KCP 162 – 8	2900		3740	3125	1200	1200		926						1302			3295								

TECHNICAL DATA – Main dimensions: Pump unit 1450 [rpm]


FLANGES :

suction

DIN. 2502

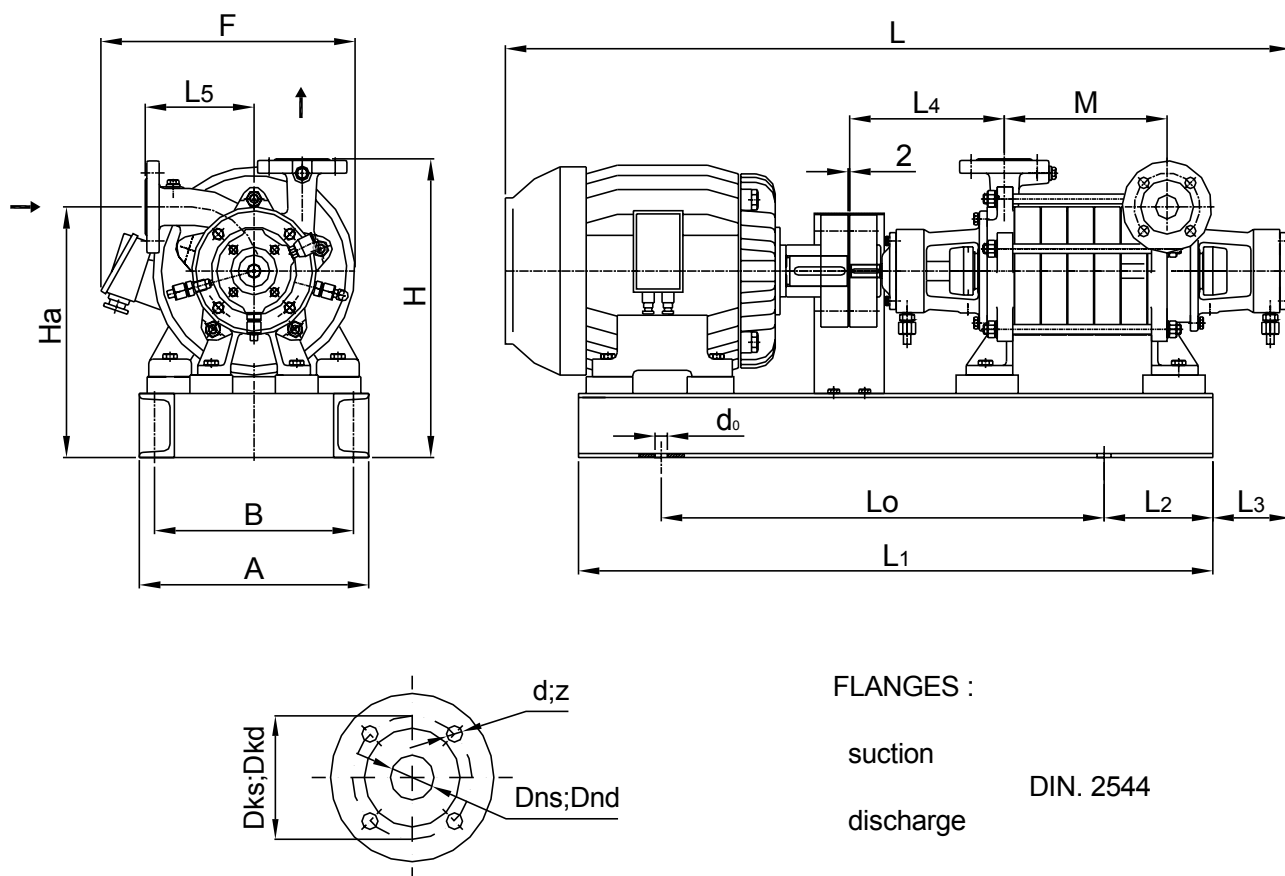
discharge

DIMENSION																					mm			
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	A ₀	H	H _a	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)				
	rpm	kW					L ₄							dns	dnd		s	s		Pump	Agr.			
KCP 122 – 2	1450	15	1410	1085	780	150	185	300	415	355	765	445	578							250	494			
KCP 122 – 2 a	1450	11	1365	1040																	464	464		
KCP 122 – 4	1450	30	1700	1340	915	230	287	464				450	634							300	686			
KCP 122 – 4 a	1450	22	1635	1290																	580			
KCP 122 – 6	1450	45	1955	1560	1060	310	185	628	445	385		450	662	125	220	320	18	27		350	895			
KCP 122 – 6a	1450	37	1930	1535	1030				450				634								856			
KCP 122 – 8	1450	55	2195	1795	1180	390	297	792	515	455	790	470	688							380	990			
KCP 122 – 8 a	1450	45	2120	1725	1145								662								940			
KCP 122 -10	1450	75	2425	2025	1330	470	185 319	956	580	520	840	480	715							410	1150			

TECHNICAL DATA – Main dimensions: Pump unit 1450 [rpm]

DIMENSION																			mm									
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	A ₀	H	Ha	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)								
	rpm	kW					L ₄							dns	dnd		s	s		Pump	Agr.							
KCP 182 – 2	1450	45	1765	1320	950	175	248	350	450	395	845	470	687						22	342	597							
KCP 182 - 2 b	1450	22	1625	1220	875		314																623	676				
KCP 182 – 4	1450	75	2110	1635	1125	280		553	575	515		500	740							240	250		8	8		502	1260	
KCP 182 - 4 a	1450	55	2045	1560	1025				505	445																		713
KCP 182 – 6	1450	132	2490	1990	1330	380	248		635	575	900	510	792	150	150	345	23	27	27								1748	
KCP 182 – 6a	1450	110	2440	1940	1310		324		756																		576	515
KCP 182 - 6 b	1450	90	2365	1905	1260				960	635	575	900	510							792							822	1475
KCP 182 – 8	1450	160	2695	2190	1440																							480
KCP 182 - 8 a	1450	132														1918												

DIMENSION																				mm	
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	A ₀	H	Ha	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)	
	rpm	kW					L ₄							dns	dnd		s	s		Pump	Agr.
KCP 252 – 2	1450	110	2395	1780	1300	220		257	640	710	1165	640	952							875	1910
KCP 252 - 2 a	1450	90	2330	1735	1260								900								1720
KCP 252 – 4	1450	250	3325	2725	1850	350		732	780			640	895							1200	3185
KCP 252 - 4 a	1450	200	3275	2575	1775								3030								
KCP 252 - 4 b	1450	160	2710	2090	1475	351			640	570			952								2660
KCP 252 – 6	1450	315	3585	2980	1975								480								
KCP 252 - 6 a	1450	250				3525															
KCP 252 - 6 b	1450	200	3430	2830	1900																3375
KCP 252 – 8	1450	450	3880	3260	2200																535
KCP 252 - 8 a	1450	400				4575															
KCP 252 - 8 b	1450	360																			4575

TECHNICAL DATA – Main dimensions: Pump unit 2900 [rpm]


FLANGES :

suction

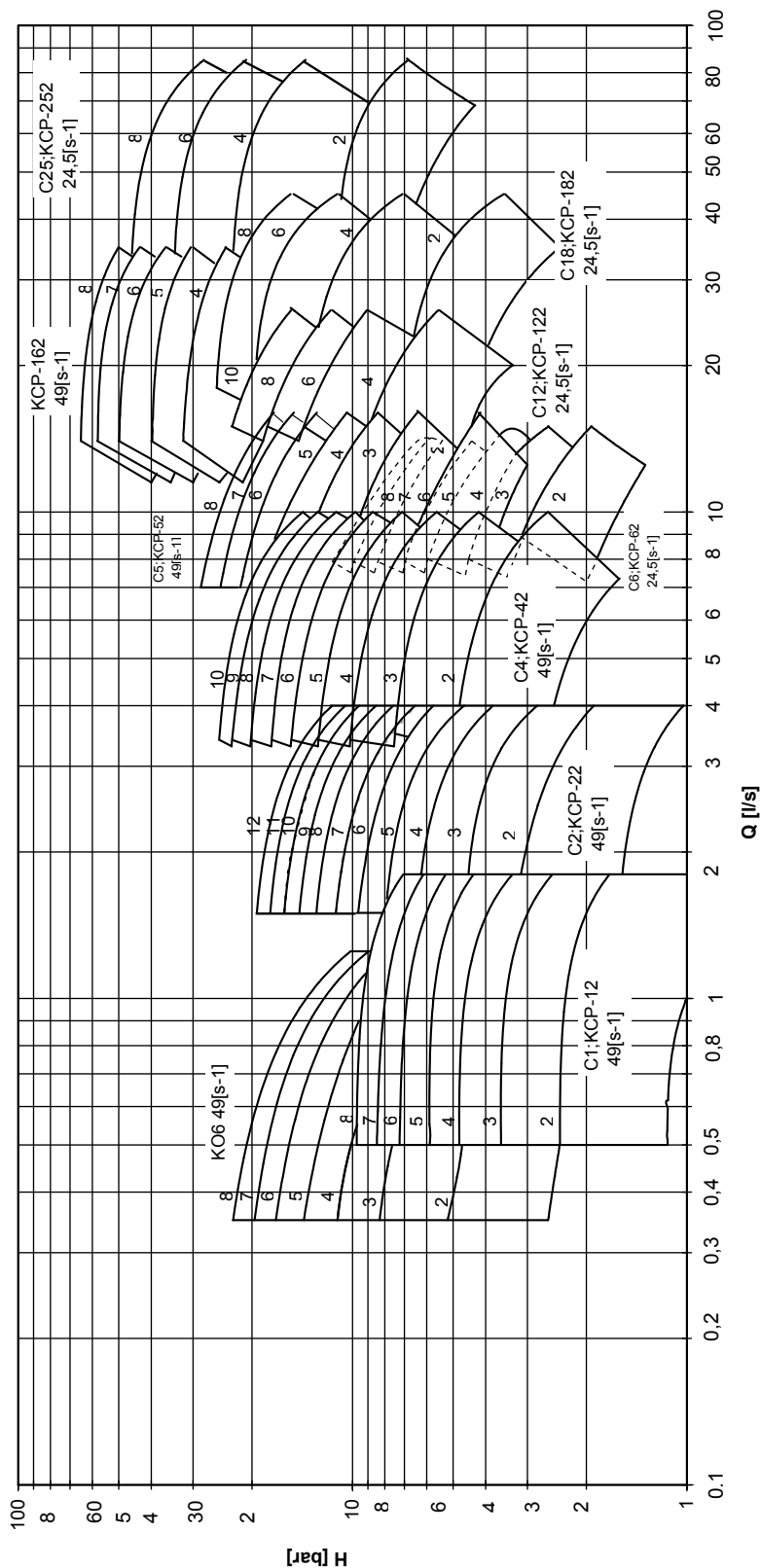
discharge

DIN. 2544

DIMENSION																				mm			
PUMP TYPE	n	P	L	L ₁	L ₀	L ₂	L ₃	M	A	B	H	Ha	F	Dks	Dkd	L ₅	zs	zd	d ₀	m (kg)			
	rpm	kW					L ₄							dns	dnd					Pump	Agr.		
KO6 – 2	1450	0.75	745	490	410	80	111 197	73	240	200	400	287	280	85 30	85 25	130	4 14	4 14	14	27	49		
KO6 – 4	2900	4	920	675	465	120		143	240	200	421	287	375							37	108		
KO6 – 5	2900	5.5	1020	750	520	140		178	280	240	400	302	390							42	129		
KO6 – 6	2900	5.5	1055	785	540	155		213												47	134		
KO6 – 7	2900	7.5	1096	820	560	170		248												52	146		
KO6 – 8	2900	7.5	1125	855	575	190		283												57	152		

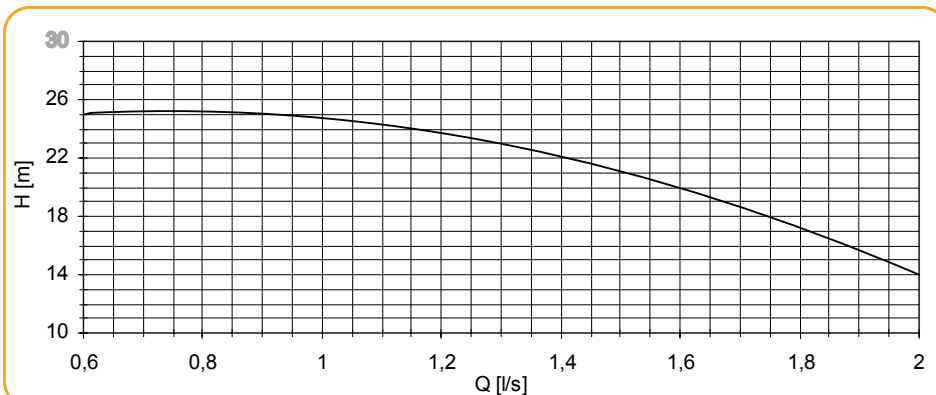
General performance curves

MULTI STAGE PUMPS, C, KCP

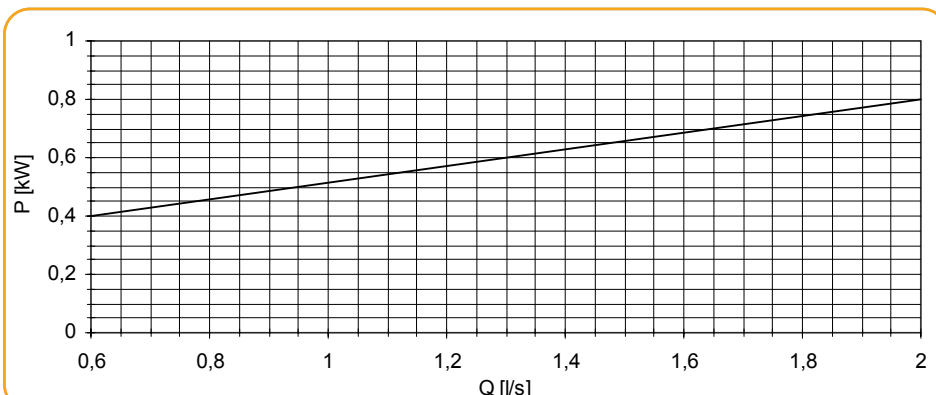


Pump performance curves

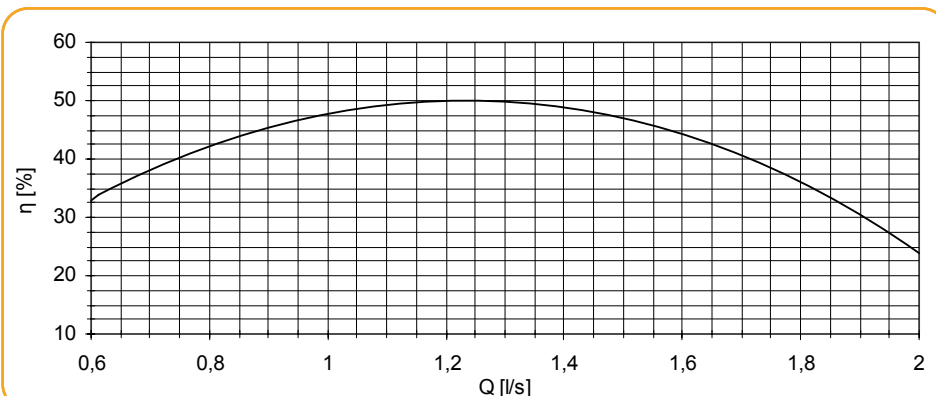
Total
Differential
Head



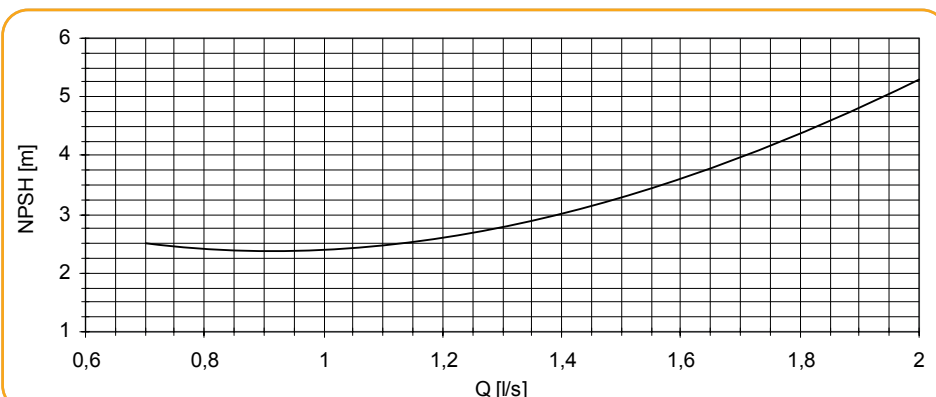
Power Input



Efficiency



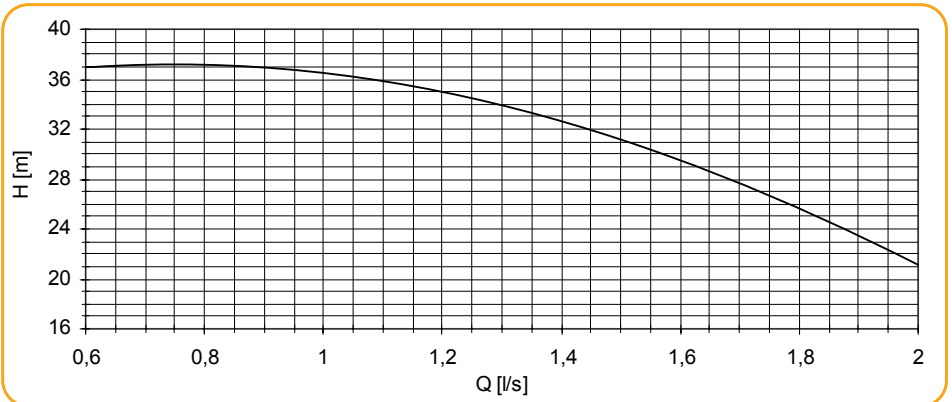
Net Positive
Suction Head



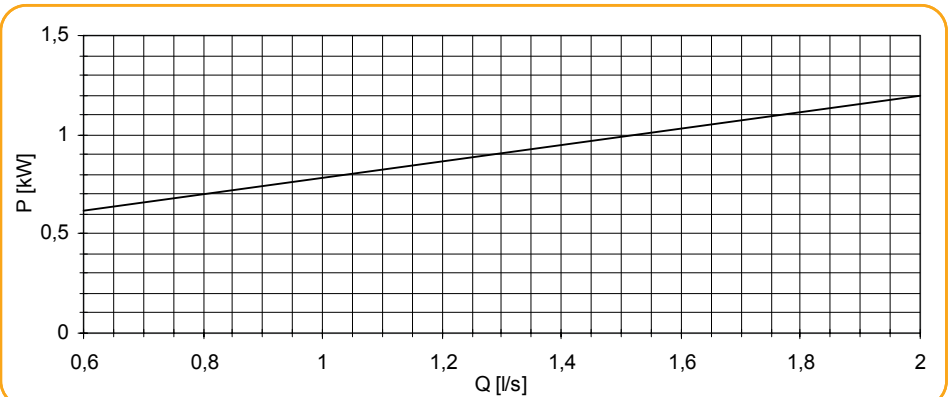
Pump performance curves

KCP 12-3
n = 2900 (rpm)

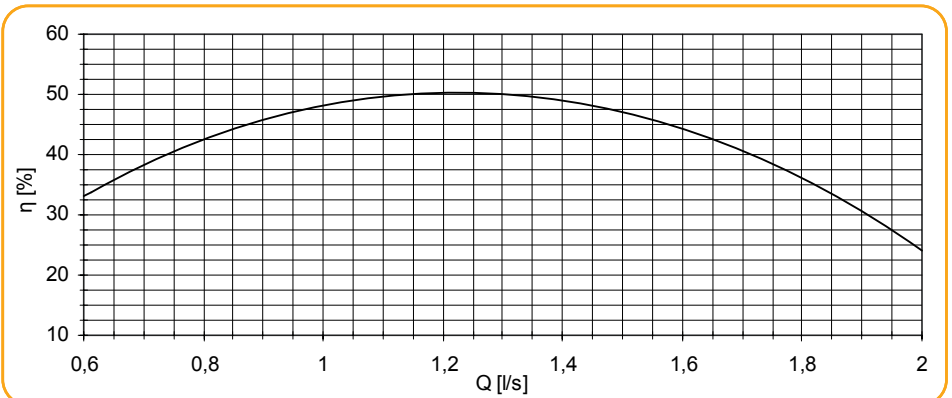
Total
Differential
Head



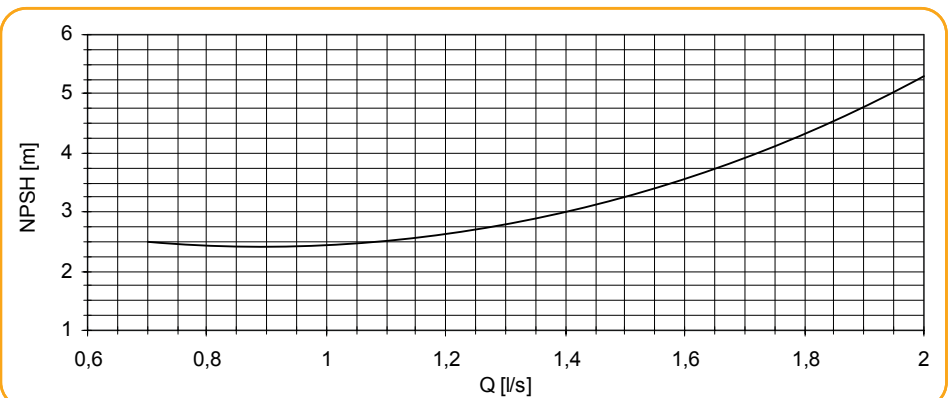
Power Input



Efficiency

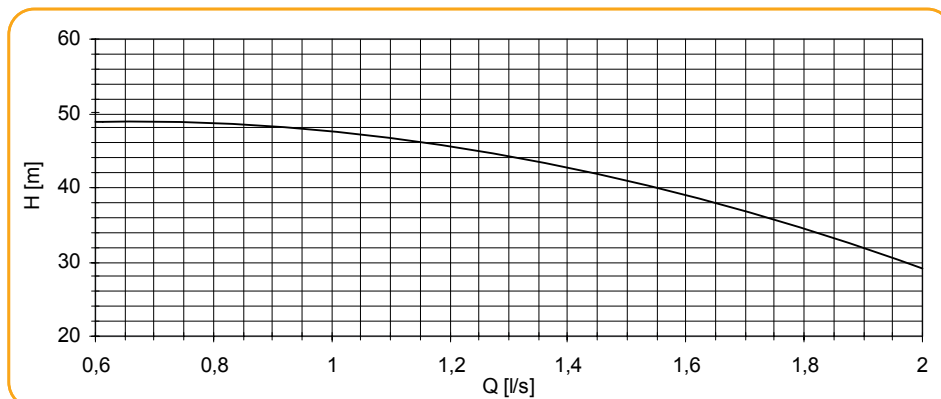


Net Positive
Suction Head

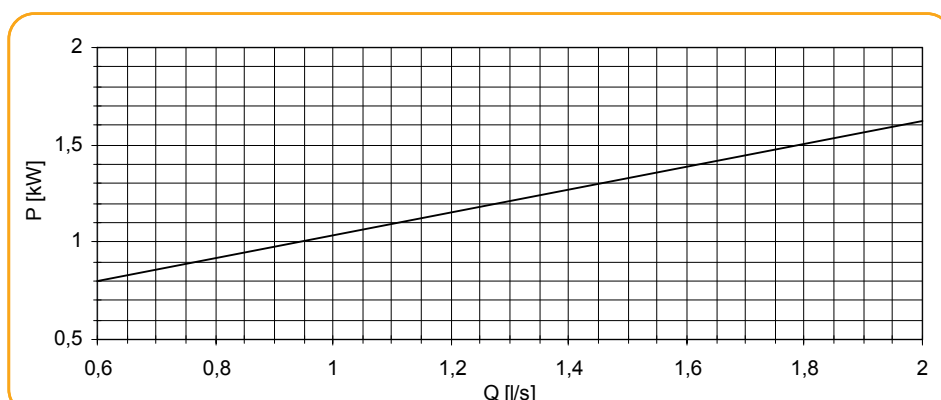


Pump performance curves

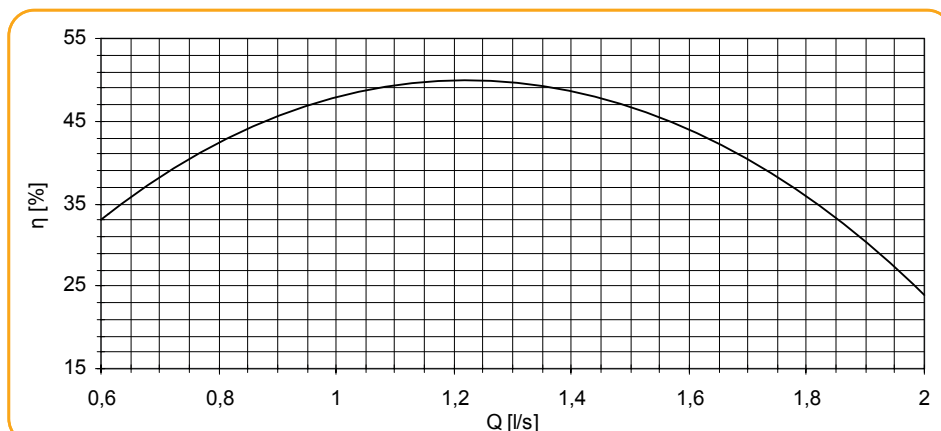
Total
Differential
Head



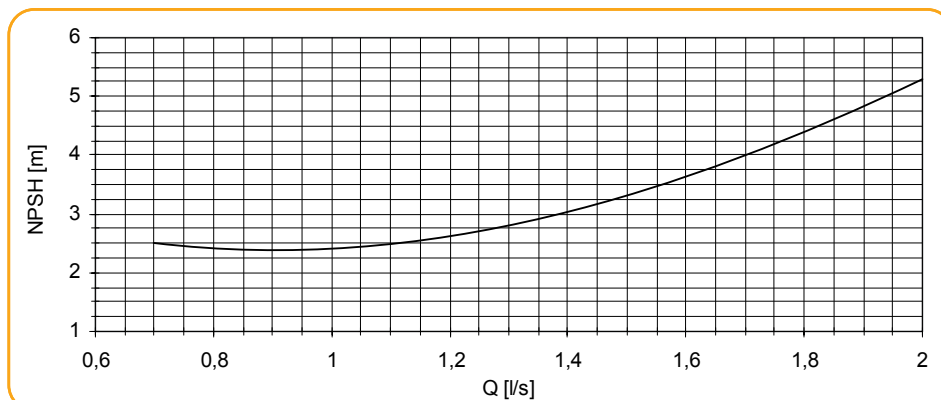
Power Input



Efficiency



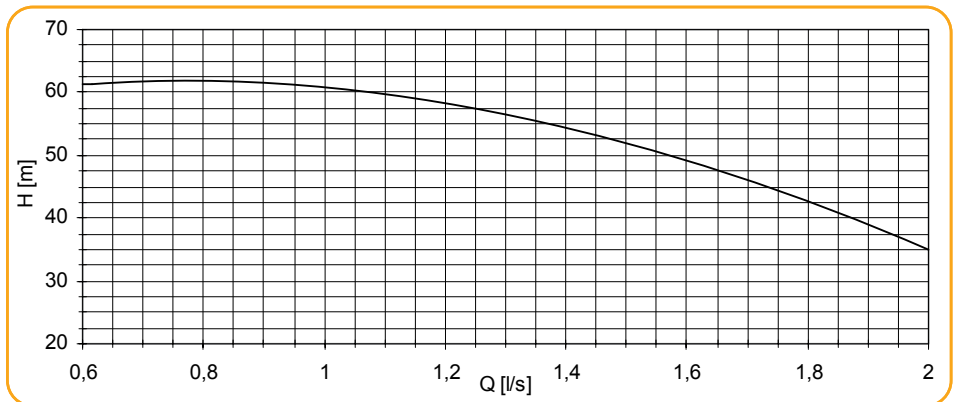
Net Positive
Suction Head



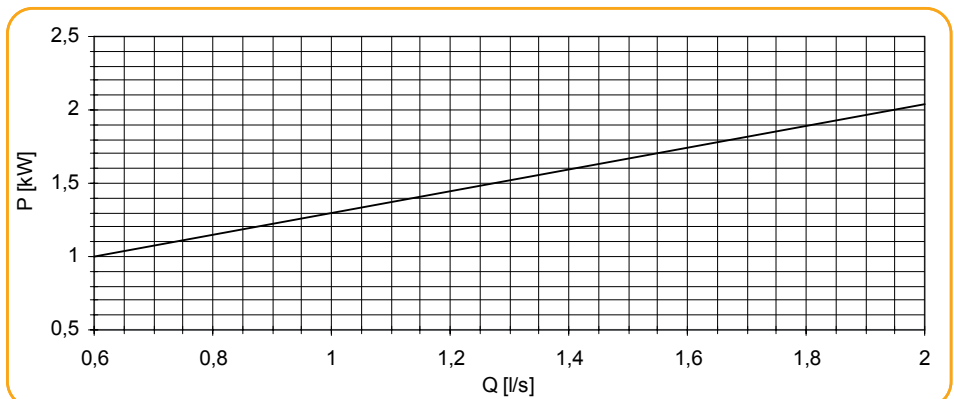
Pump performance curves

KCP 12-5
n = 2900 (rpm)

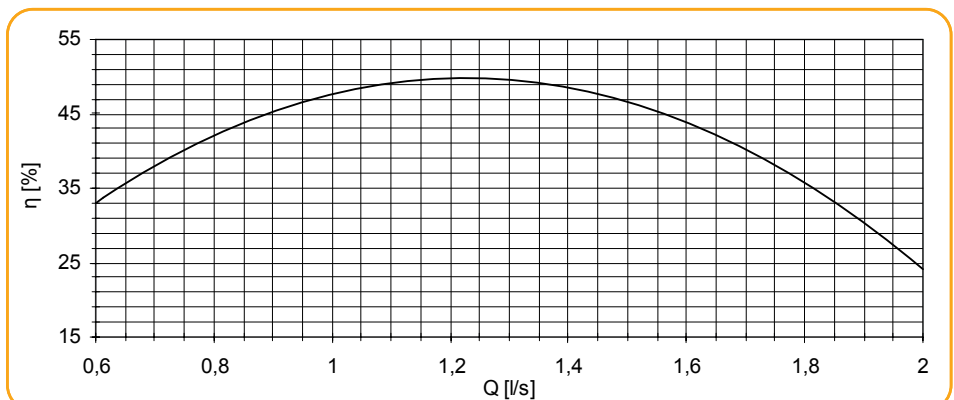
Total
Differential
Head



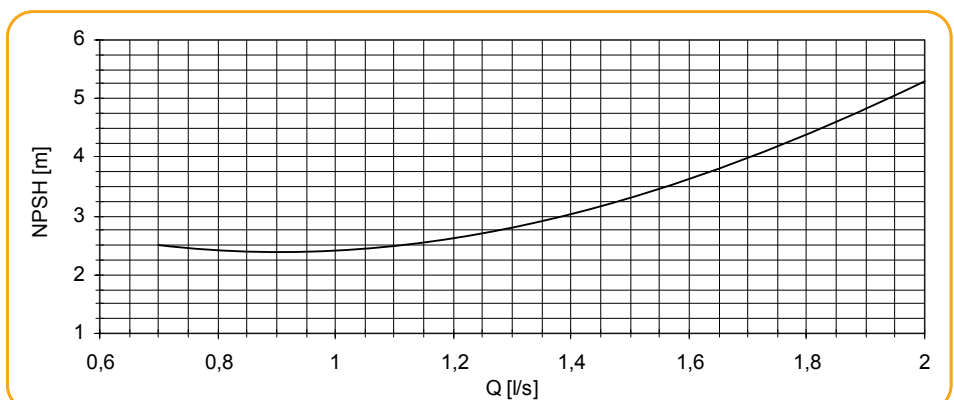
Power Input



Efficiency

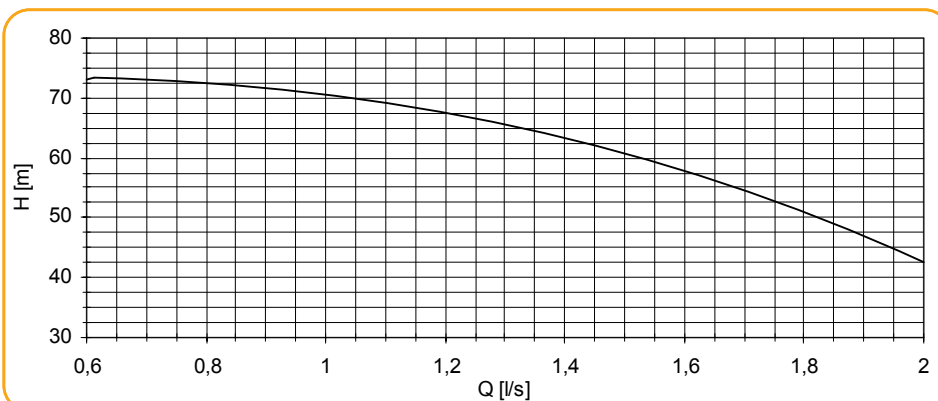


Net Positive
Suction Head

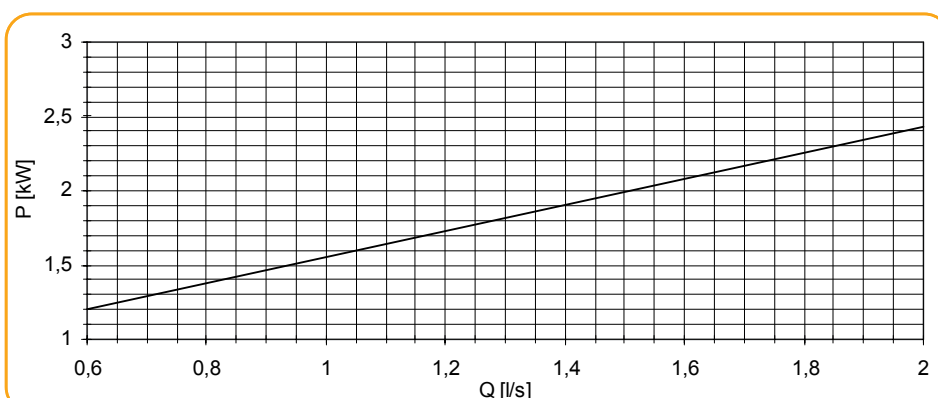


Pump performance curves

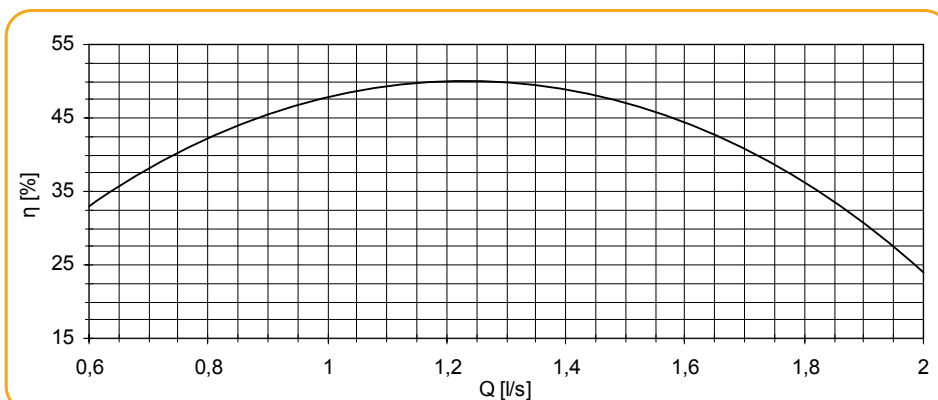
Total
Differential
Head



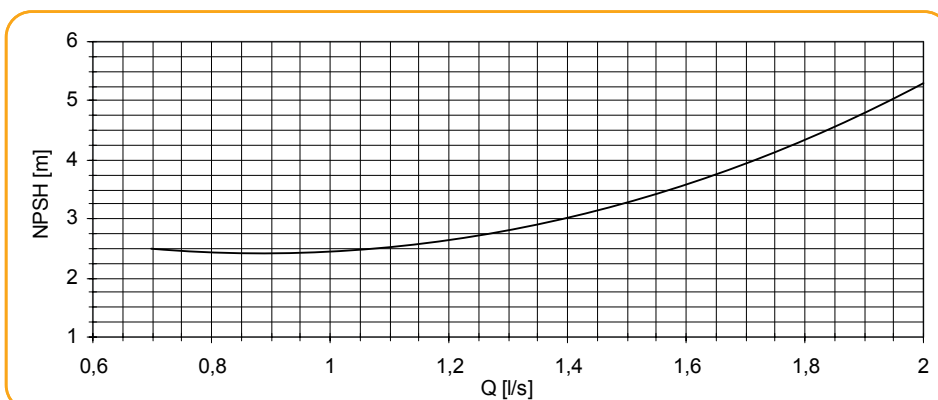
Power Input



Efficiency



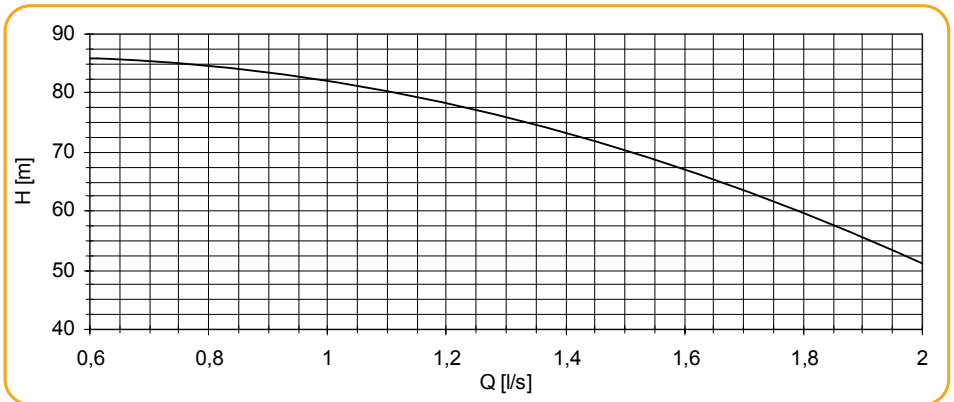
Net Positive
Suction Head



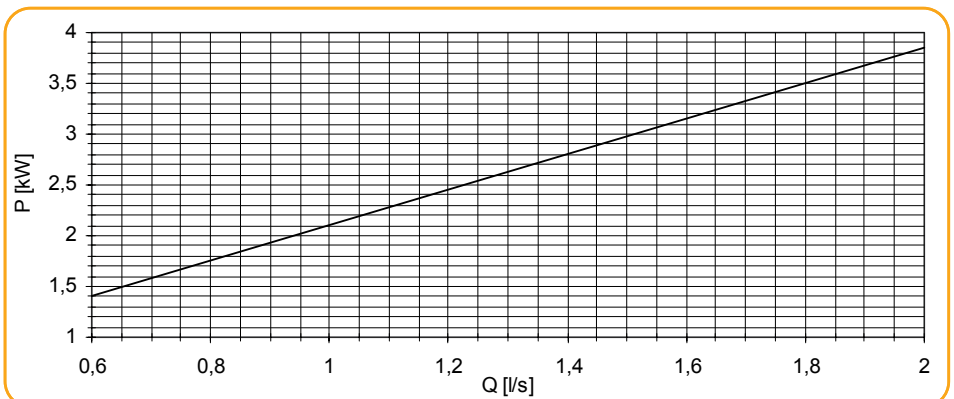
Pump performance curves

KCP 12-7
n = 2900 (rpm)

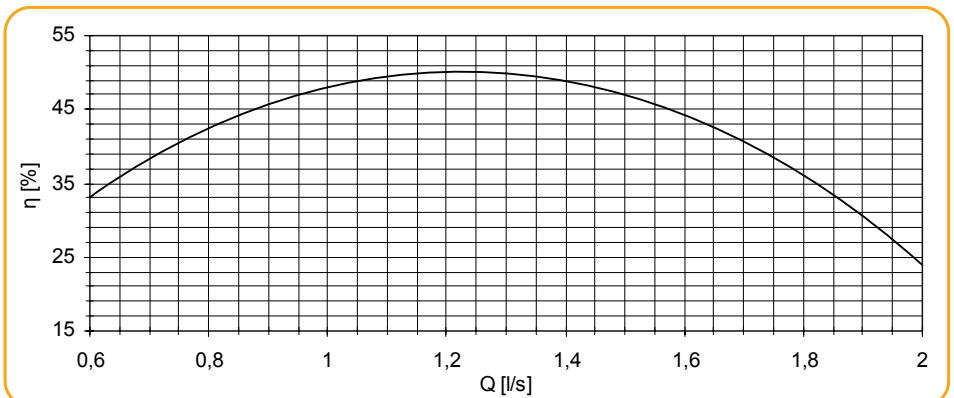
Total
Differential
Head



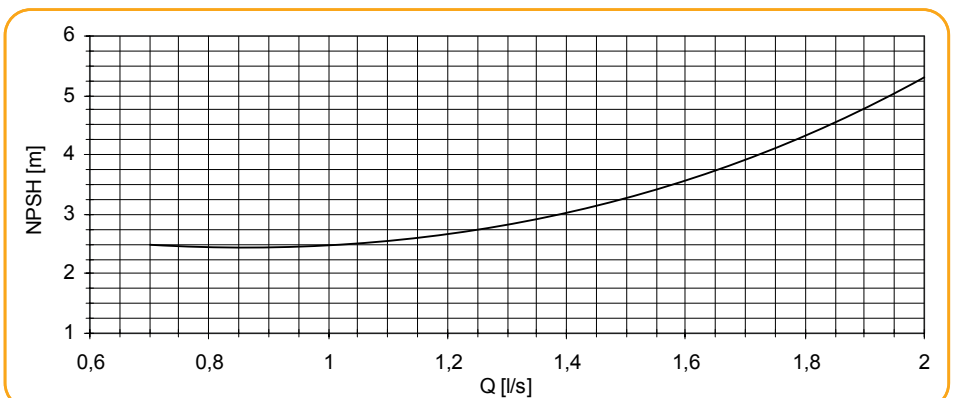
Power Input



Efficiency

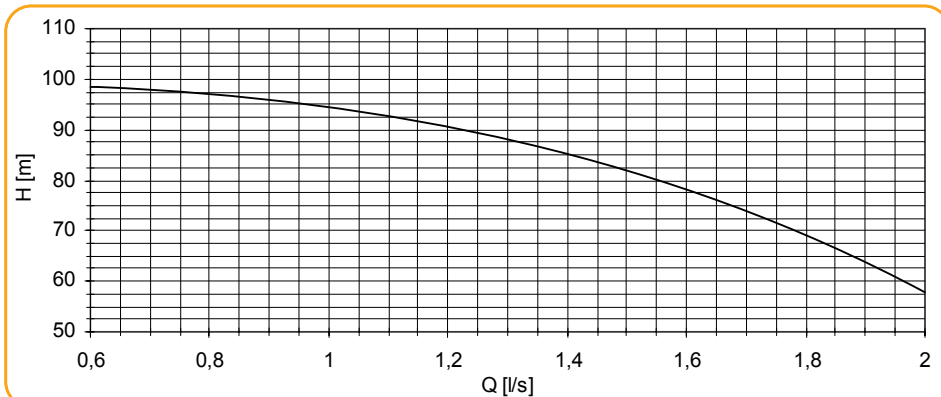


Net Positive
Suction Head

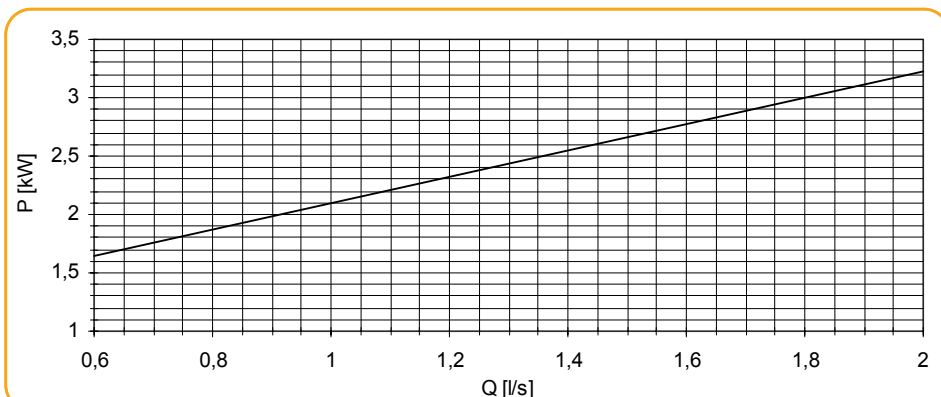


Pump performance curves

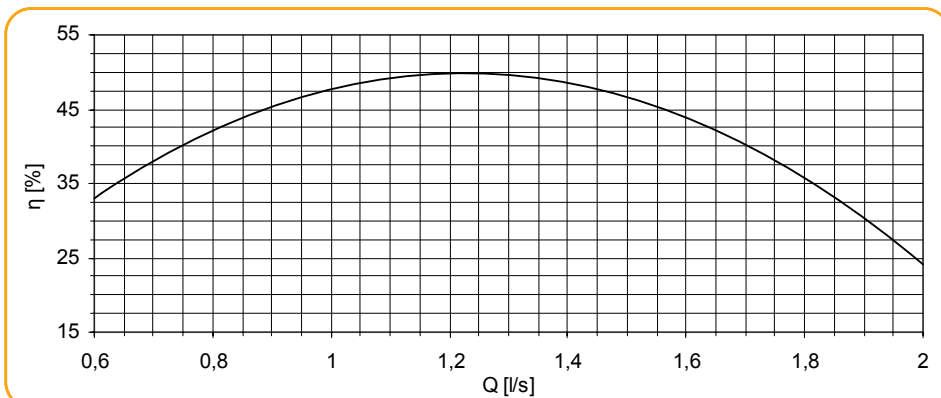
Total
Differential
Head



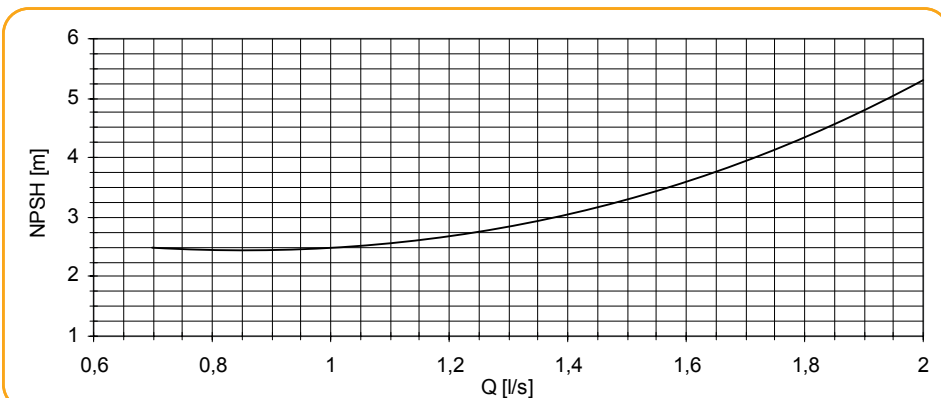
Power Input



Efficiency



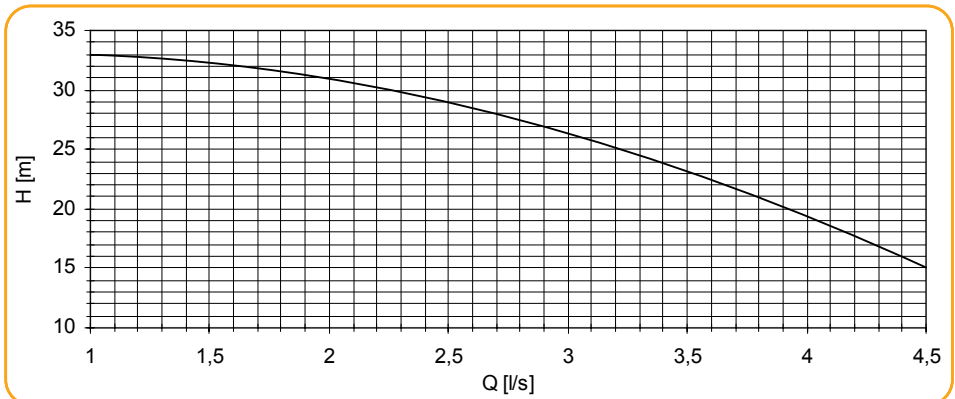
Net Positive
Suction Head



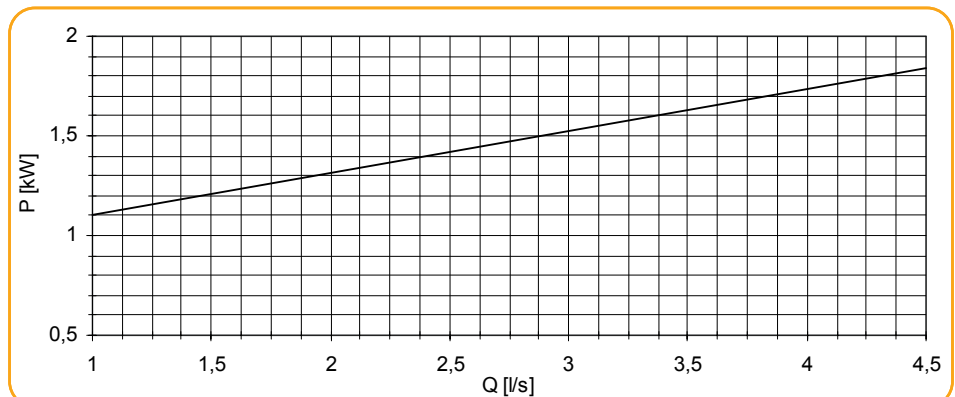
Pump performance curves

KCP 22-2
n = 2900 (rpm)

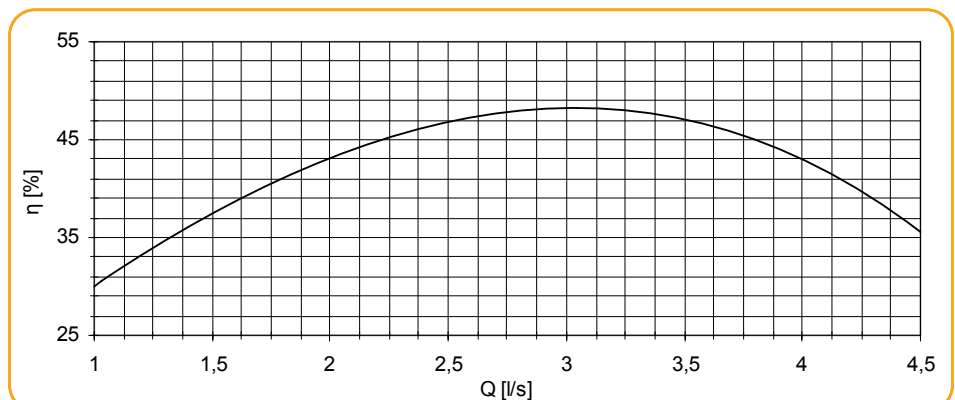
Total
Differential
Head



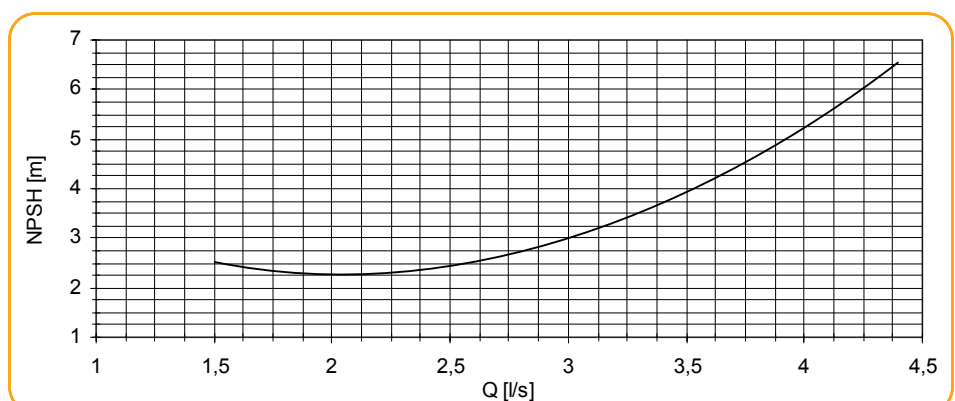
Power Input



Efficiency

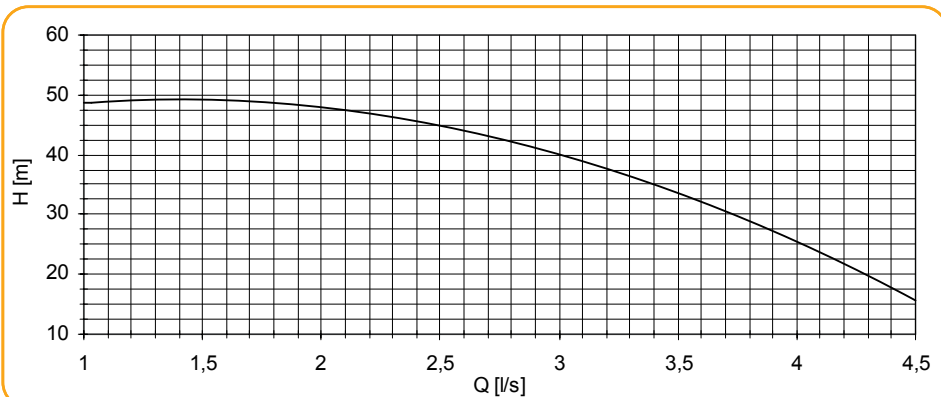


Net Positive
Suction Head

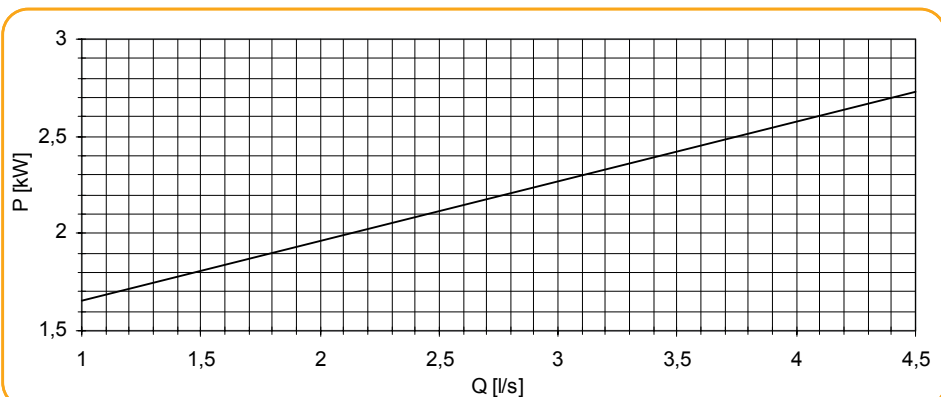


Pump performance curves

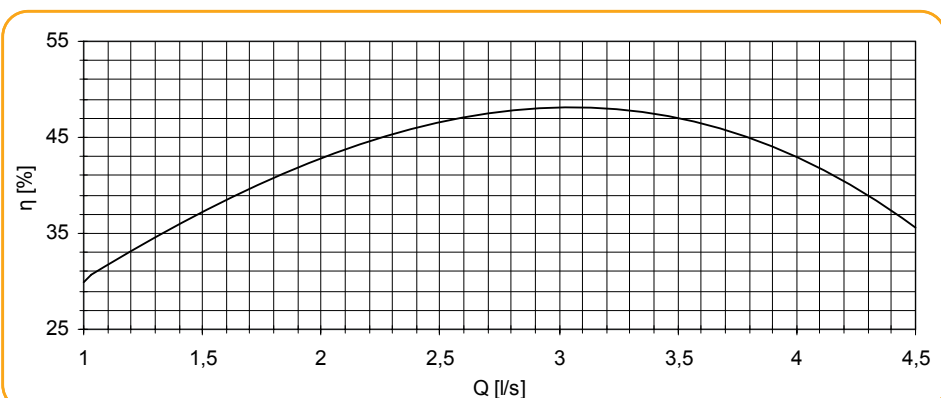
Total
Differential
Head



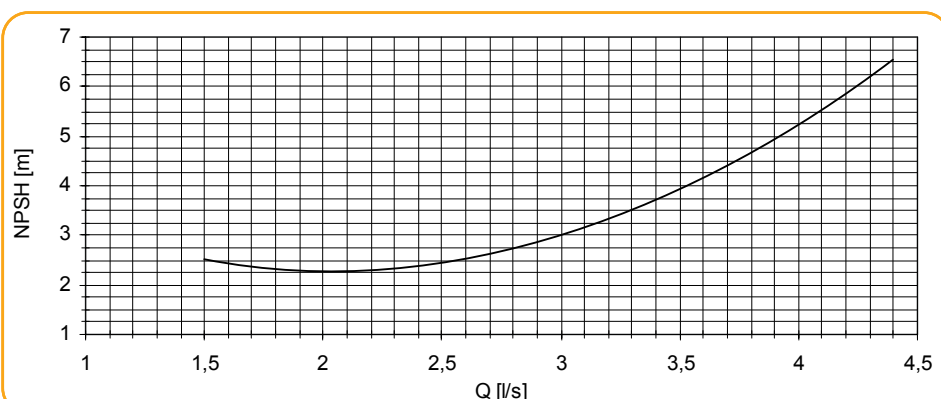
Power Input



Efficiency



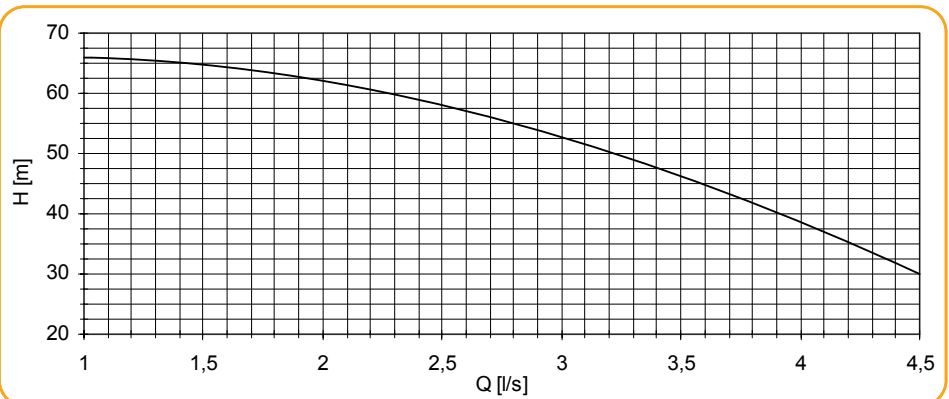
Net Positive
Suction Head



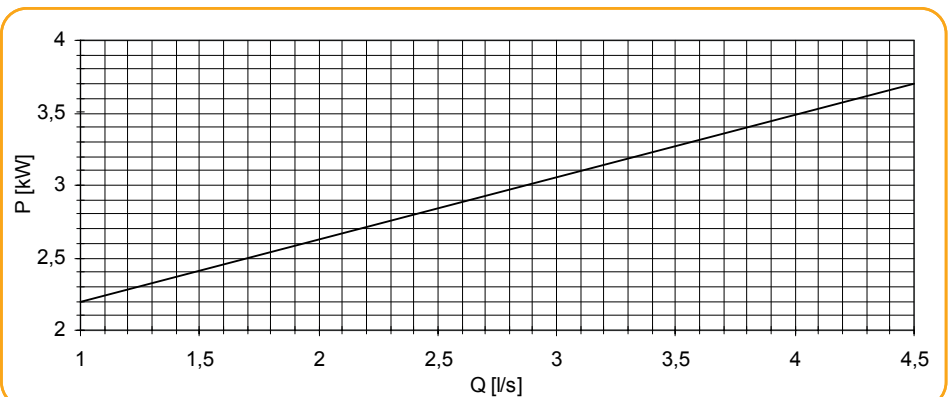
Pump performance curves

KCP 22-4
n = 2900 (rpm)

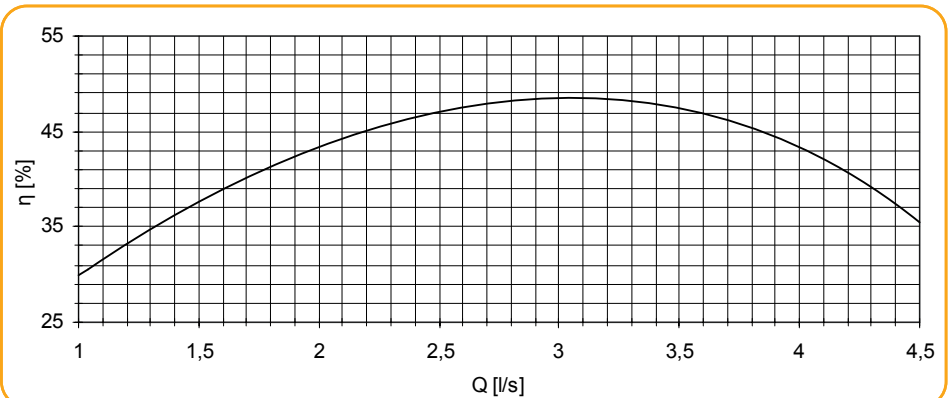
Total
Differential
Head



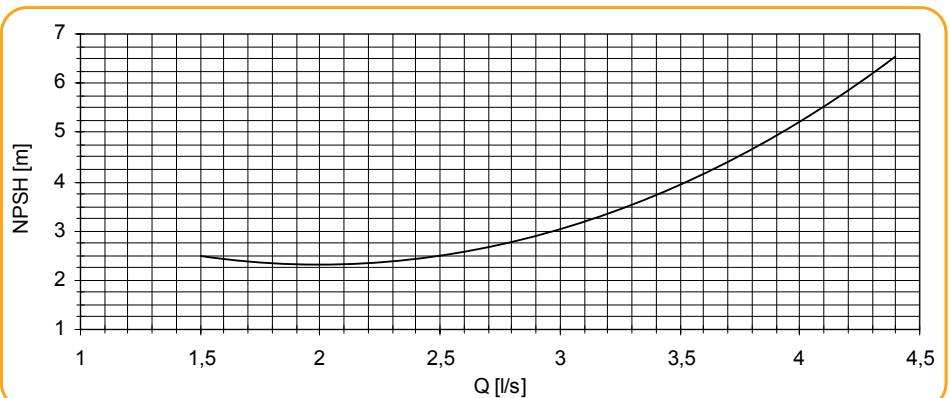
Power Input



Efficiency

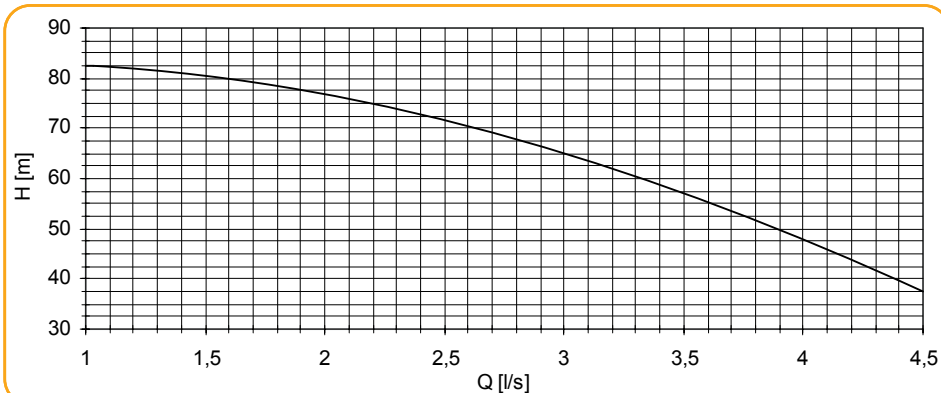


Net Positive
Suction Head

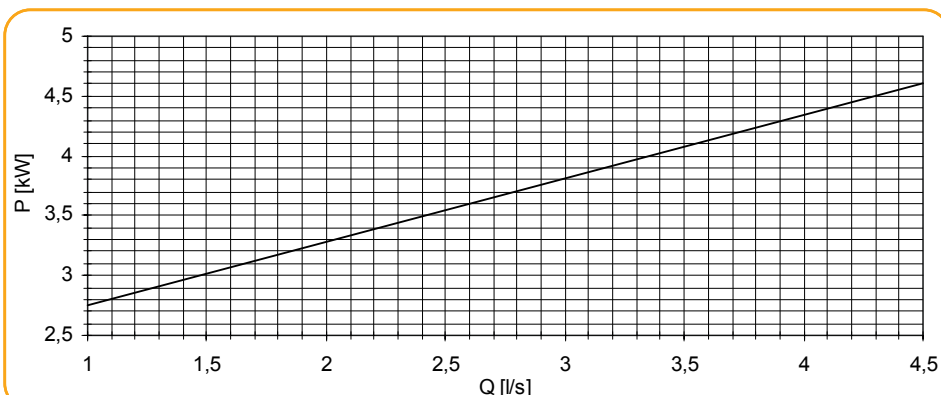


Pump performance curves

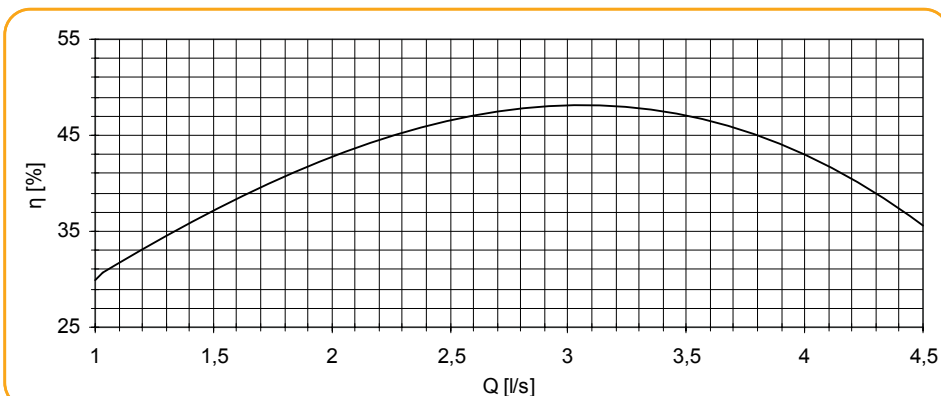
Total
Differential
Head



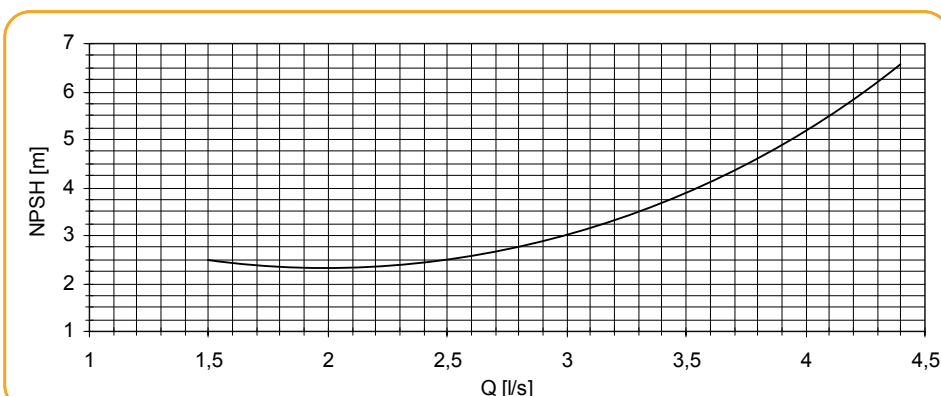
Power Input



Efficiency



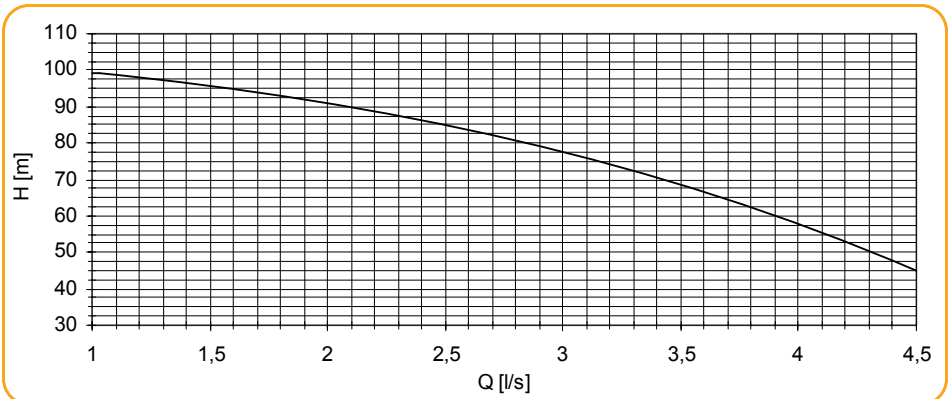
Net Positive
Suction Head



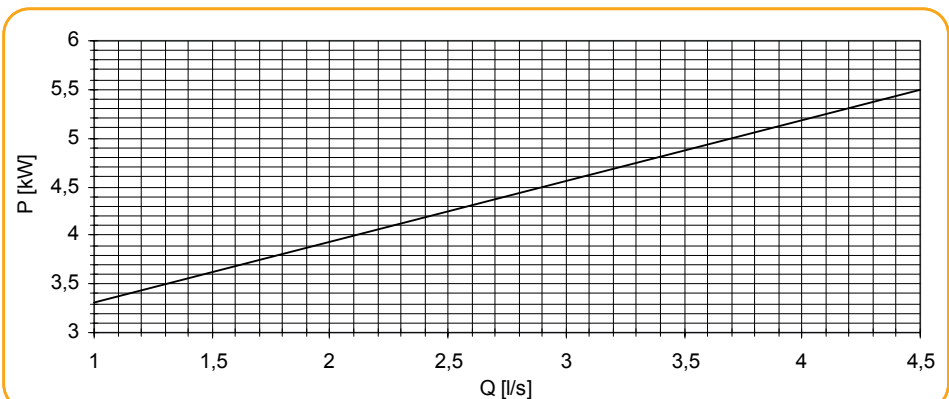
Pump performance curves

KCP 22-6
n = 2900 (rpm)

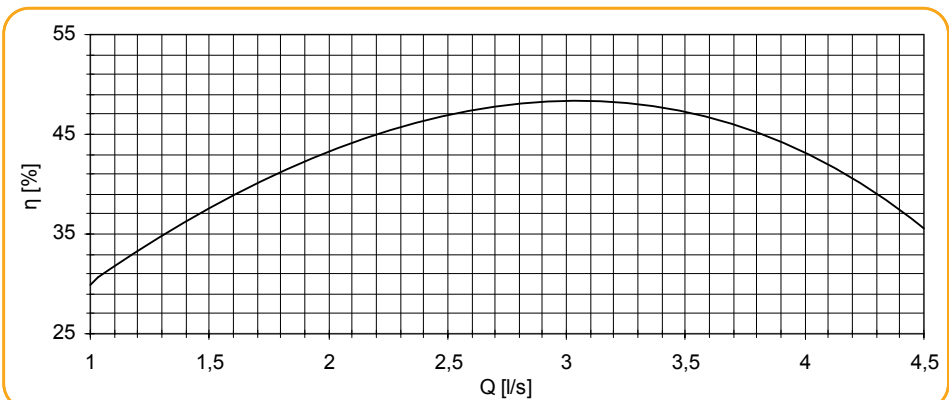
Total
Differential
Head



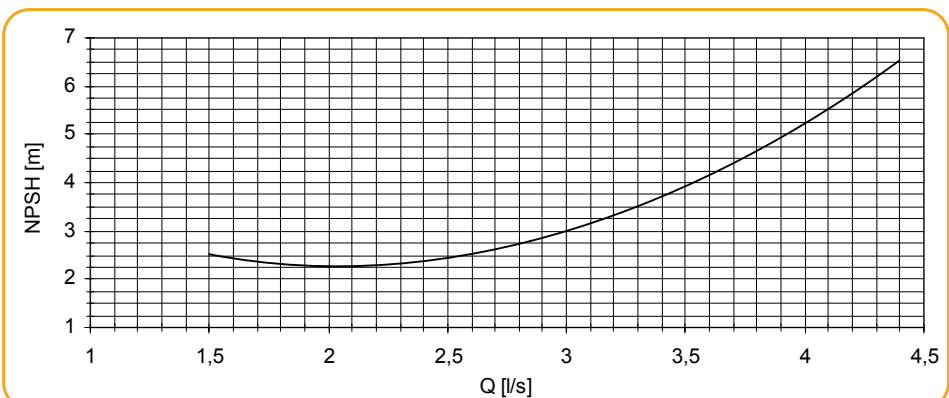
Power Input



Efficiency

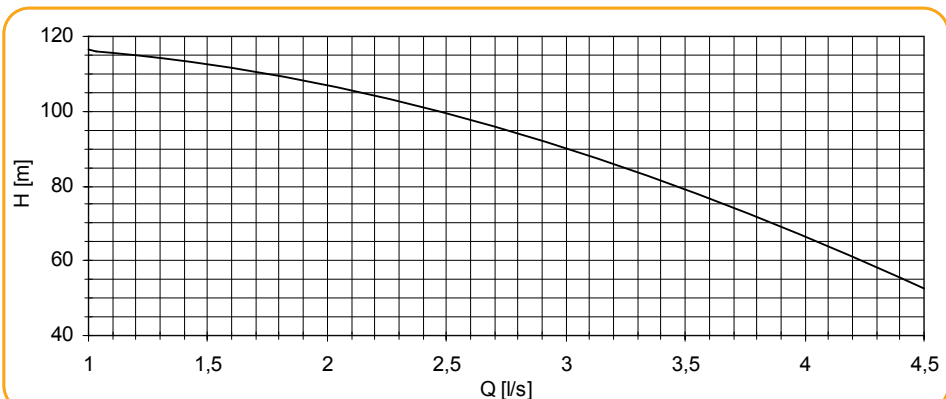


Net Positive
Suction Head

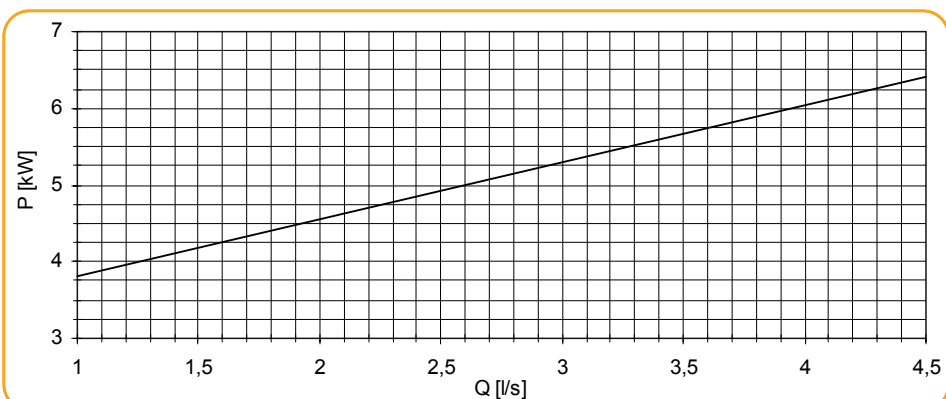


Pump performance curves

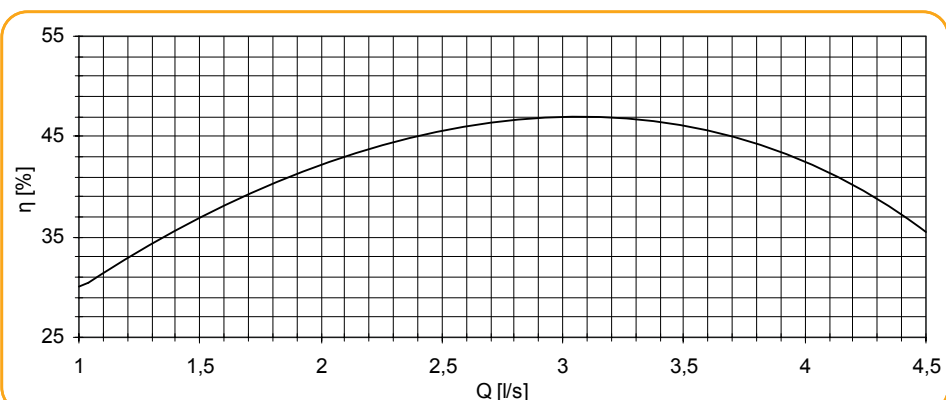
Total
Differential
Head



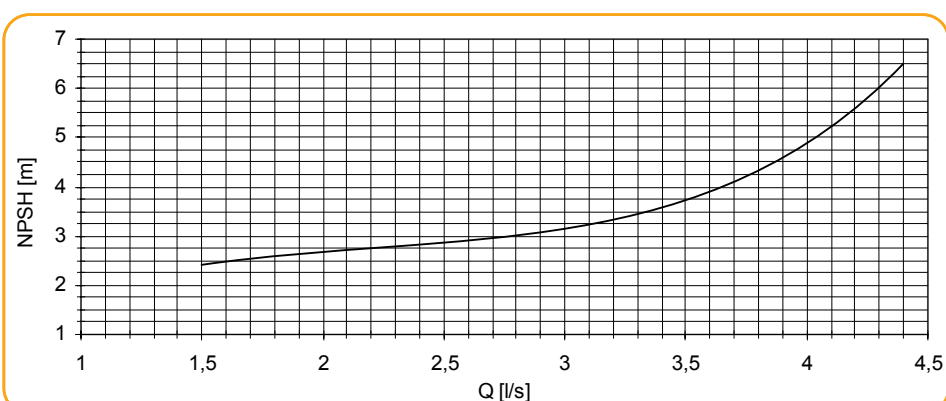
Power Input



Efficiency



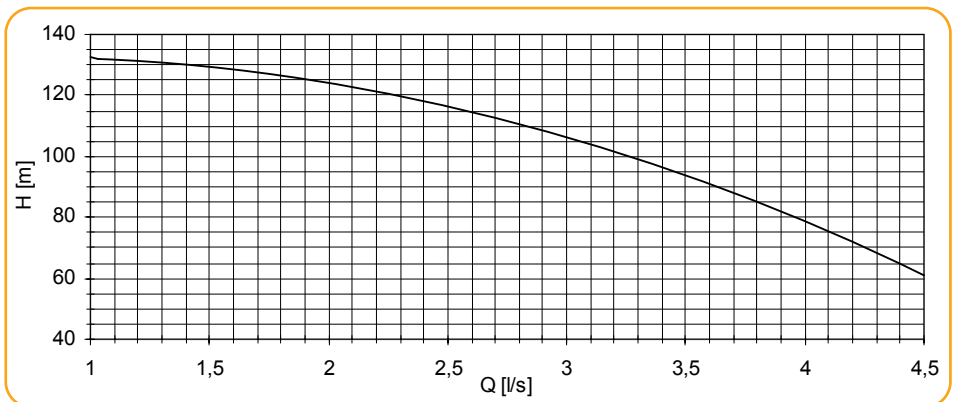
Net Positive
Suction Head



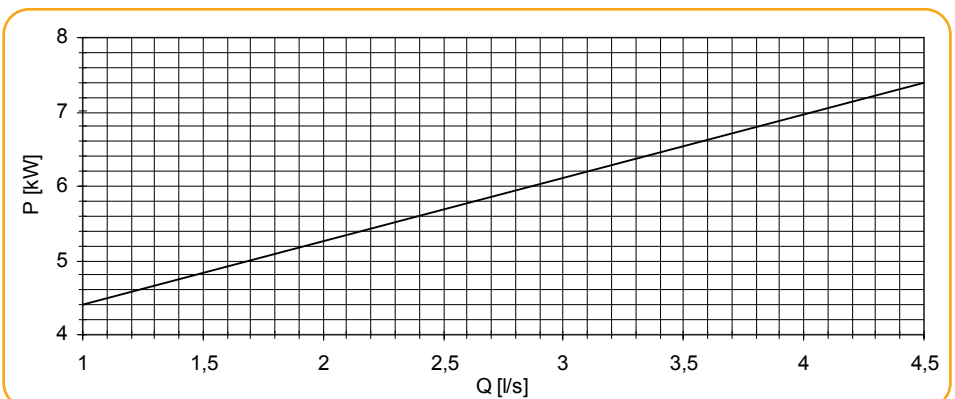
Pump performance curves

KCP 22-8
n = 2900 (rpm)

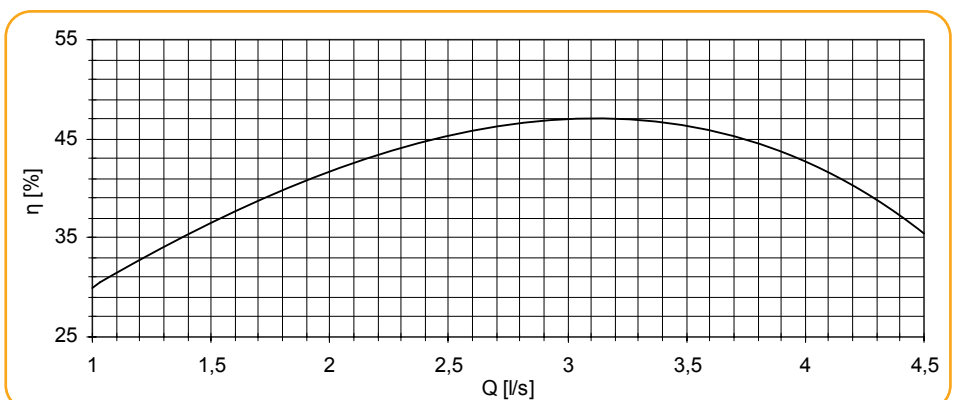
Total
Differential
Head



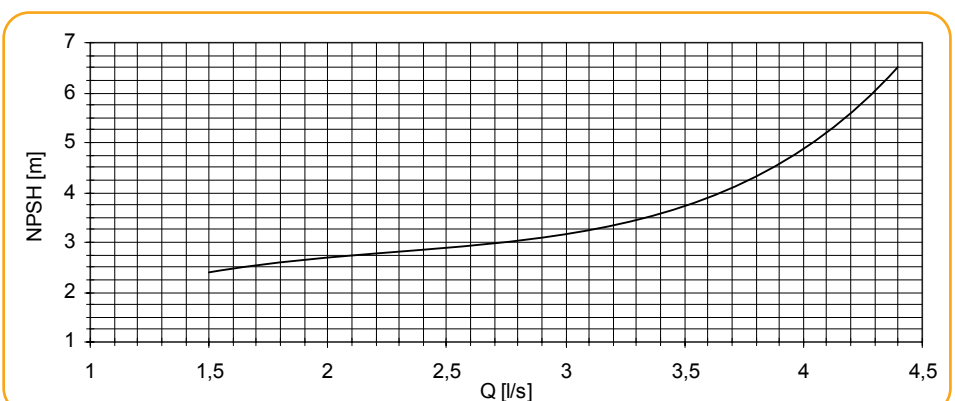
Power Input



Efficiency

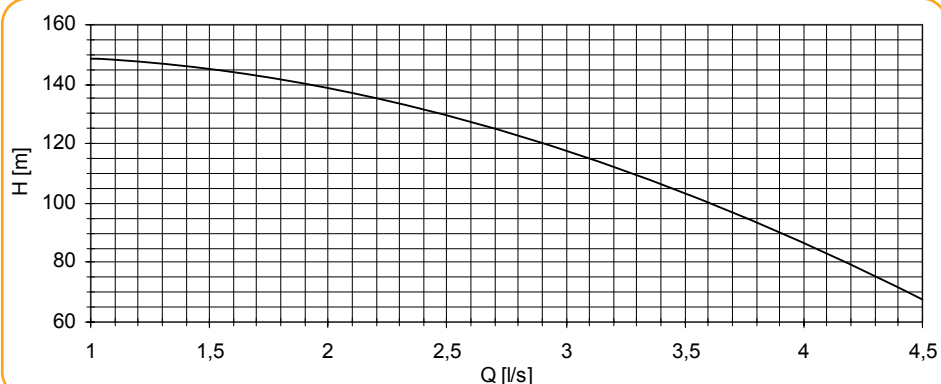


Net Positive
Suction Head

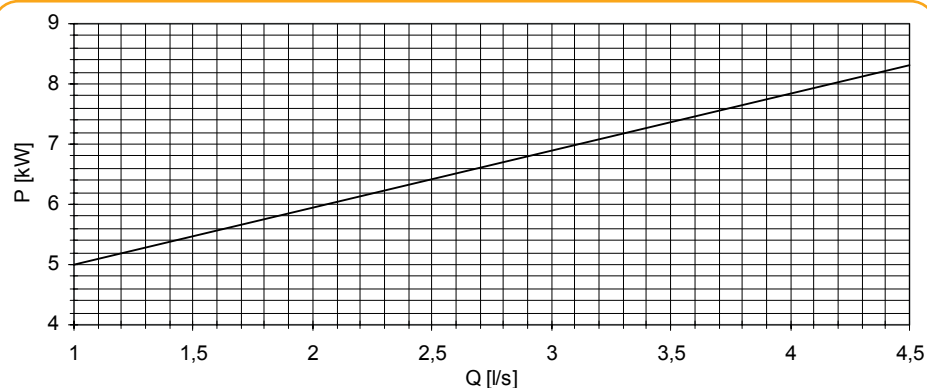


Pump performance curves

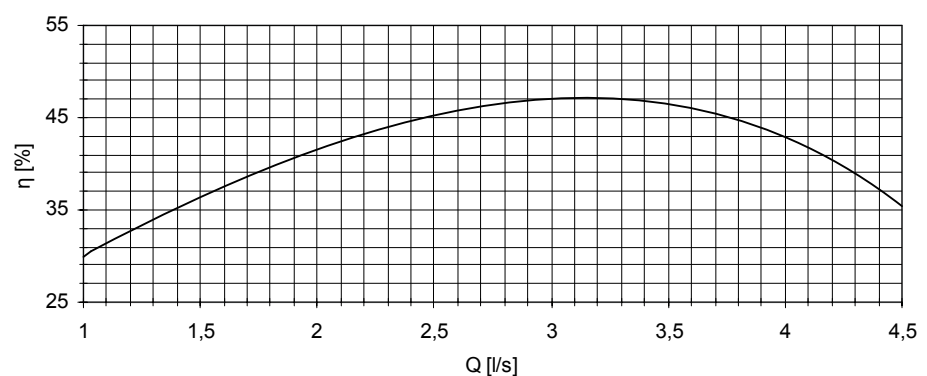
Total
Differential
Head



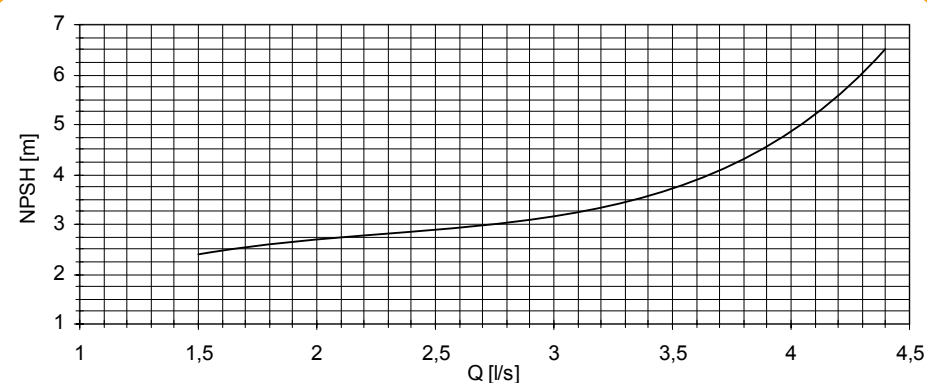
Power Input



Efficiency



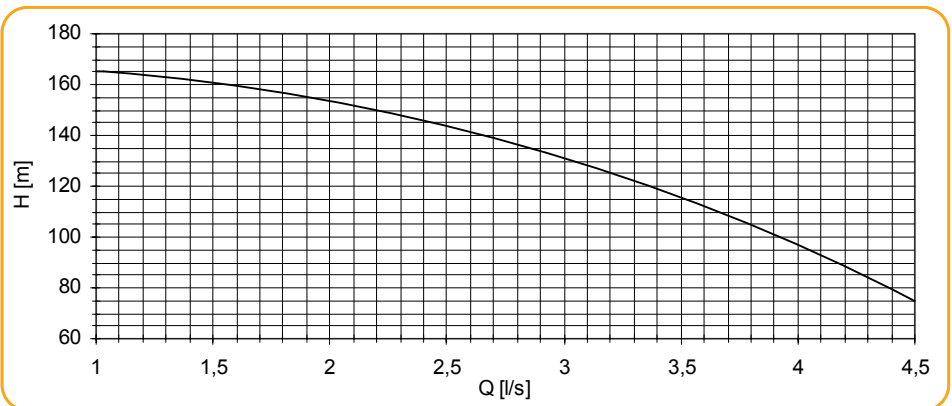
Net Positive
Suction Head



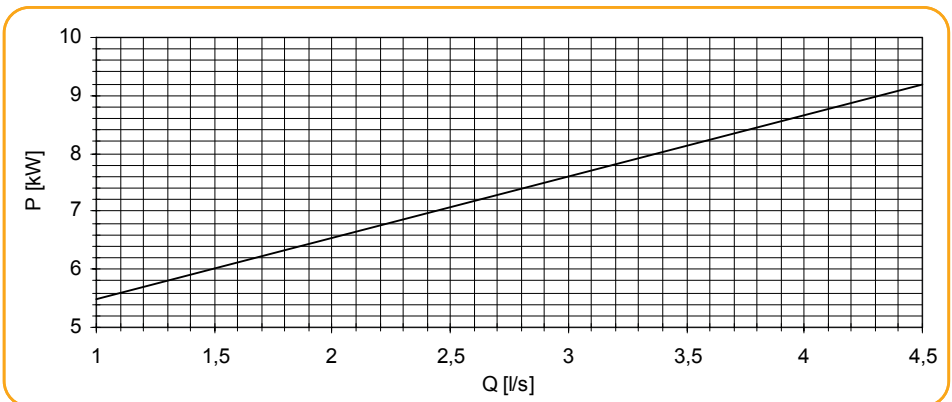
Pump performance curves

KCP 22-10
n = 2900 (rpm)

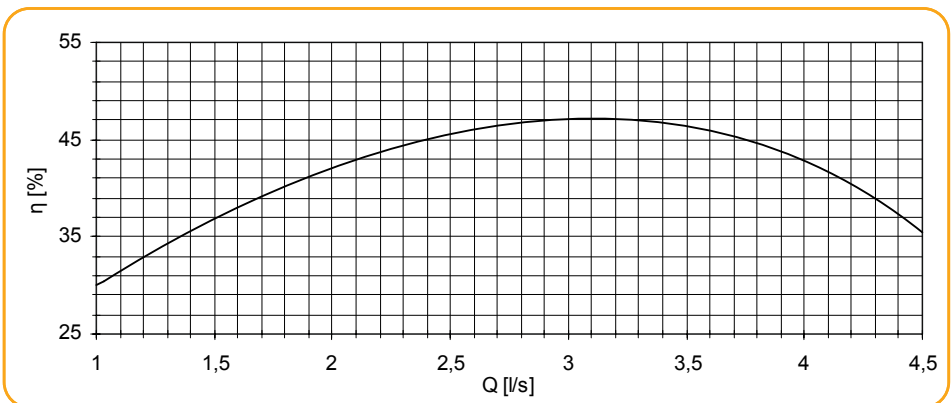
Total
Differential
Head



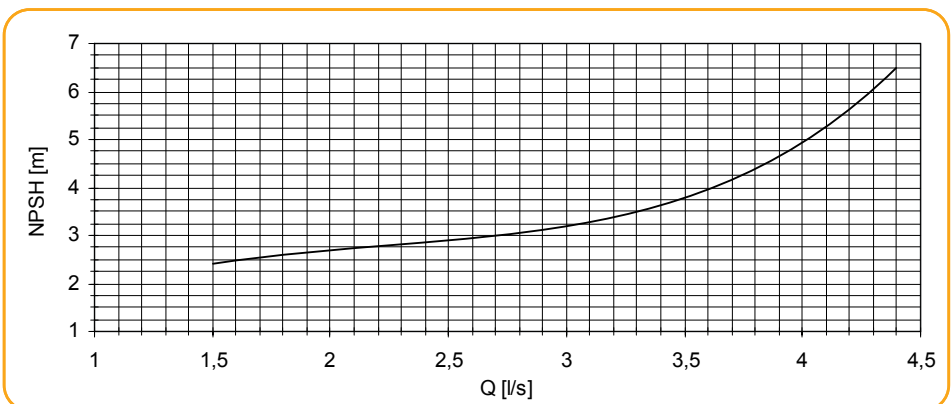
Power Input



Efficiency

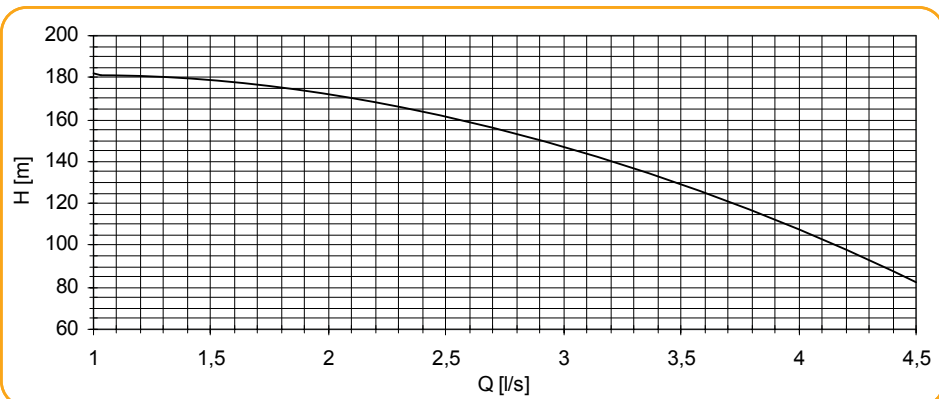


Net Positive
Suction Head

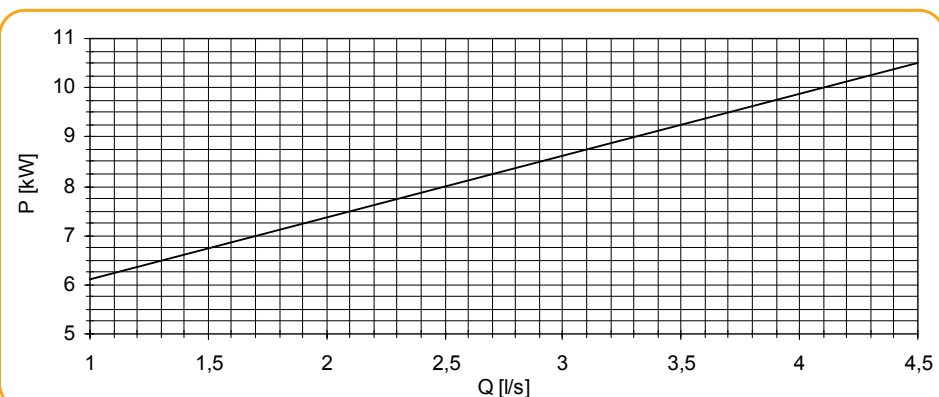


Pump performance curves

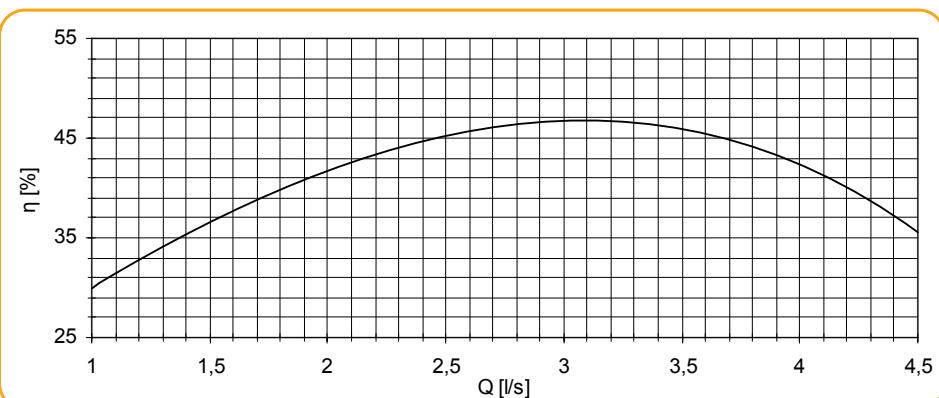
Total
Differential
Head



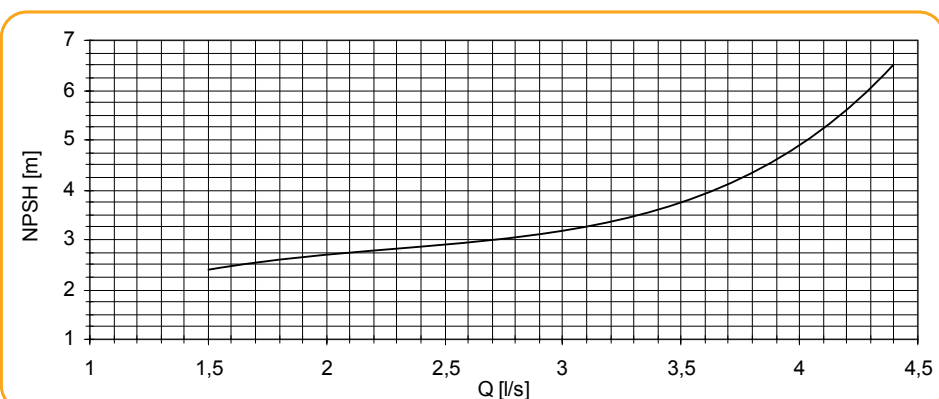
Power Input



Efficiency

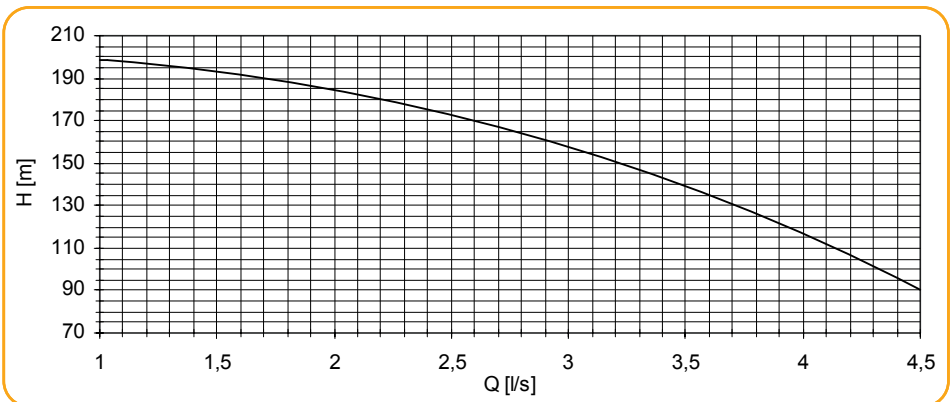


Net Positive
Suction Head

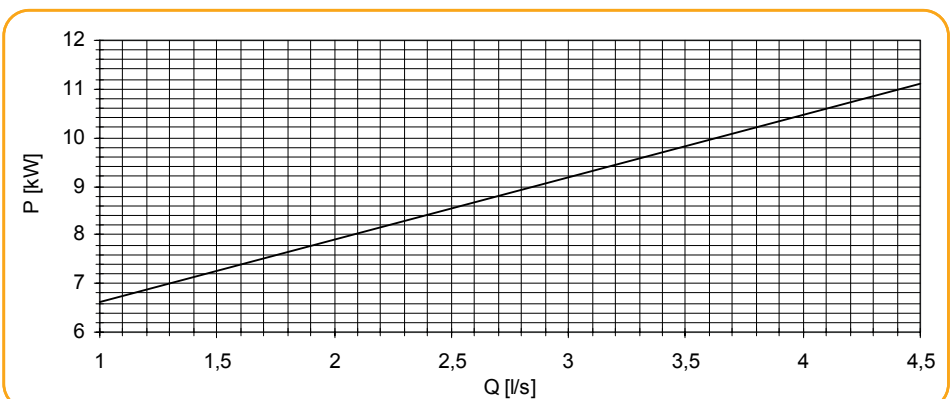


Pump performance curves

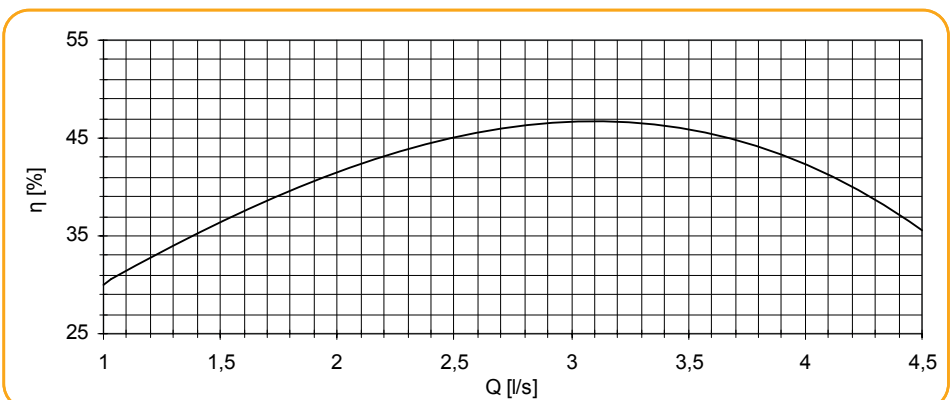
Total
Differential
Head



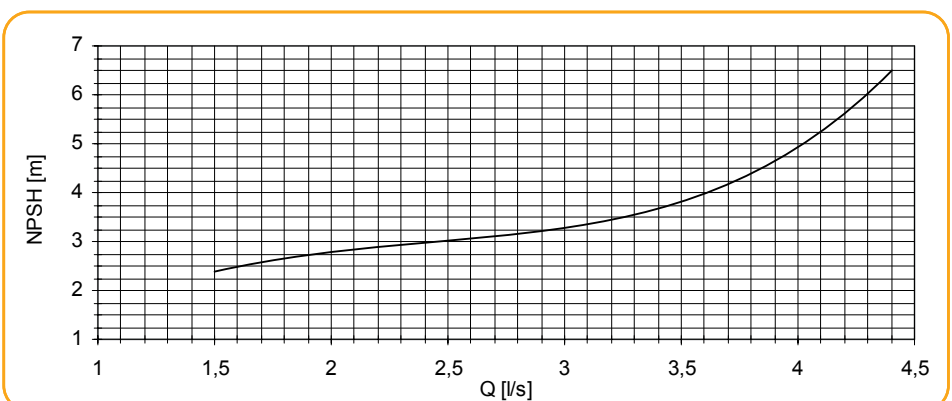
Power Input



Efficiency

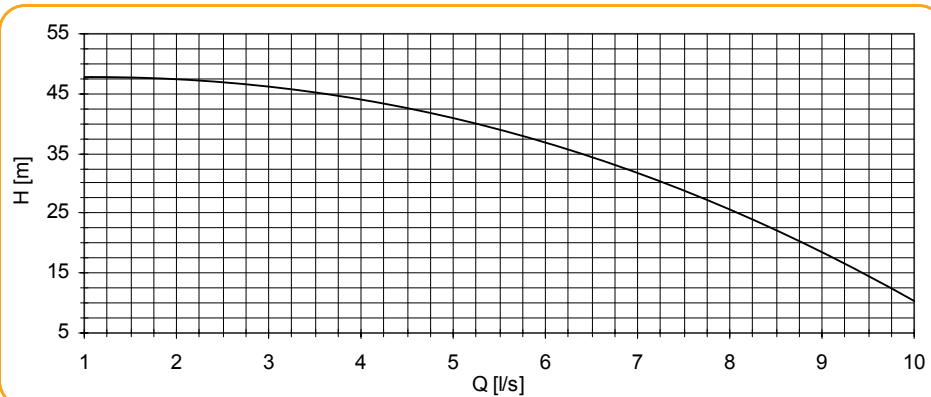


Net Positive
Suction Head

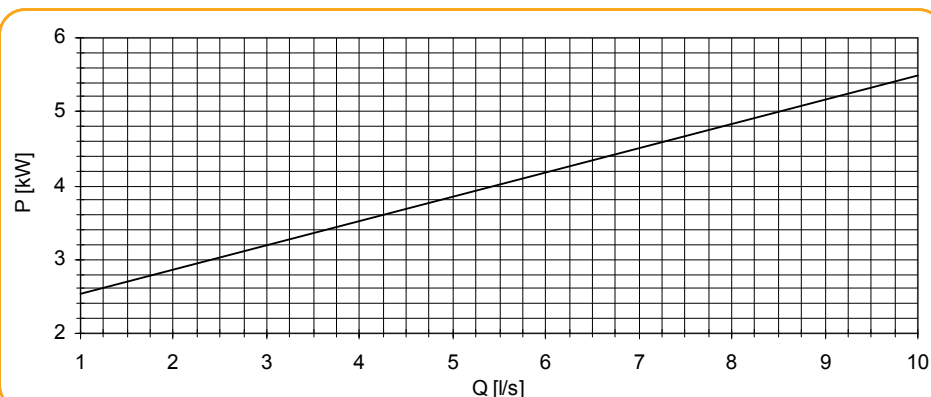


Pump performance curves

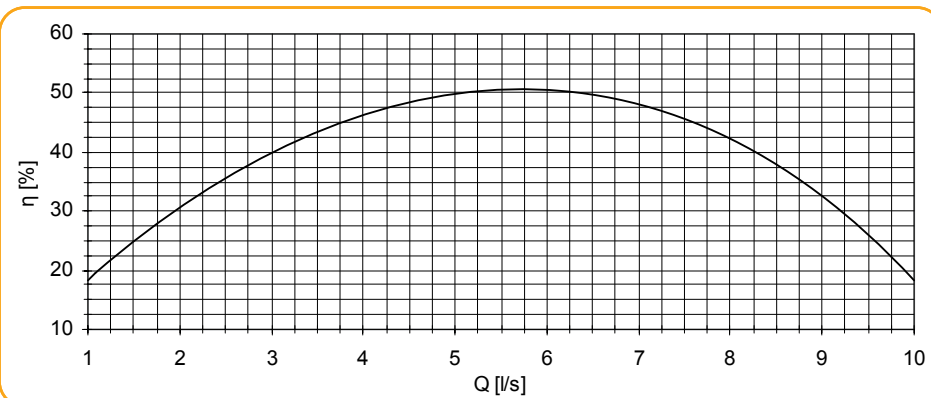
Total
Differential
Head



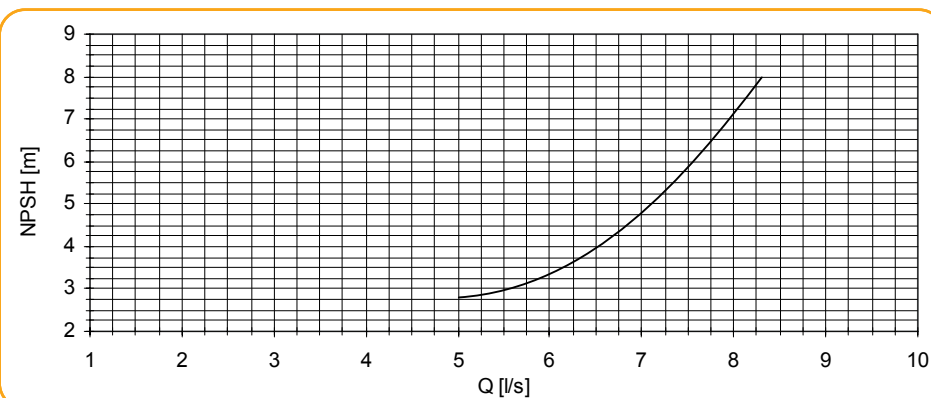
Power Input



Efficiency

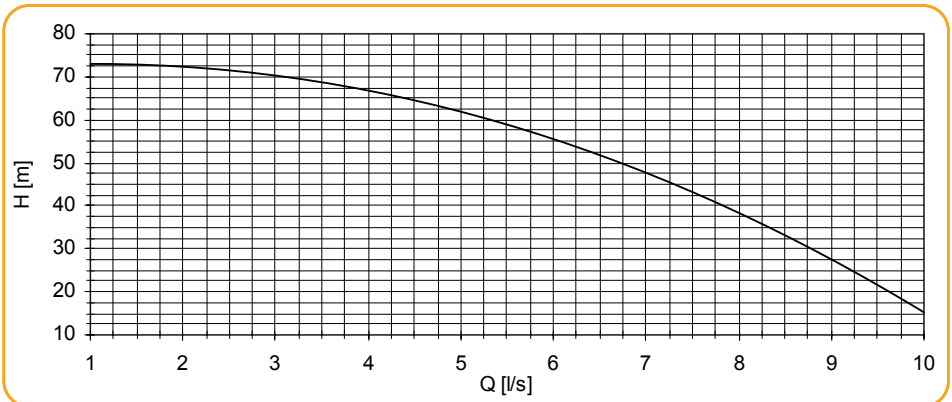


Net Positive
Suction Head

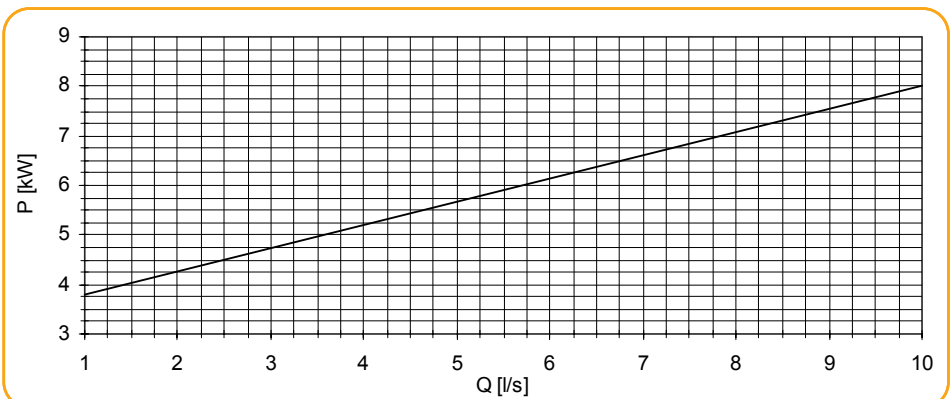


Pump performance curves

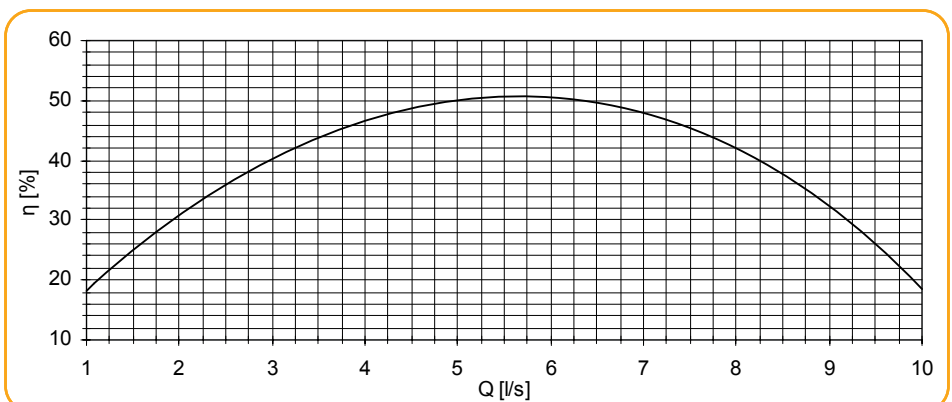
Total
Differential
Head



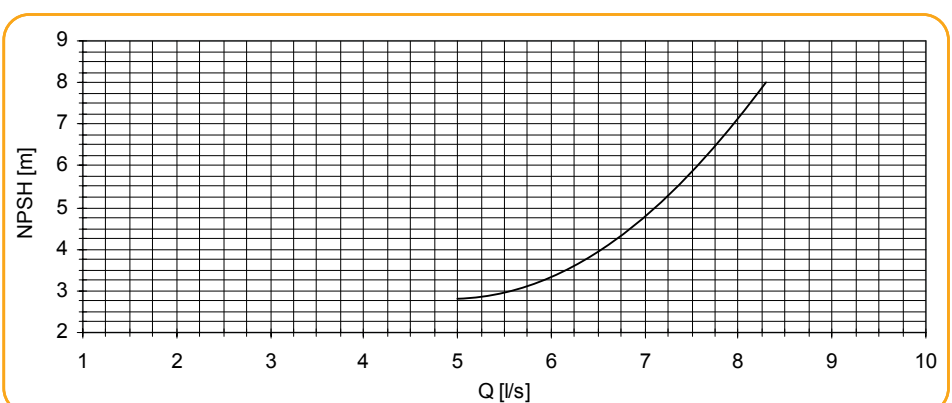
Power Input



Efficiency

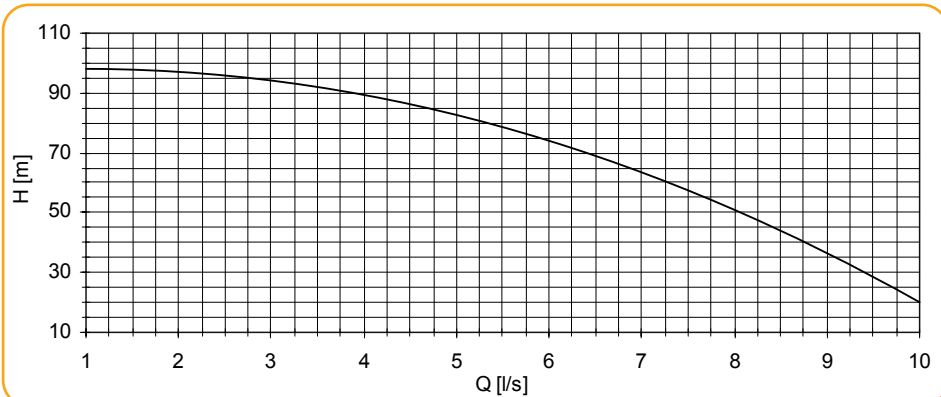


Net Positive
Suction Head

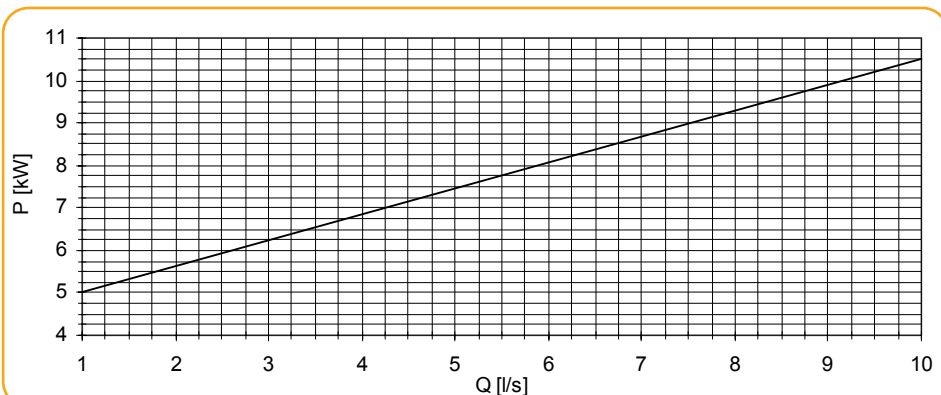


Pump performance curves

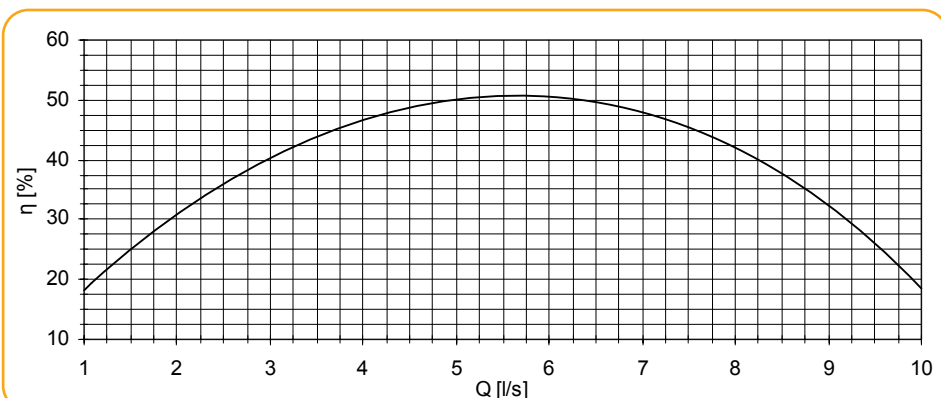
Total
Differential
Head



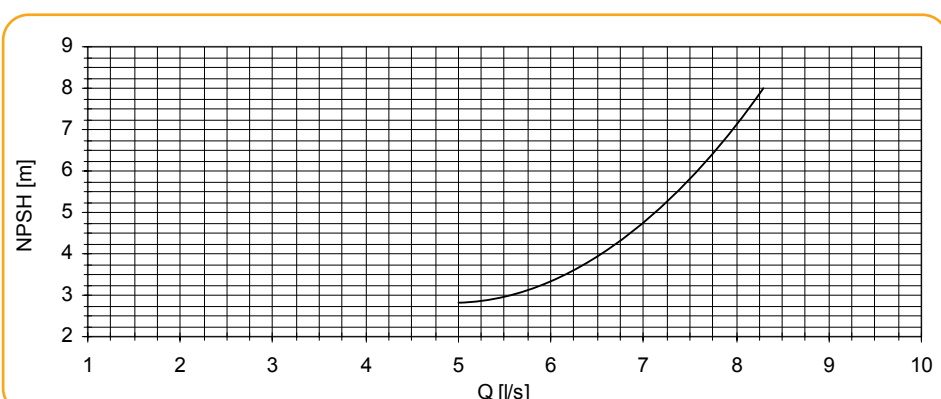
Power Input



Efficiency



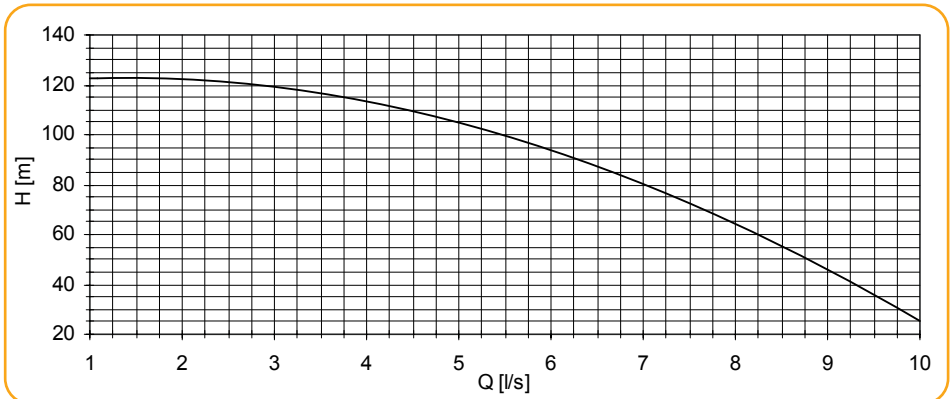
Net Positive
Suction Head



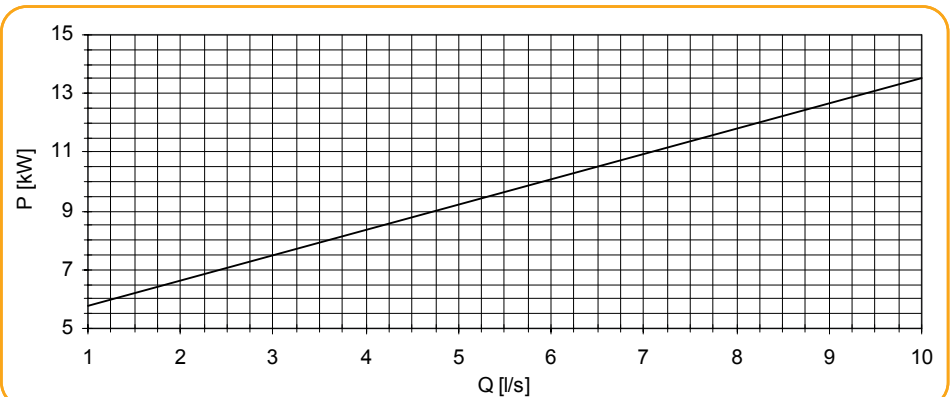
Pump performance curves

KCP 32-5
n = 2900 (rpm)

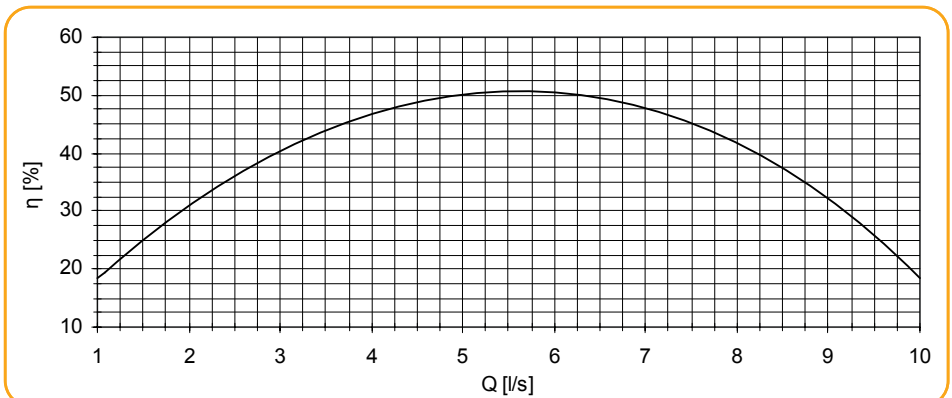
Total
Differential
Head



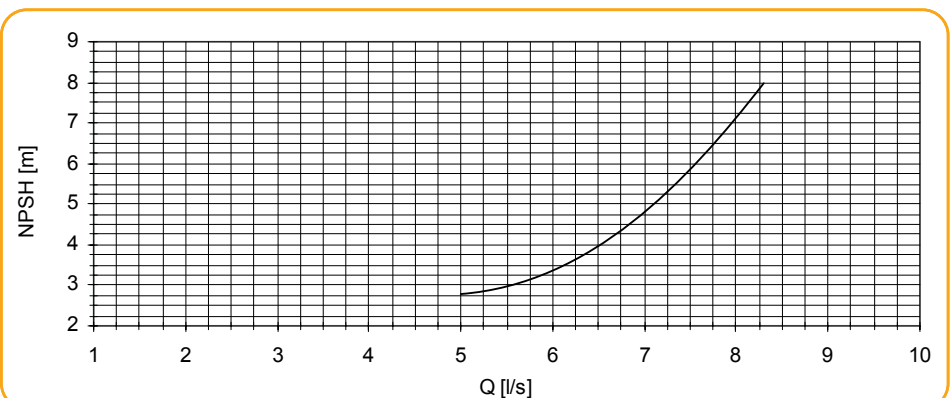
Power Input



Efficiency

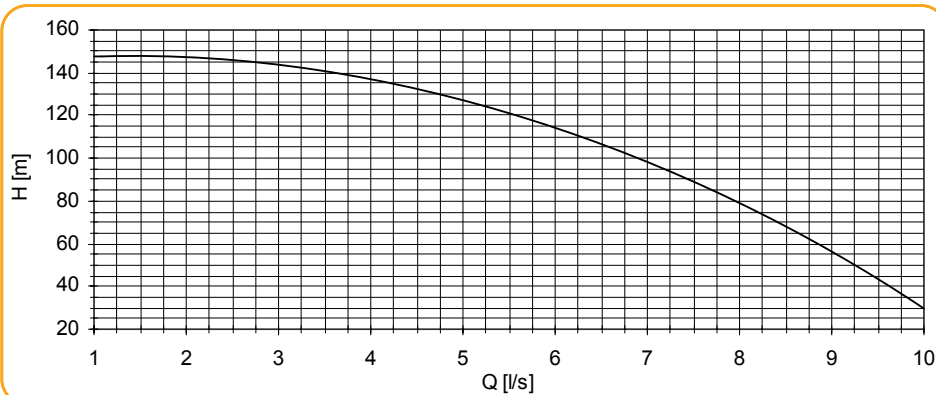


Net Positive
Suction Head

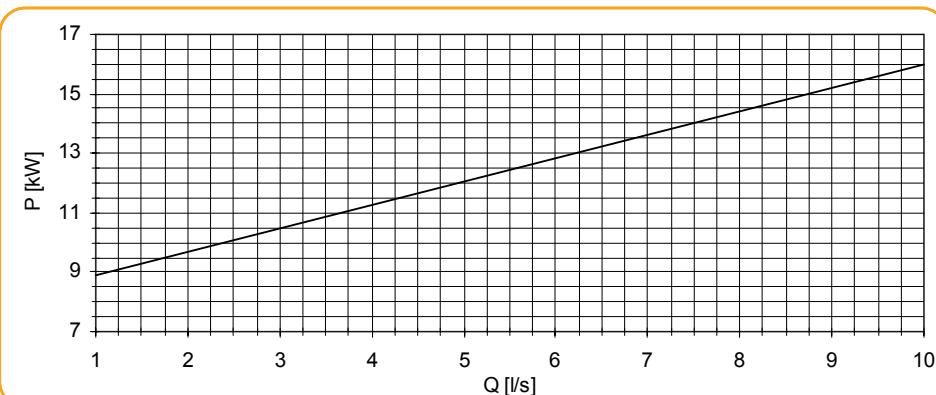


Pump performance curves

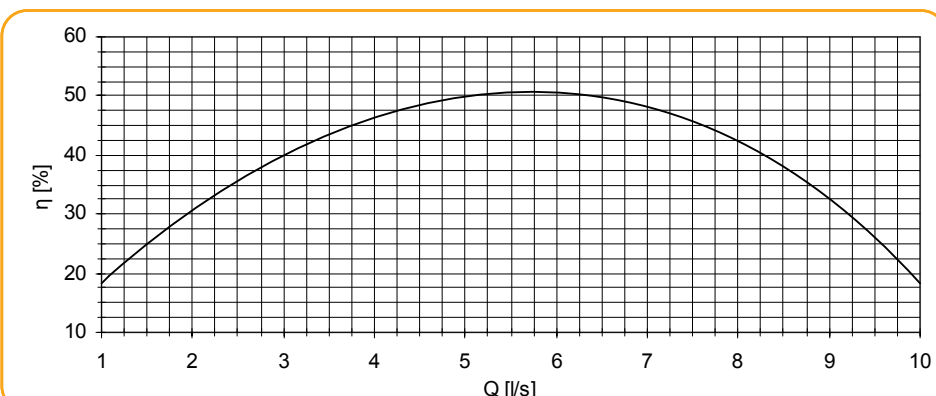
Total
Differential
Head



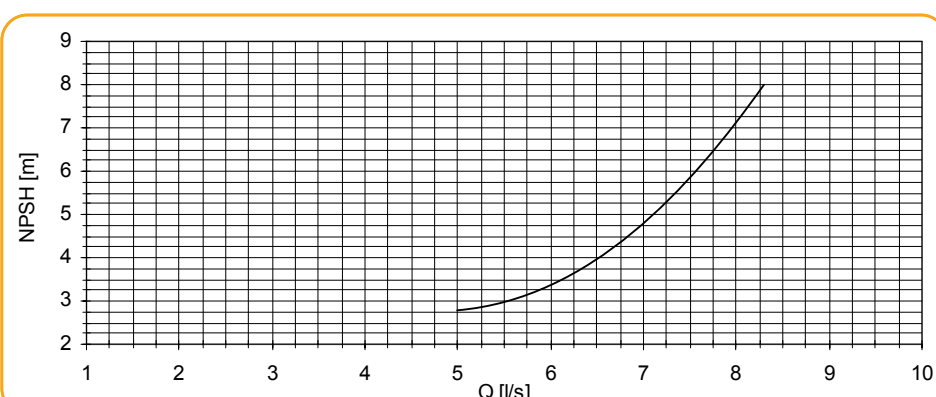
Power Input



Efficiency

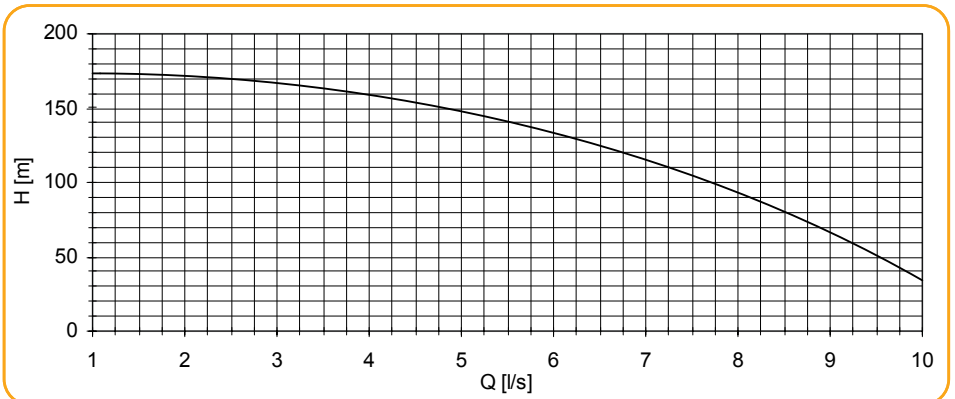


Net Positive
Suction Head

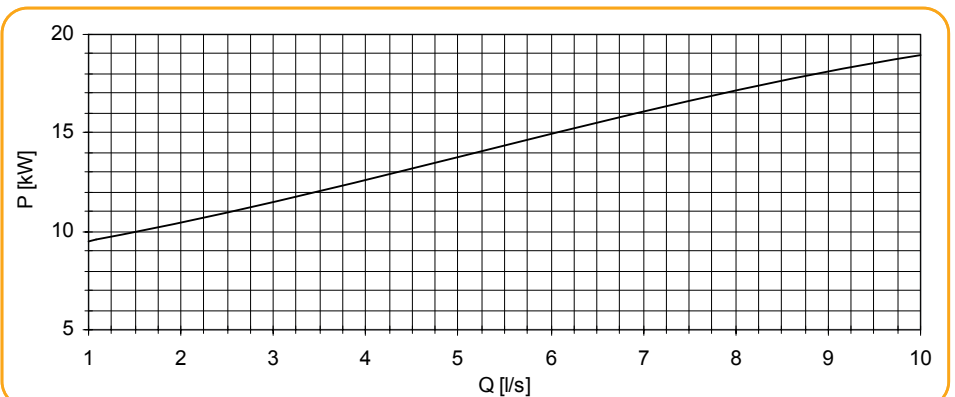


Pump performance curves

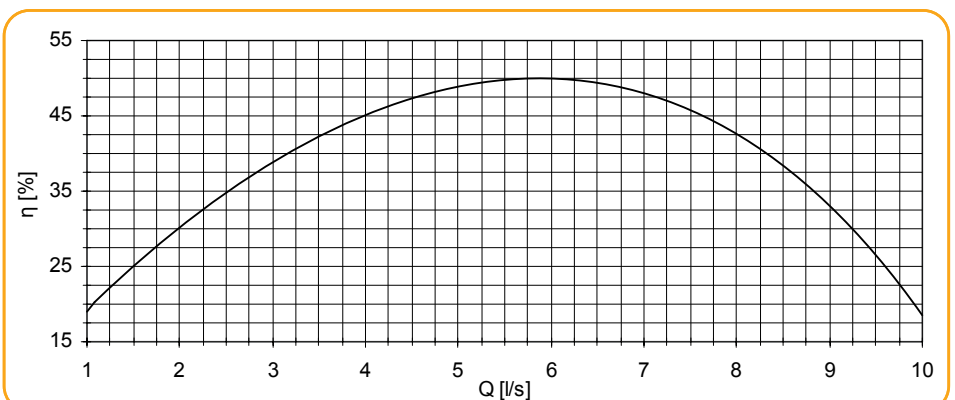
Total
Differential
Head



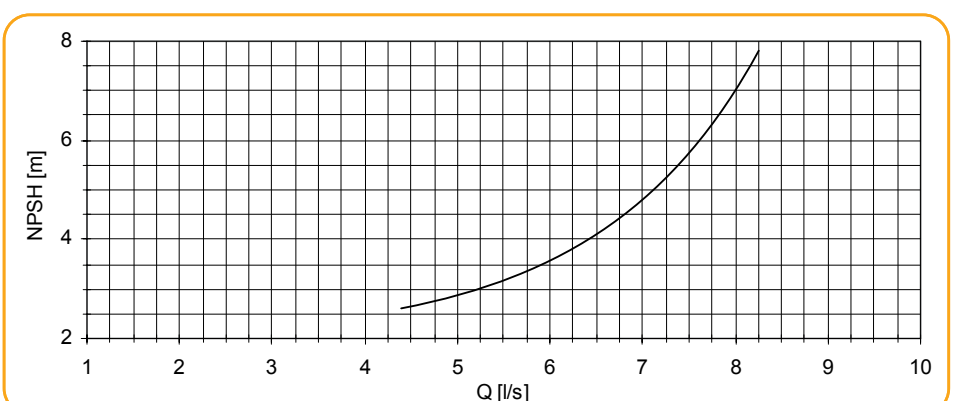
Power Input



Efficiency

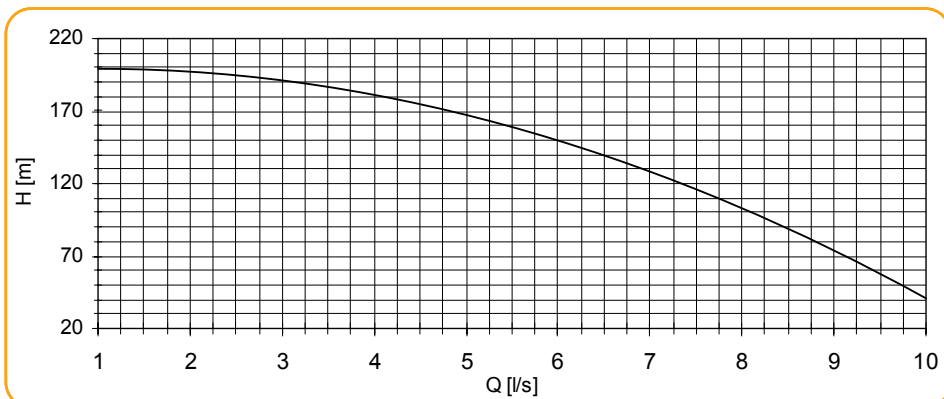


Net Positive
Suction Head

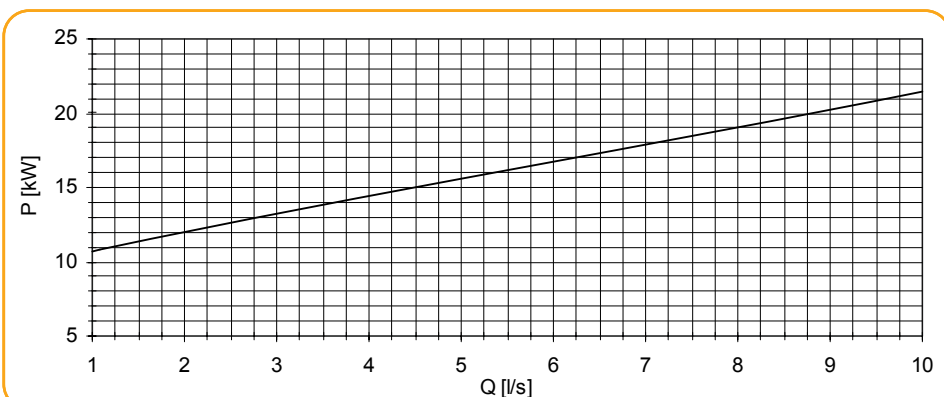


Pump performance curves

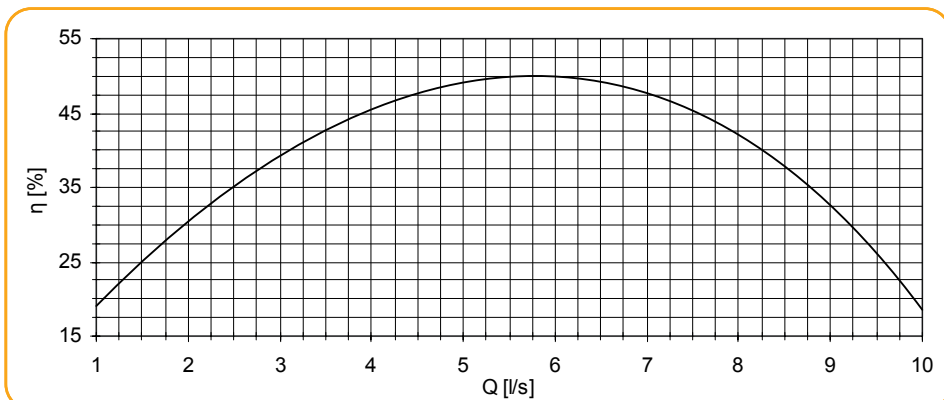
Total
Differential
Head



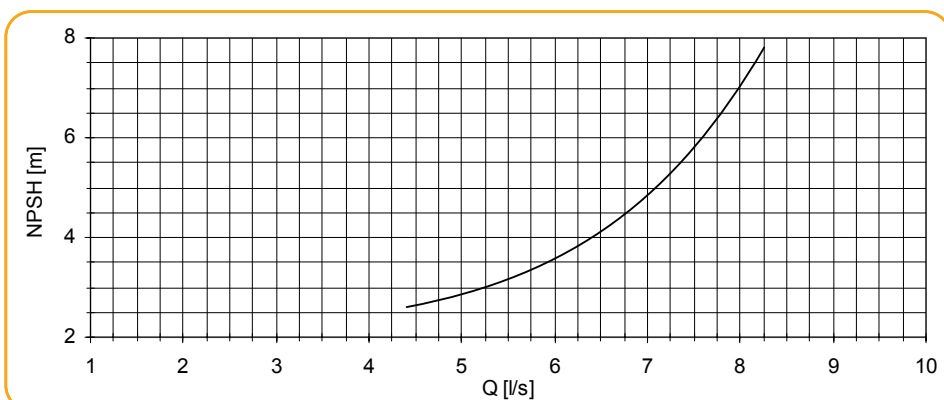
Power Input



Efficiency



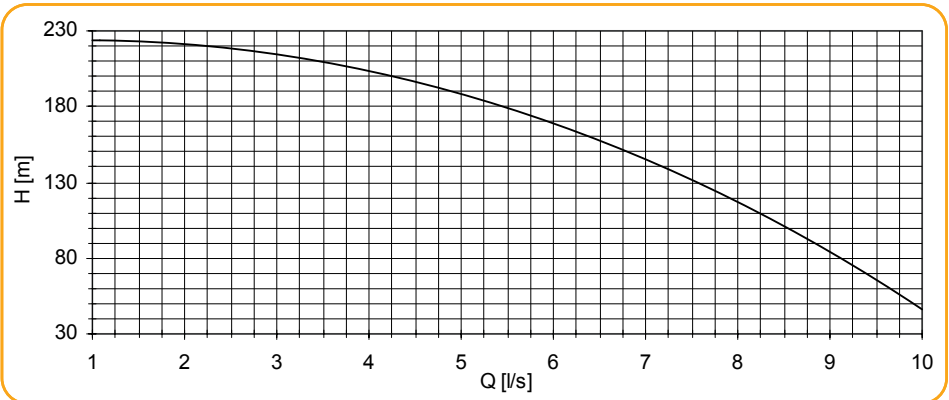
Net Positive
Suction Head



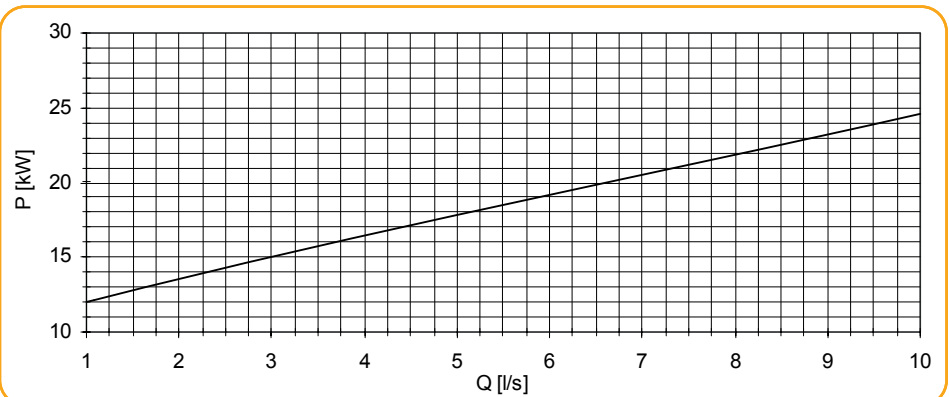
Pump performance curves

KCP 32-9
n = 2900 (rpm)

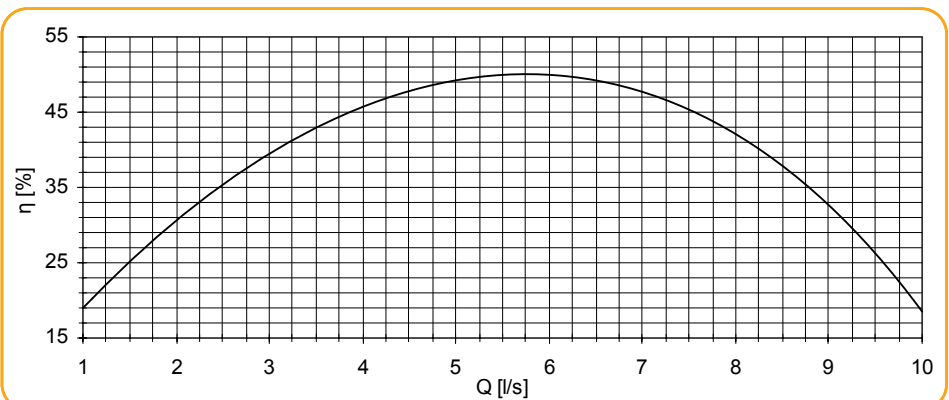
Total
Differential
Head



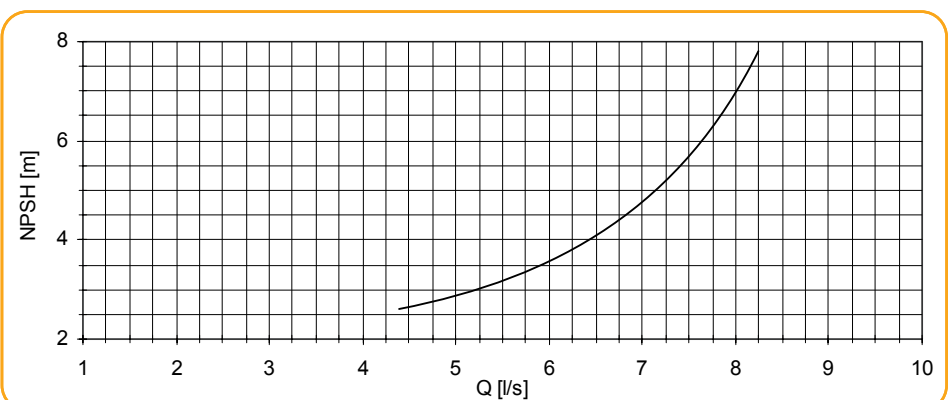
Power Input



Efficiency

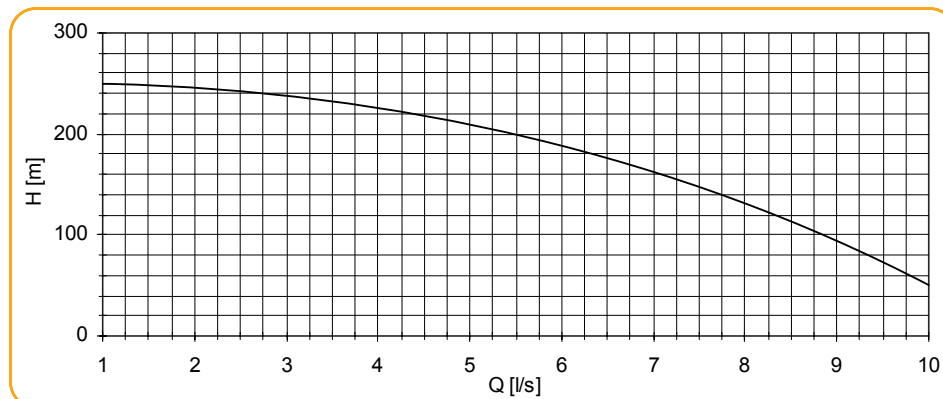


Net Positive
Suction Head

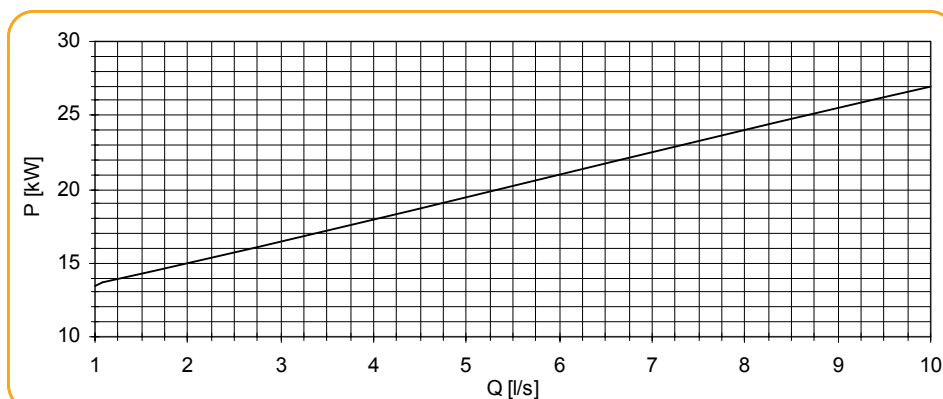


Pump performance curves

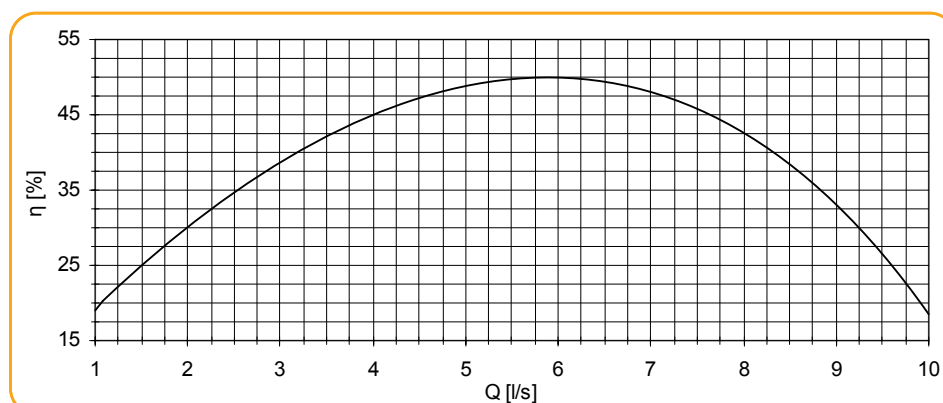
Total
Differential
Head



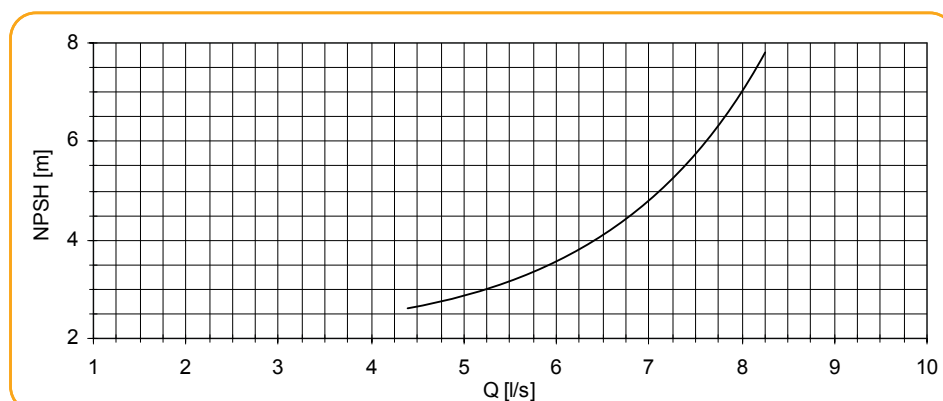
Power Input



Efficiency

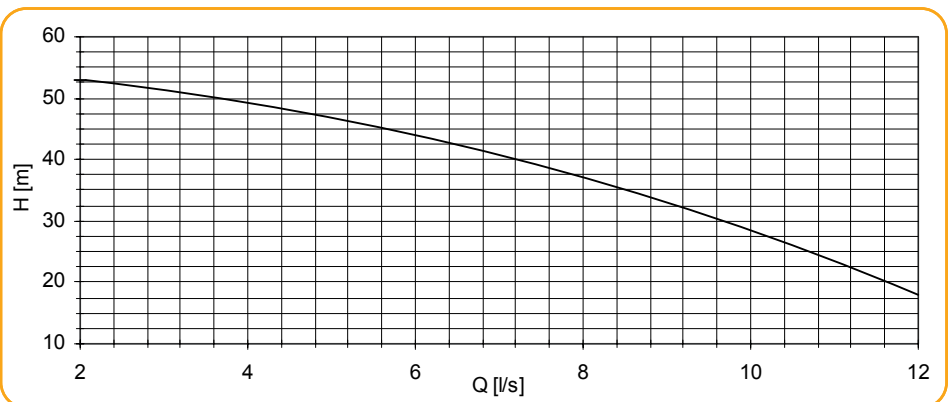


Net Positive
Suction Head

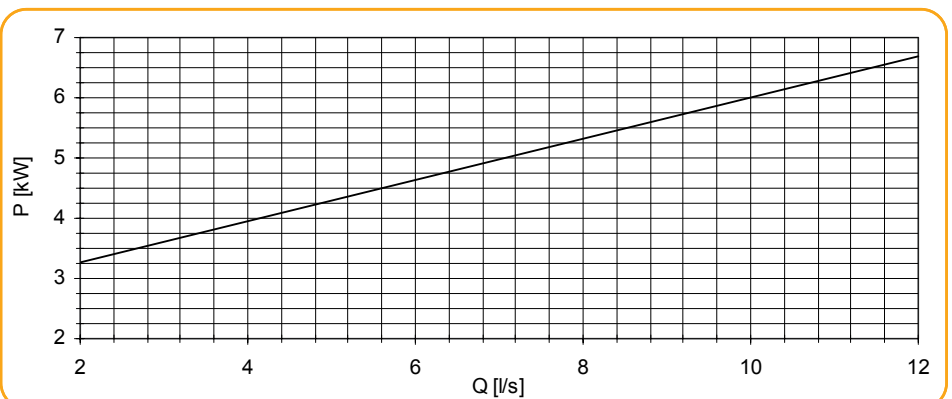


Pump performance curves

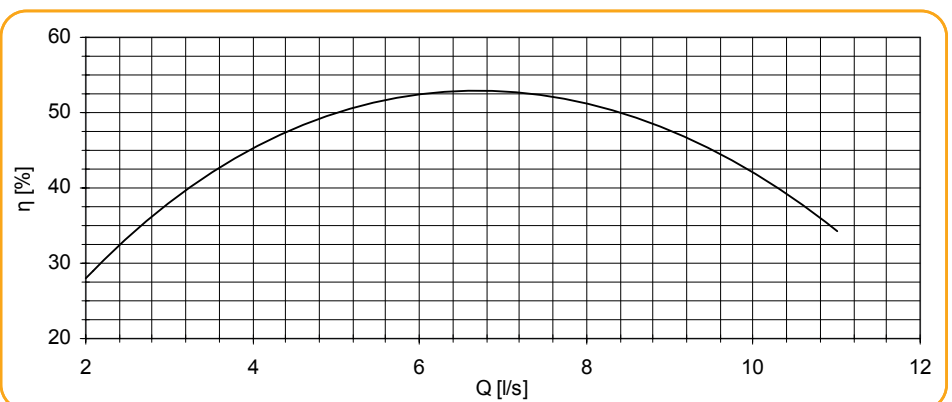
Total
Differential
Head



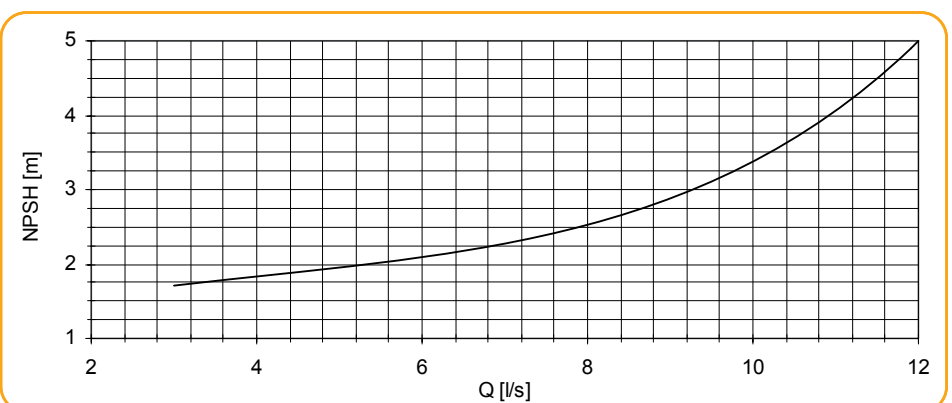
Power Input



Efficiency

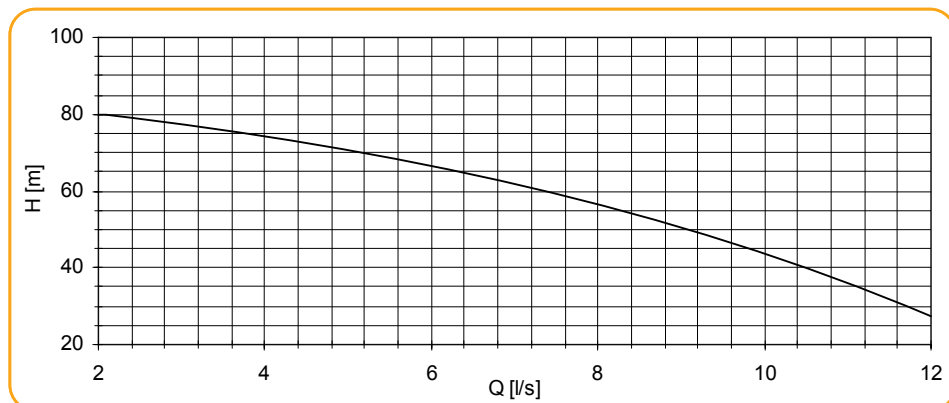


Net Positive
Suction Head

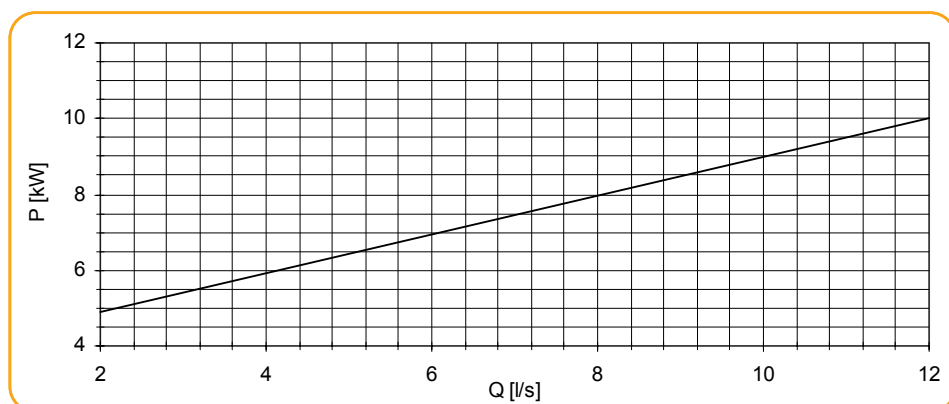


Pump performance curves

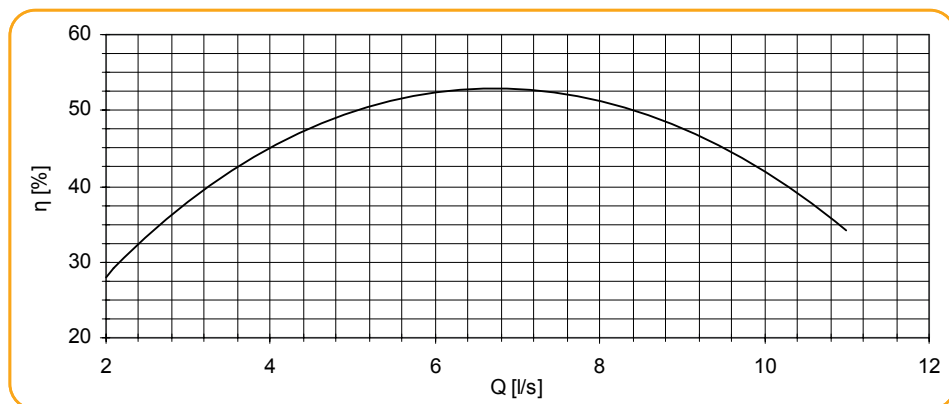
Total
Differential
Head



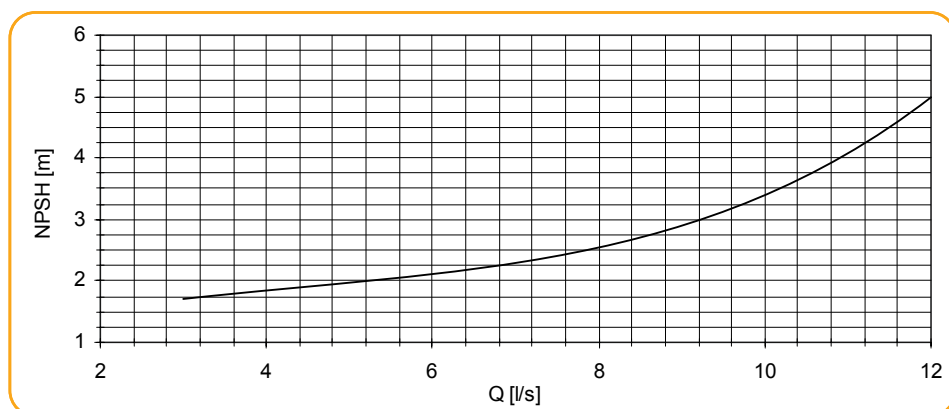
Power Input



Efficiency

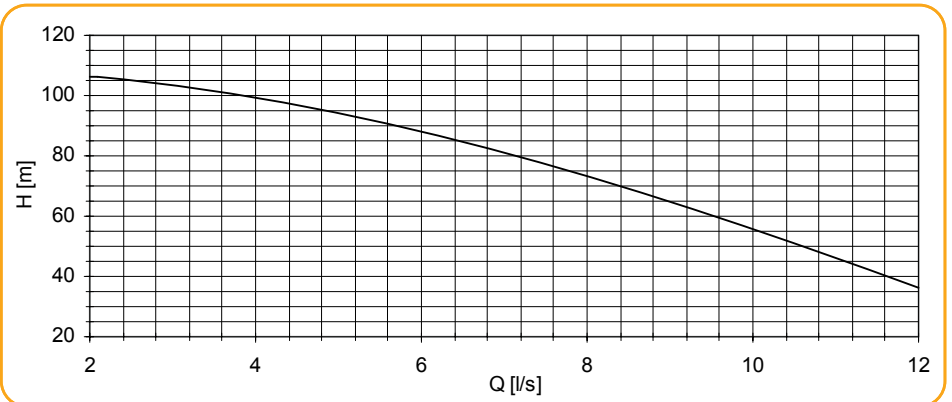


Net Positive
Suction Head

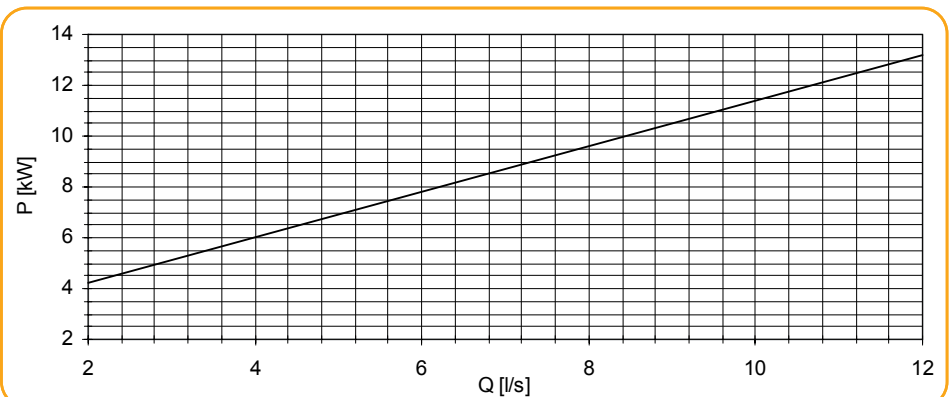


Pump performance curves

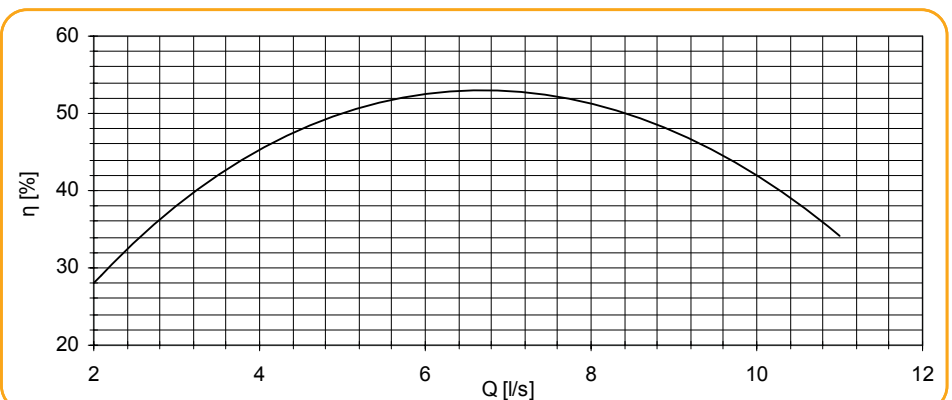
Total
Differential
Head



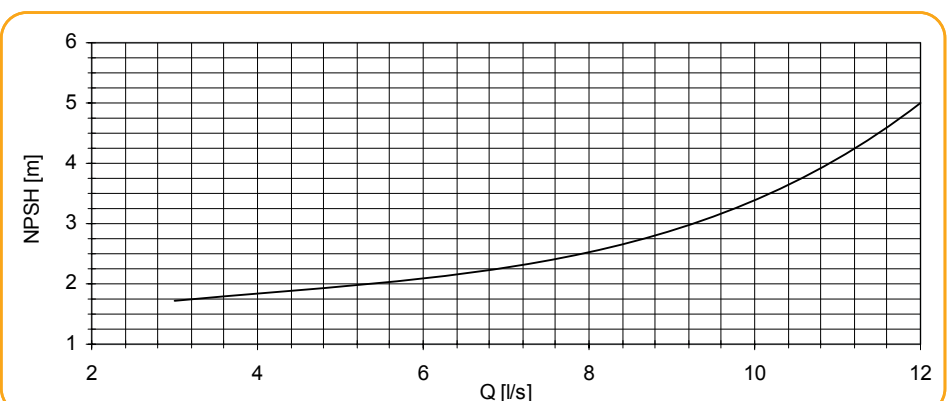
Power Input



Efficiency



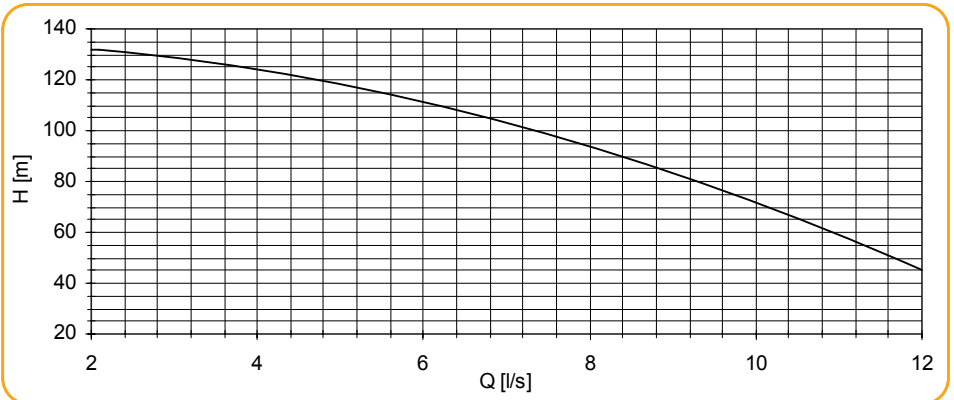
Net Positive
Suction Head



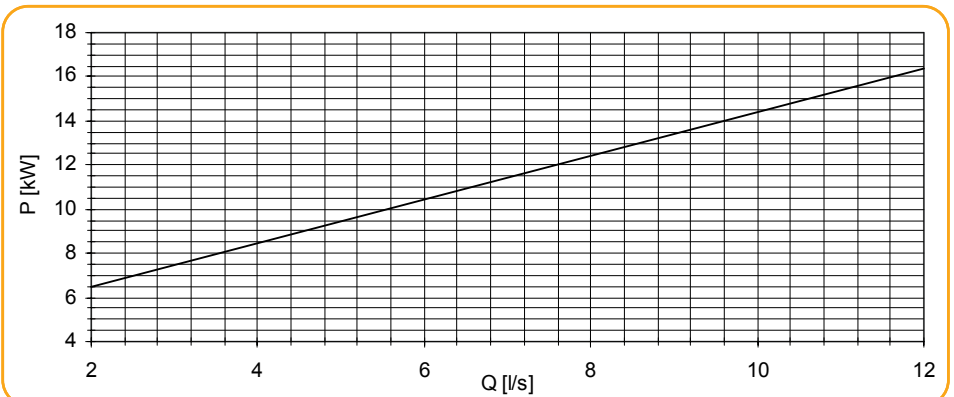
Pump performance curves

KCP 42-5
n = 2900 (rpm)

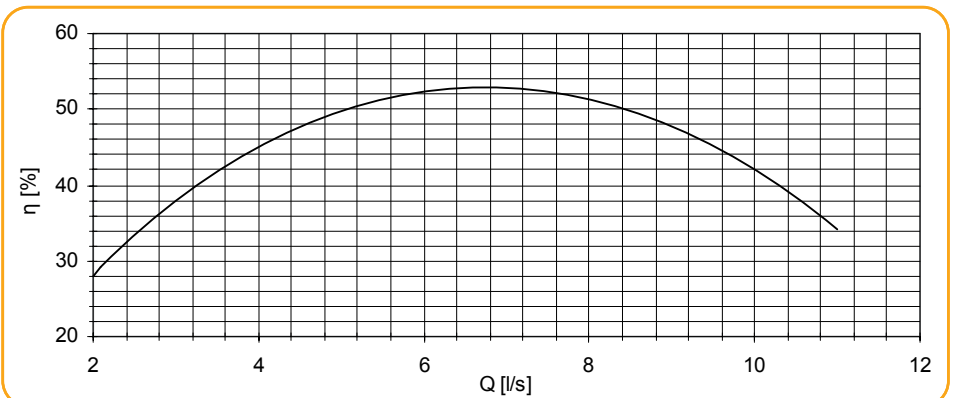
Total
Differential
Head



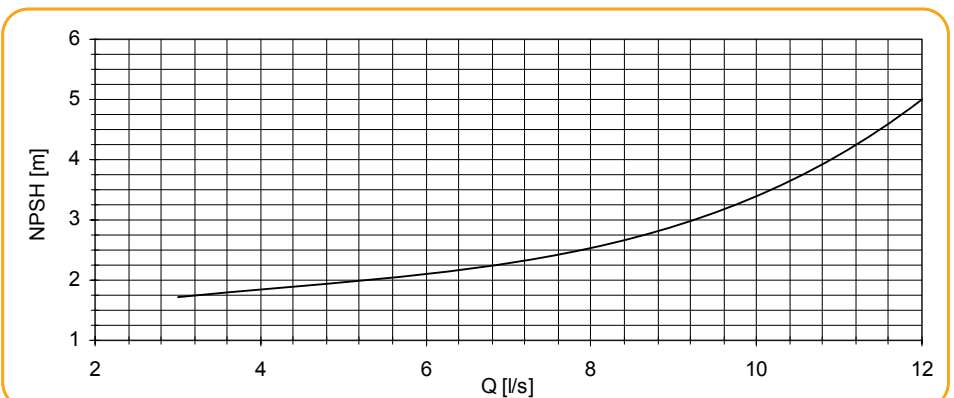
Power Input



Efficiency



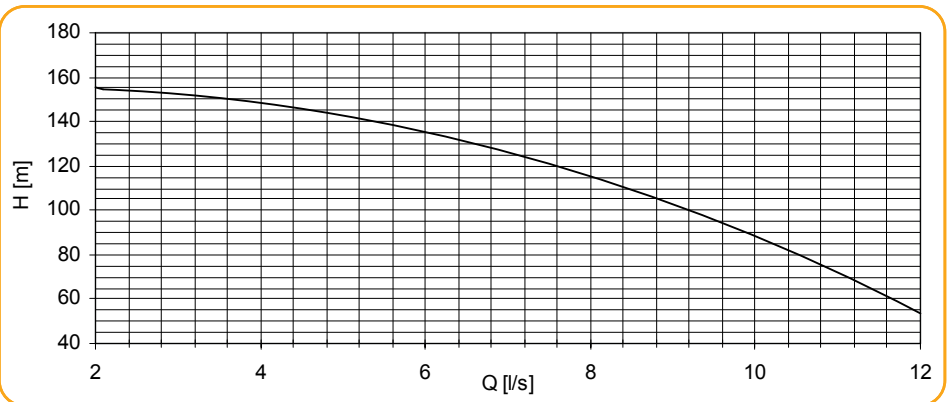
Net Positive
Suction Head



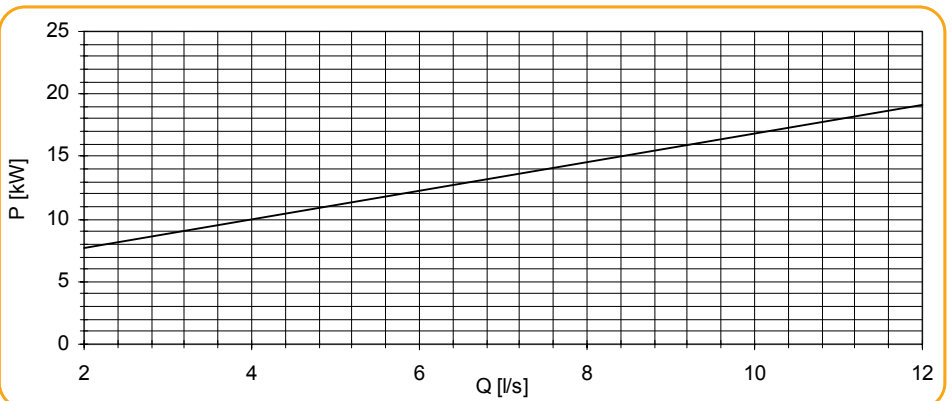
Pump performance curves

KCP 42-6
n = 2900 (rpm)

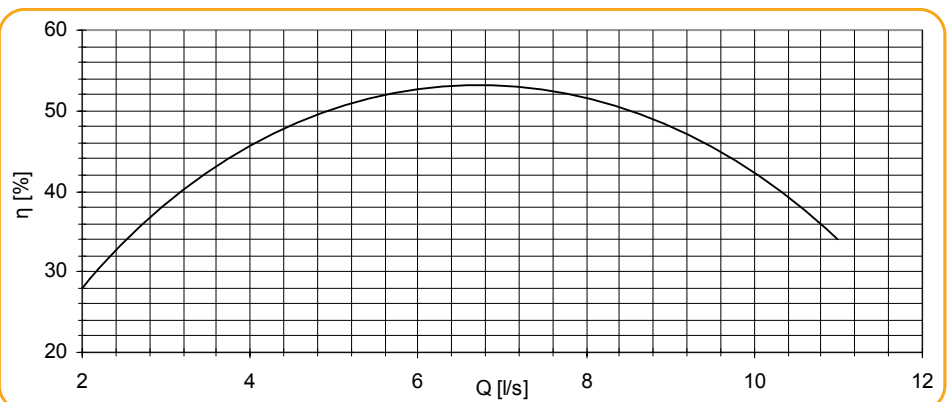
Total
Differential
Head



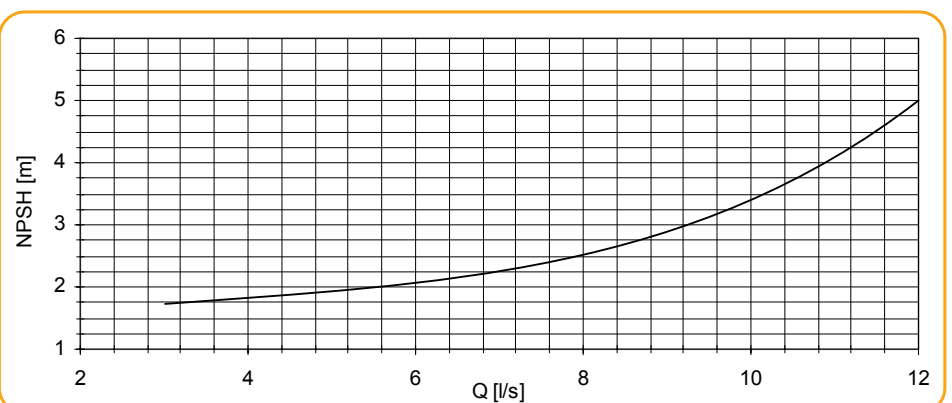
Power Input



Efficiency

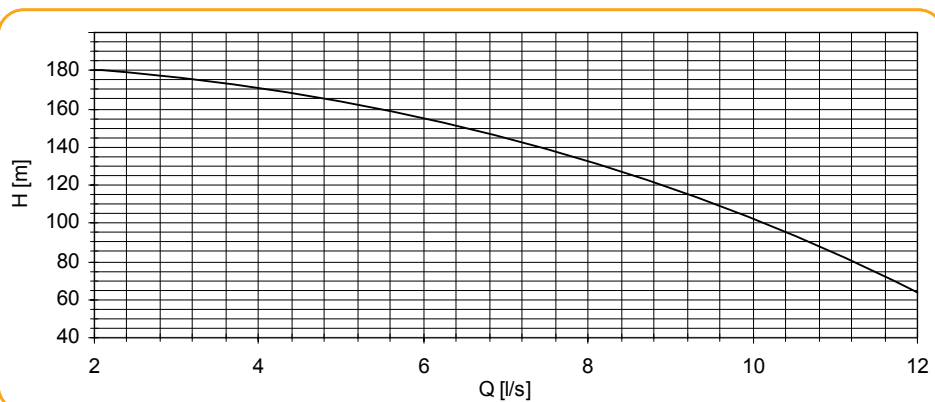


Net Positive
Suction Head

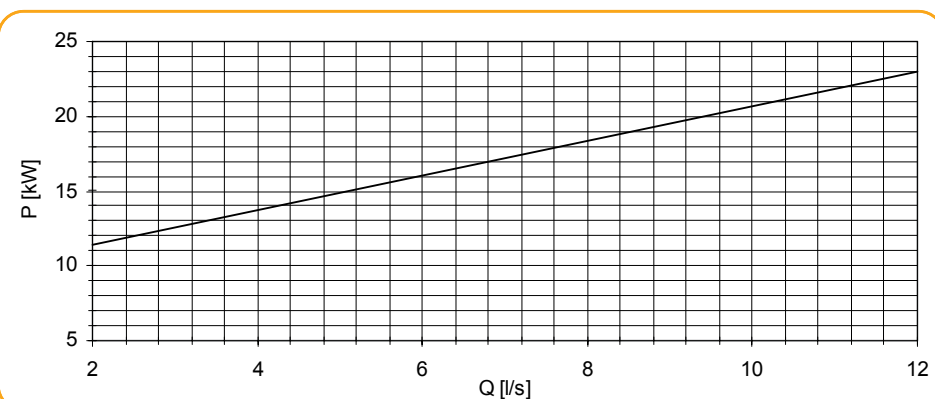


Pump performance curves

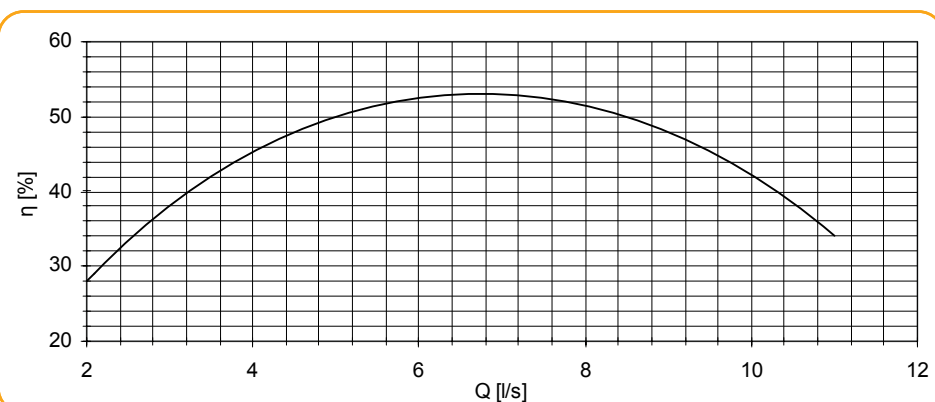
Total
Differential
Head



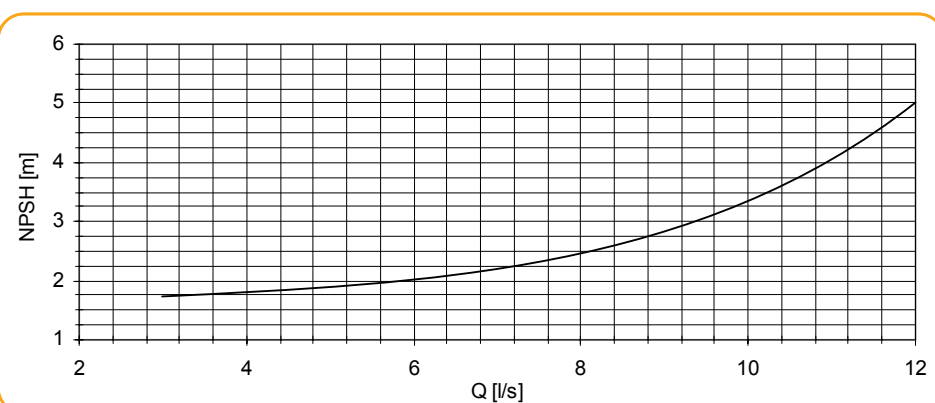
Power Input



Efficiency



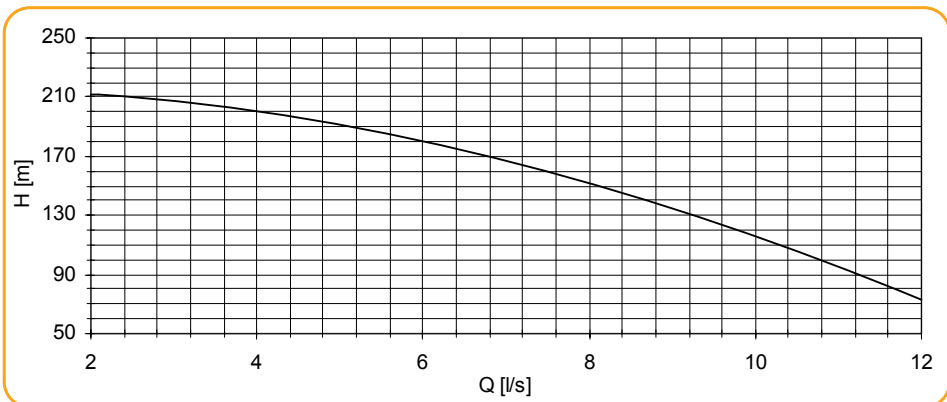
Net Positive
Suction Head



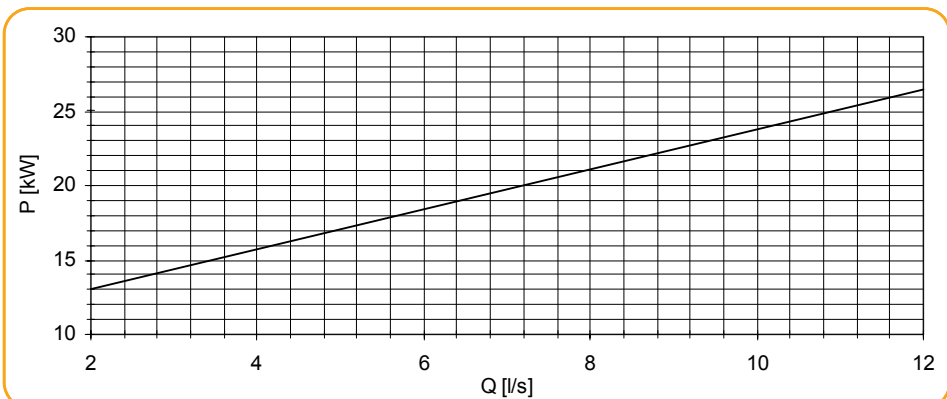
Pump performance curves

KCP 42-8
n =2900 (rpm)

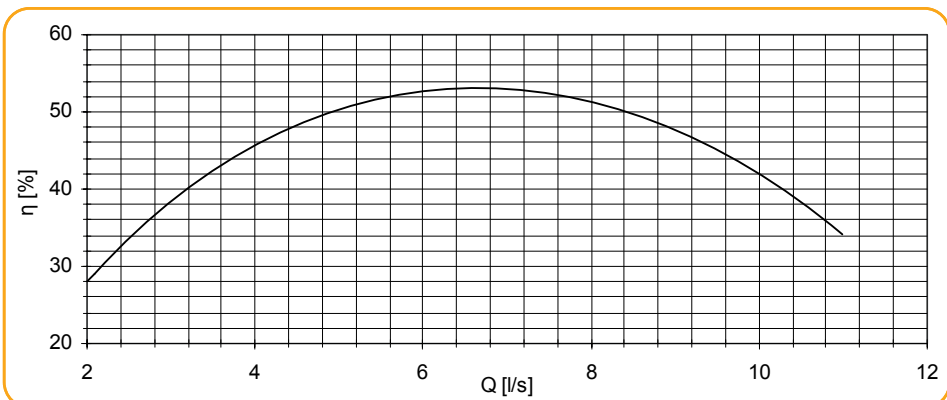
Total
Differential
Head



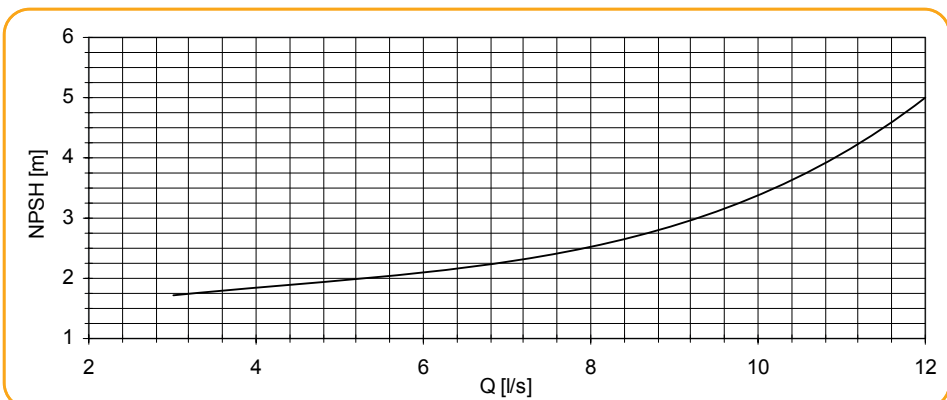
Power Input



Efficiency

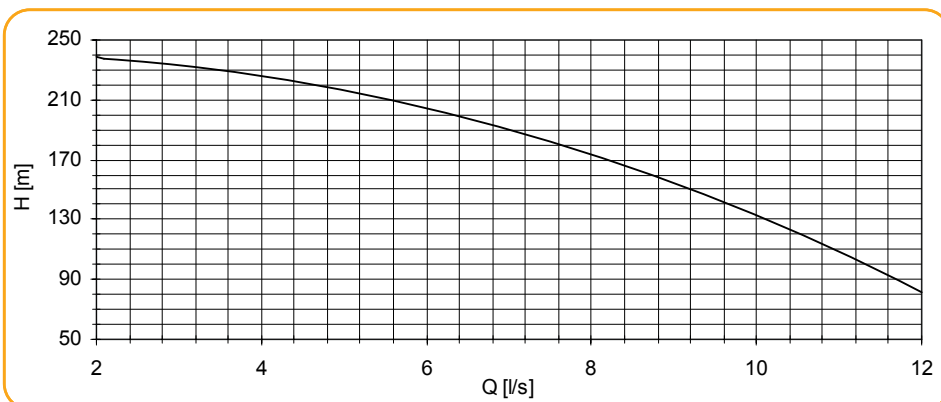


Net Positive
Suction Head

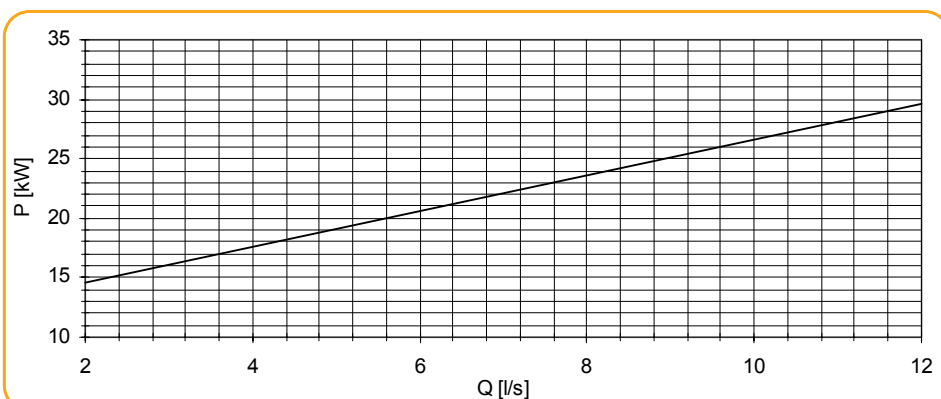


Pump performance curves

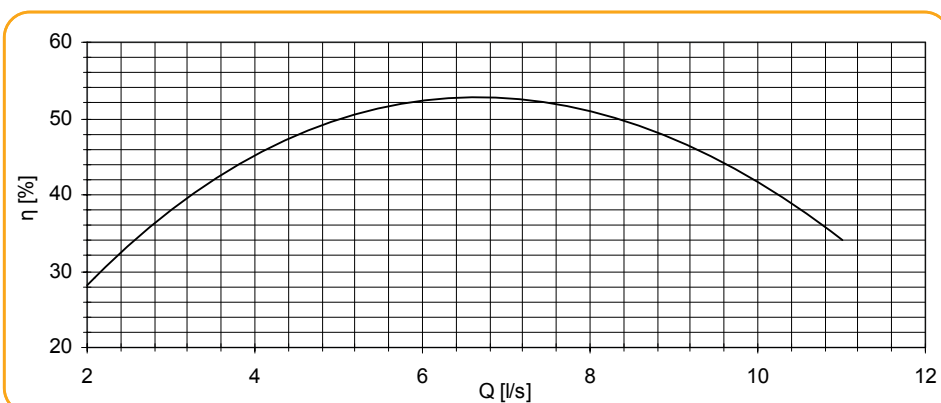
Total
Differential
Head



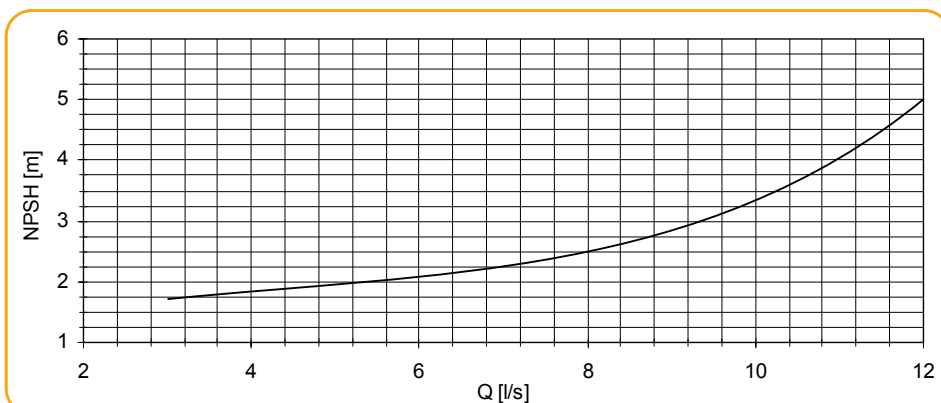
Power Input



Efficiency

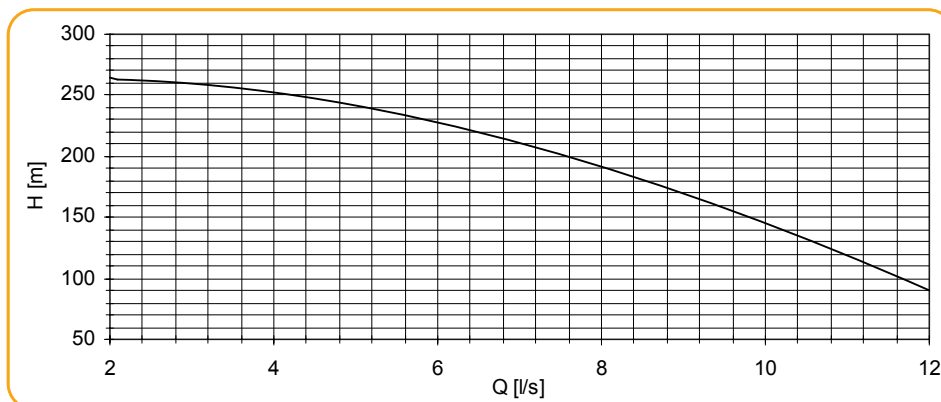


Net Positive
Suction Head

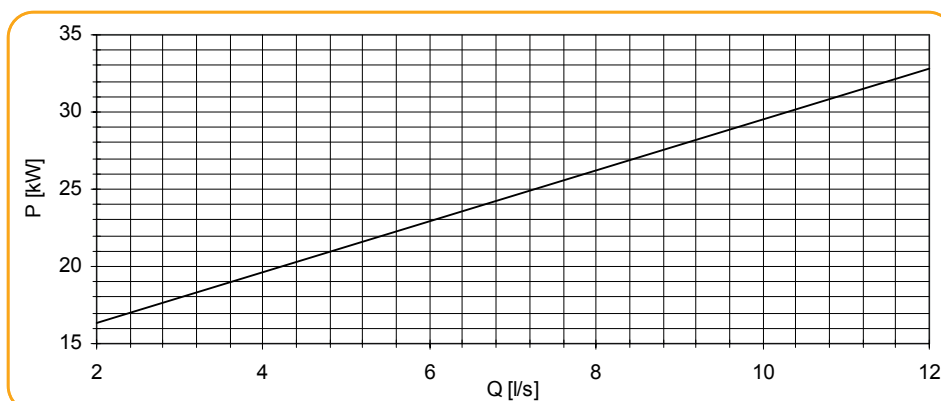


Pump performance curves

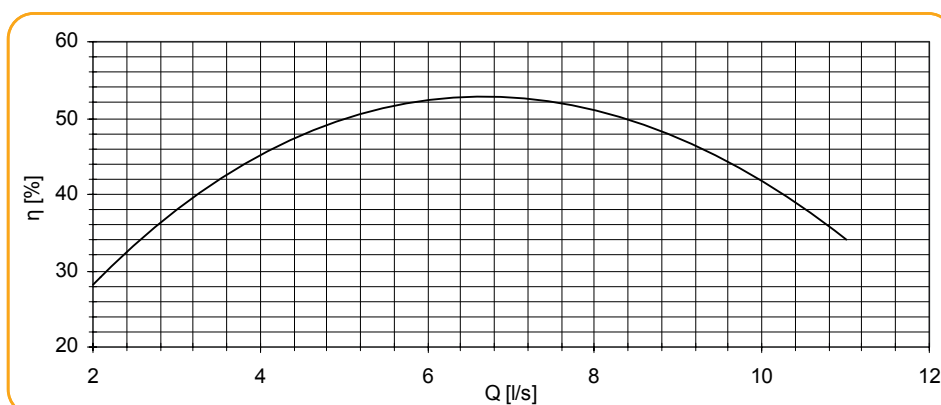
Total
Differential
Head



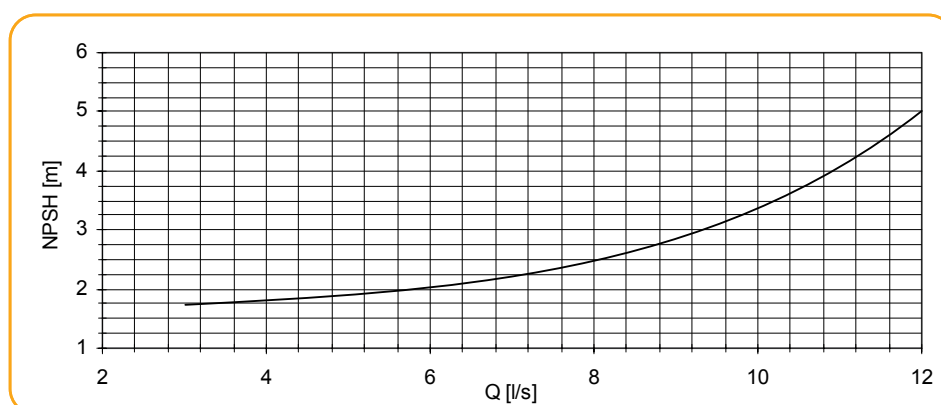
Power Input



Efficiency

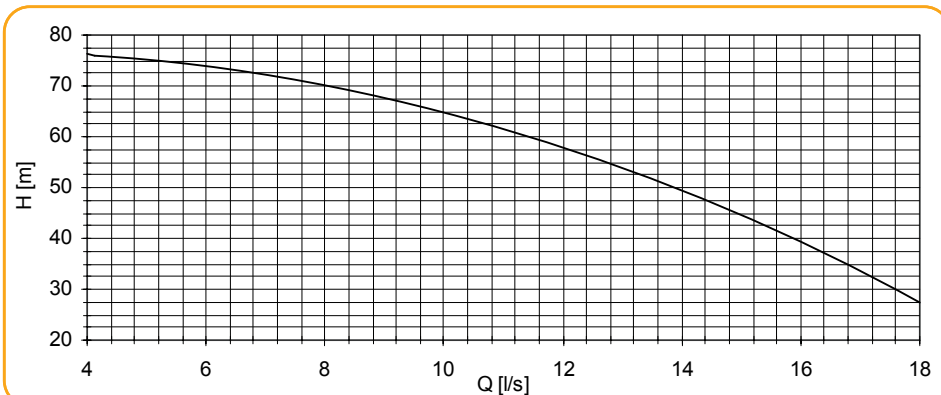


Net Positive
Suction Head

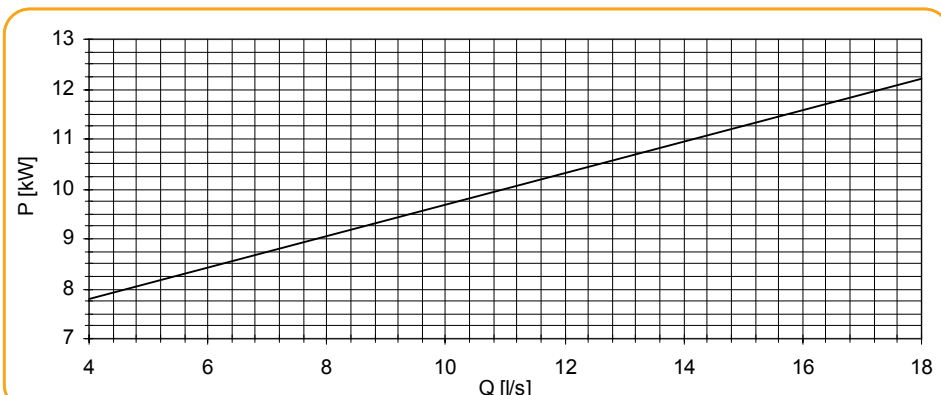


Pump performance curves

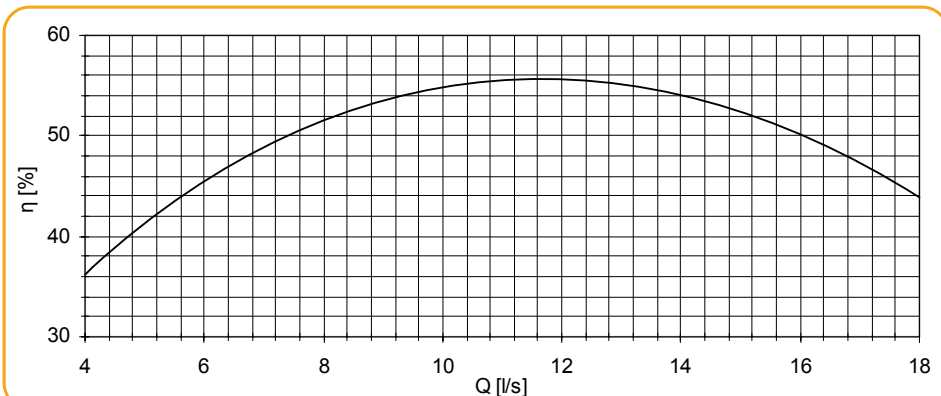
Total
Differential
Head



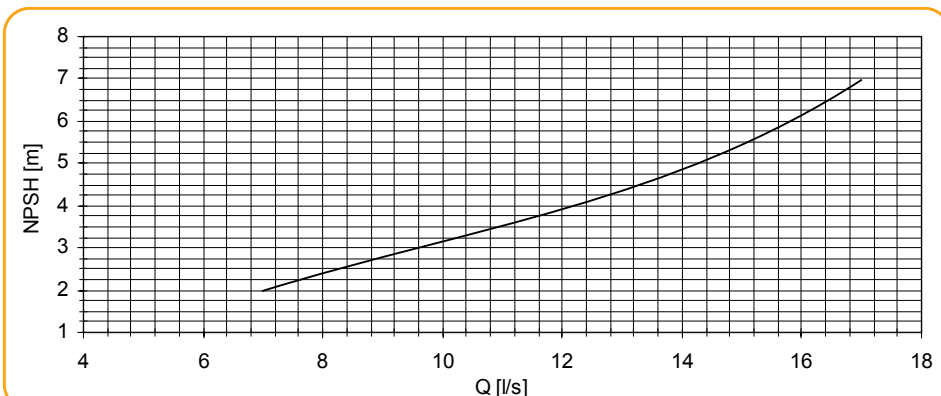
Power Input



Efficiency



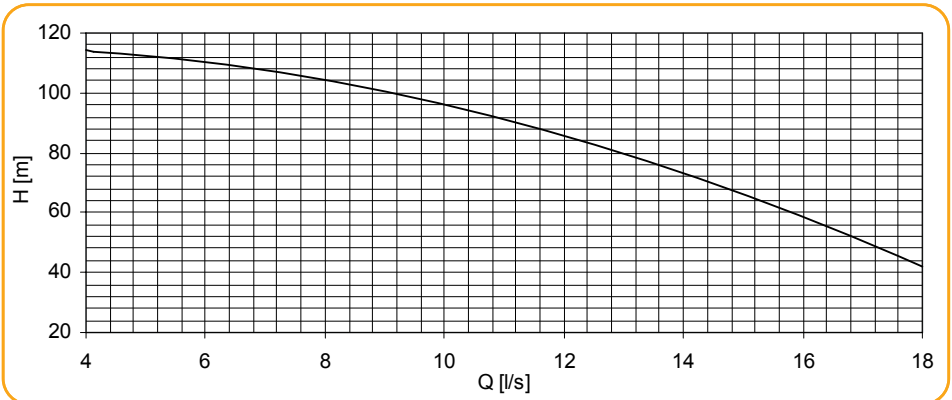
Net Positive
Suction Head



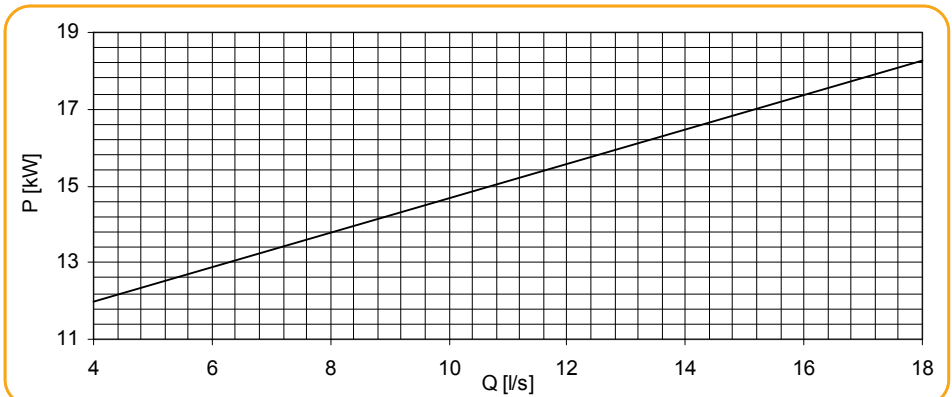
Pump performance curves

KCP 52-3
n = 2900 (rpm)

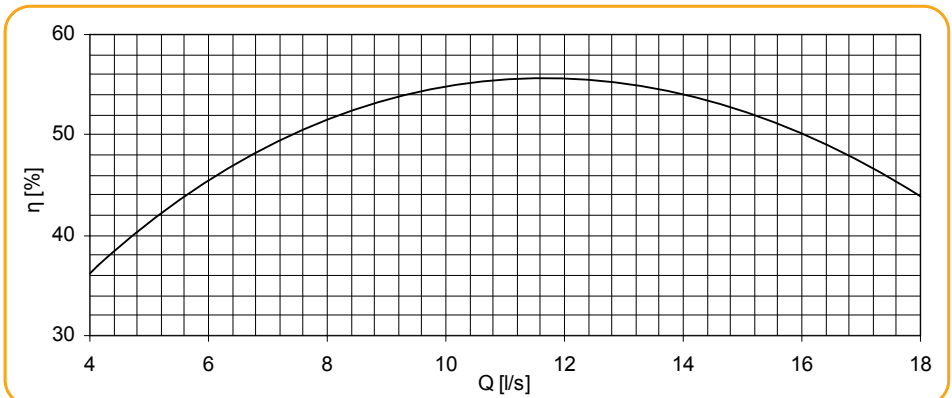
Total
Differential
Head



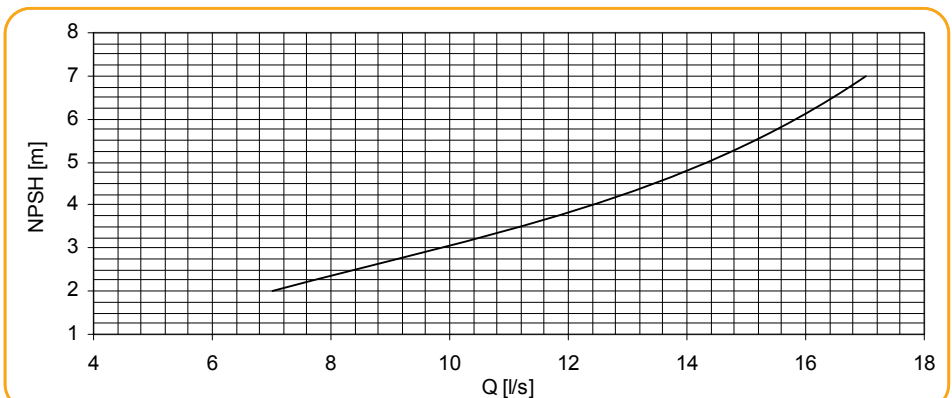
Power Input



Efficiency

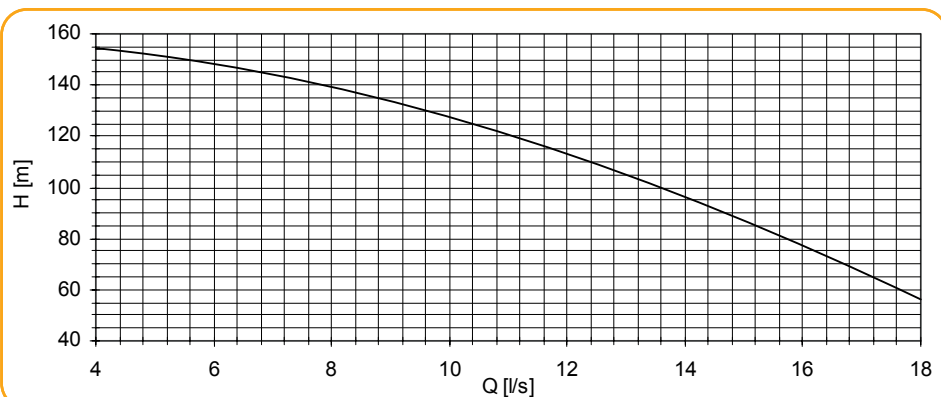


Net Positive
Suction Head

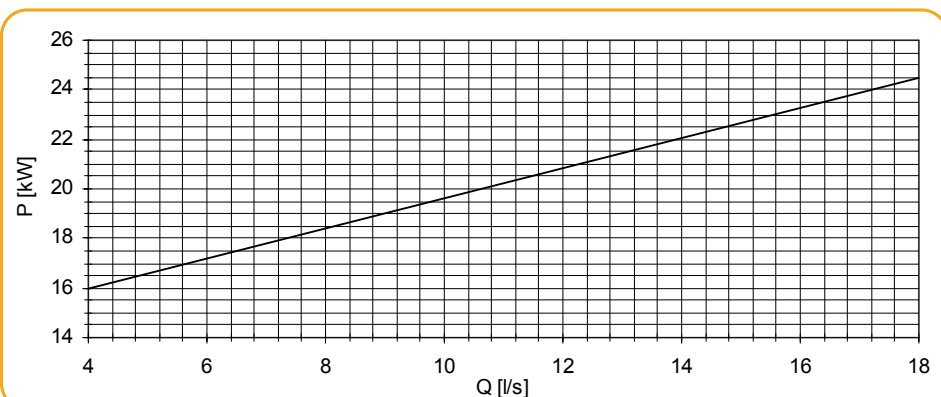


Pump performance curves

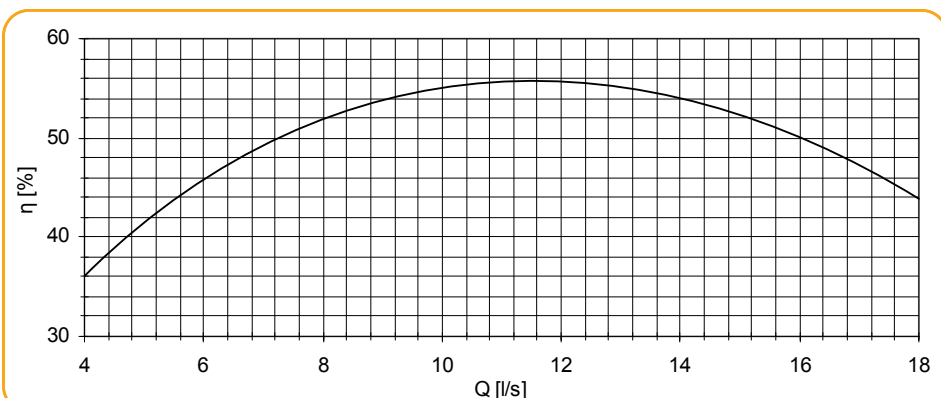
Total
Differential
Head



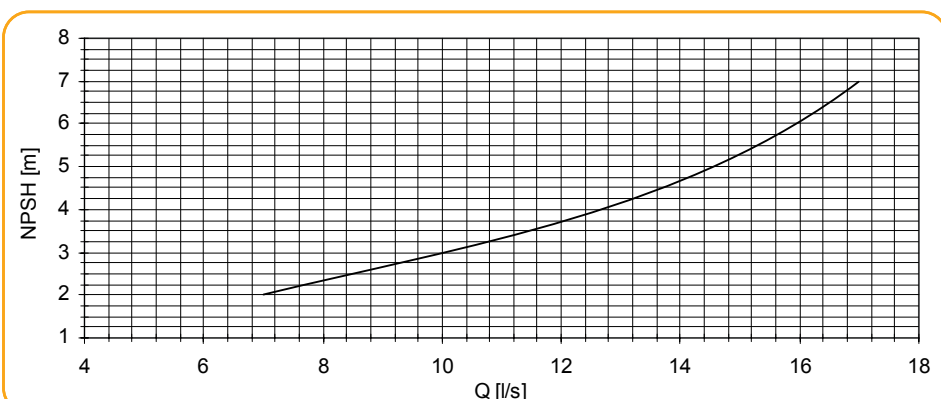
Power Input



Efficiency



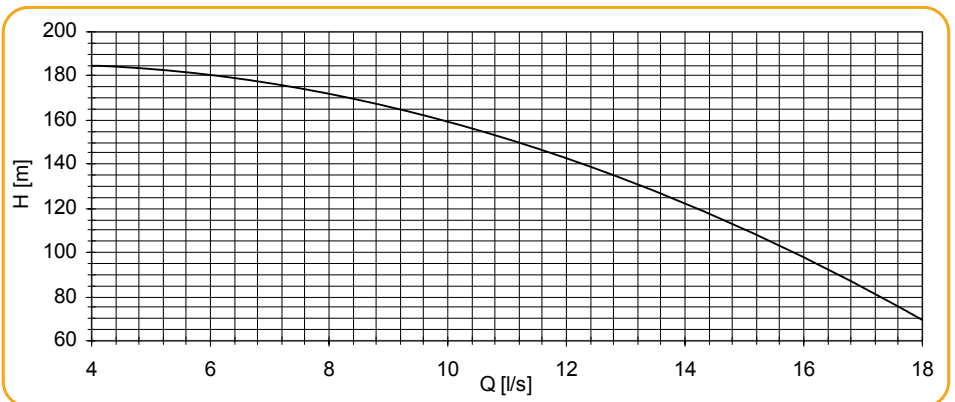
Net Positive
Suction Head



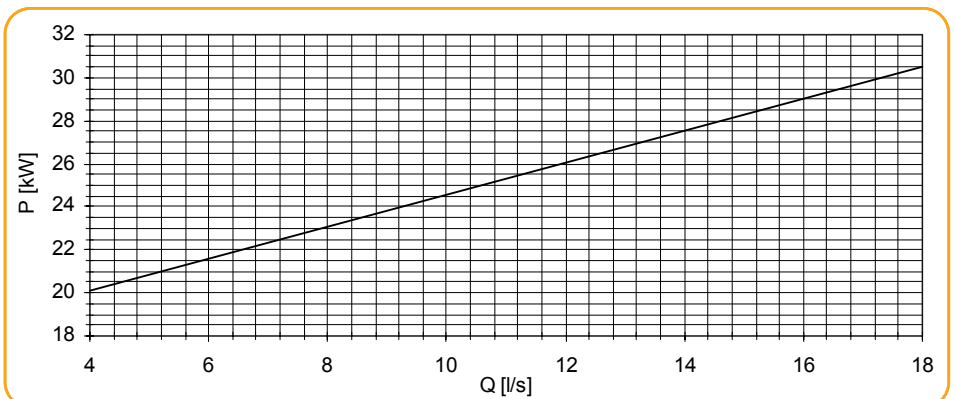
Pump performance curves

KCP 52-5
n = 2900 (rpm)

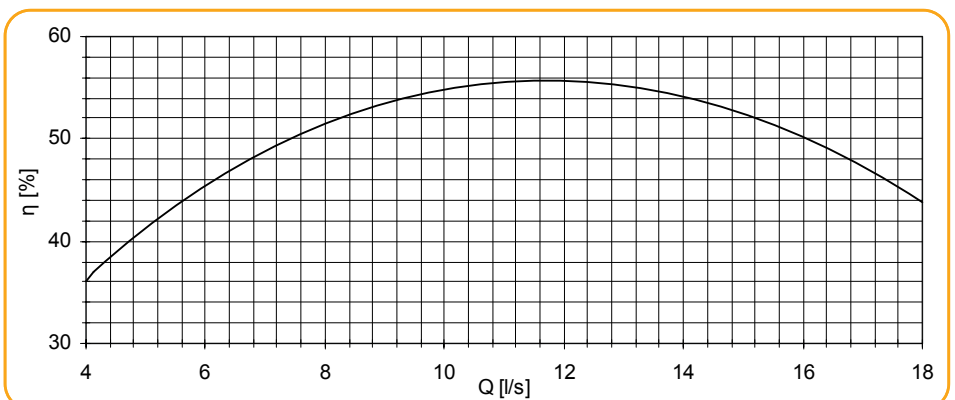
Total
Differential
Head



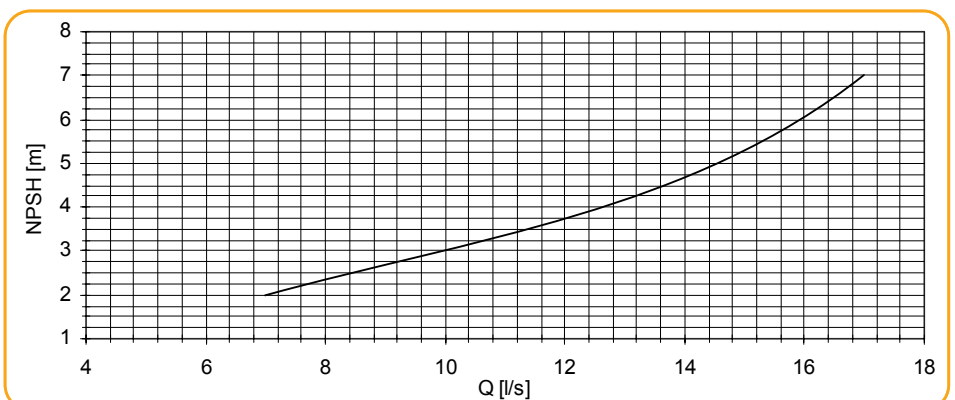
Power Input



Efficiency

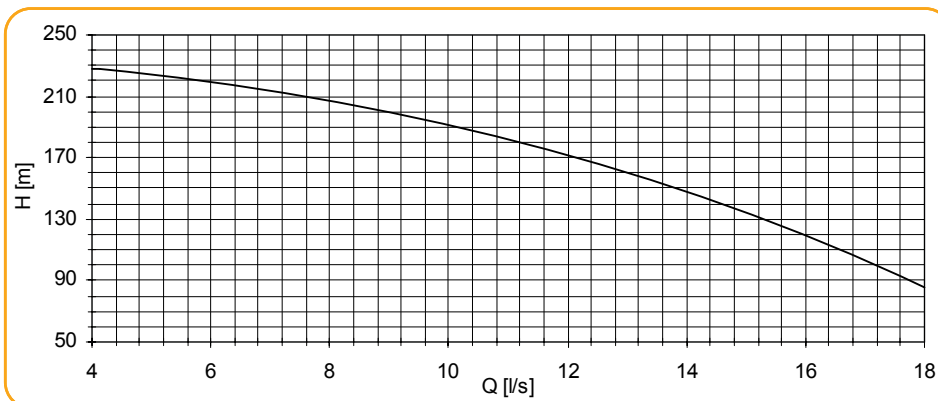


Net Positive
Suction Head

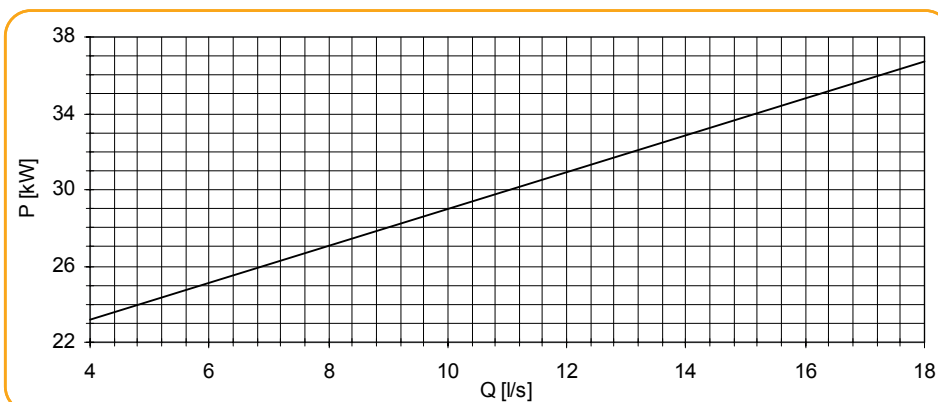


Pump performance curves

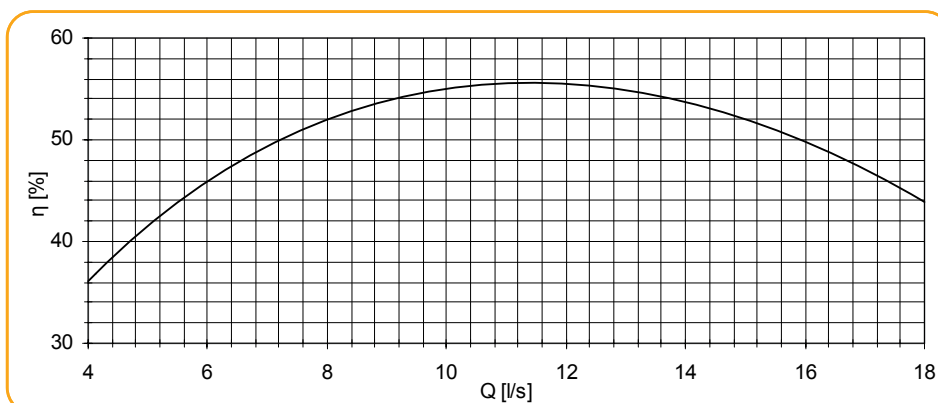
Total
Differential
Head



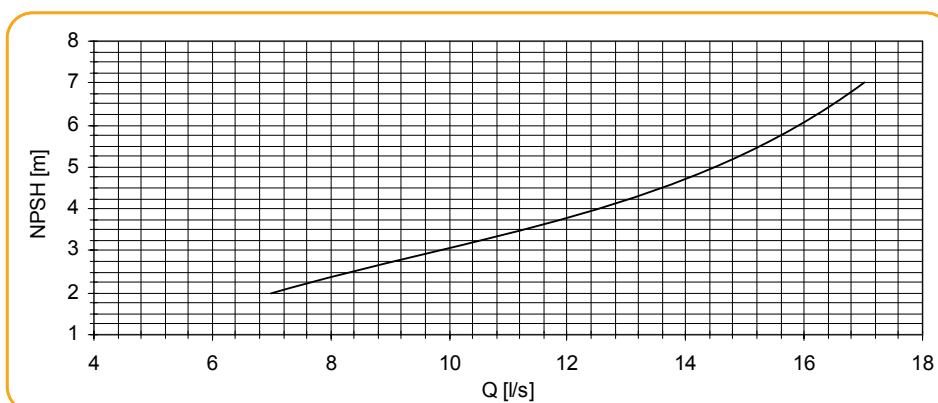
Power Input



Efficiency



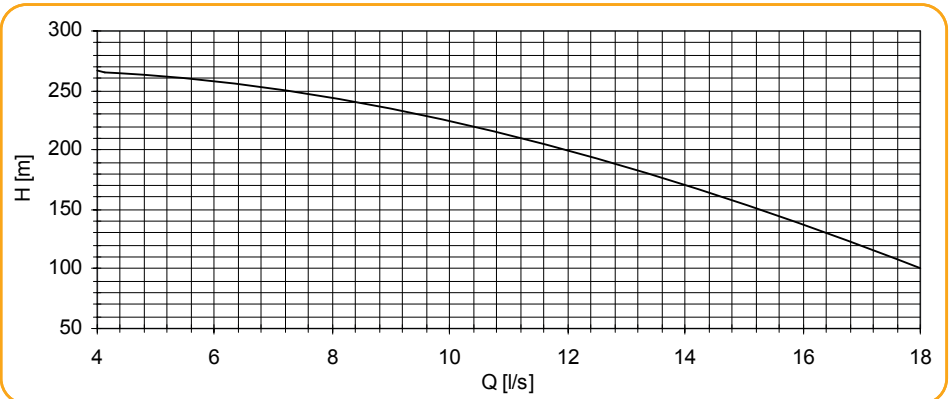
Net Positive
Suction Head



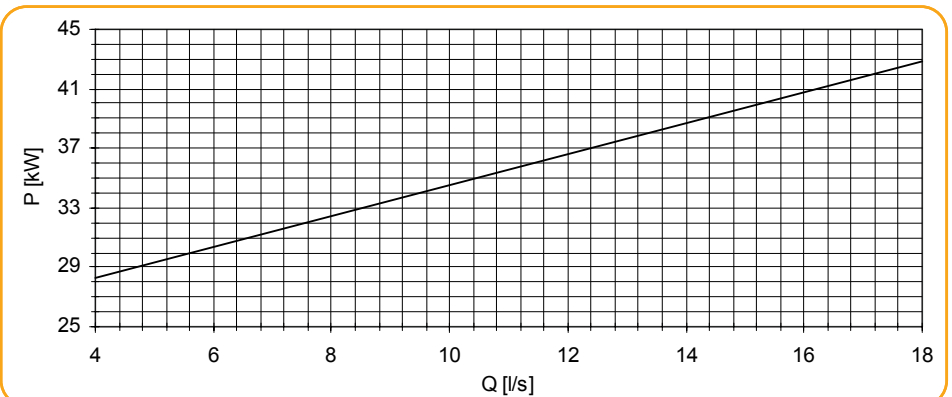
Pump performance curves

KCP 52-7
n = 2900 (rpm)

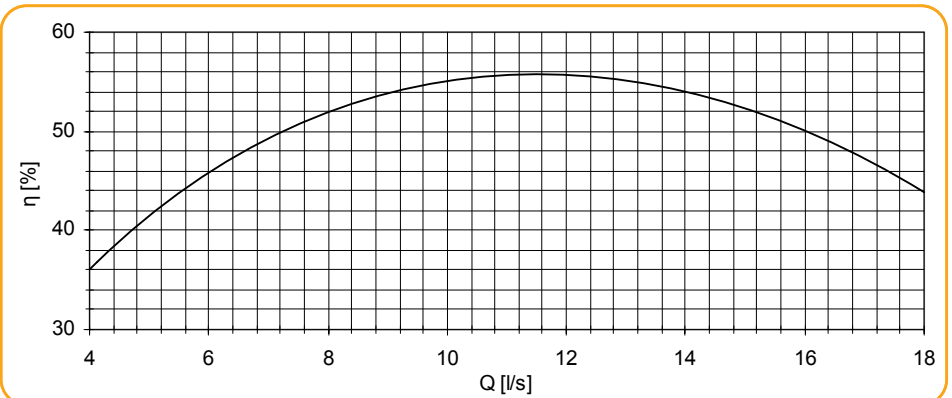
Total
Differential
Head



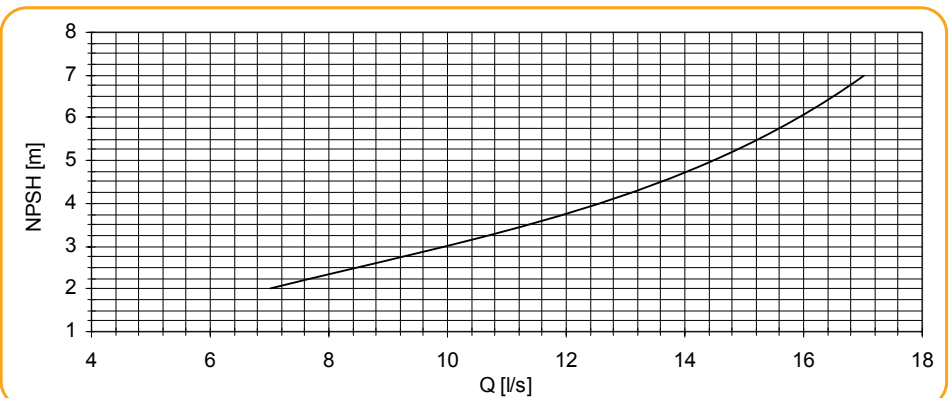
Power Input



Efficiency

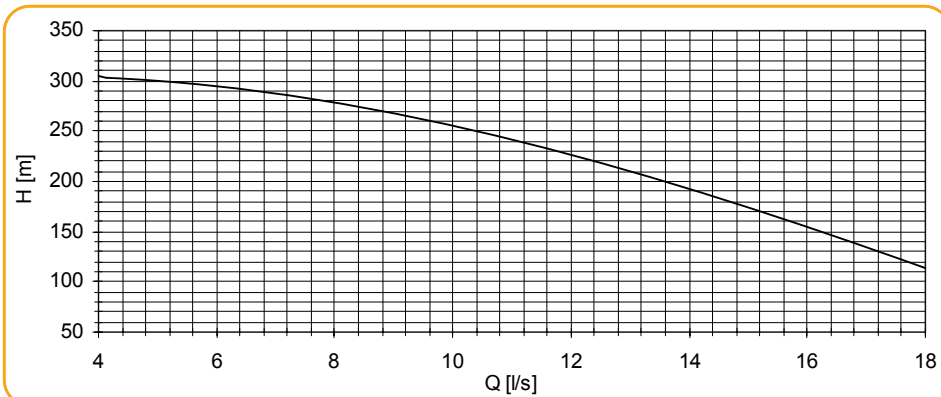


Net Positive
Suction Head

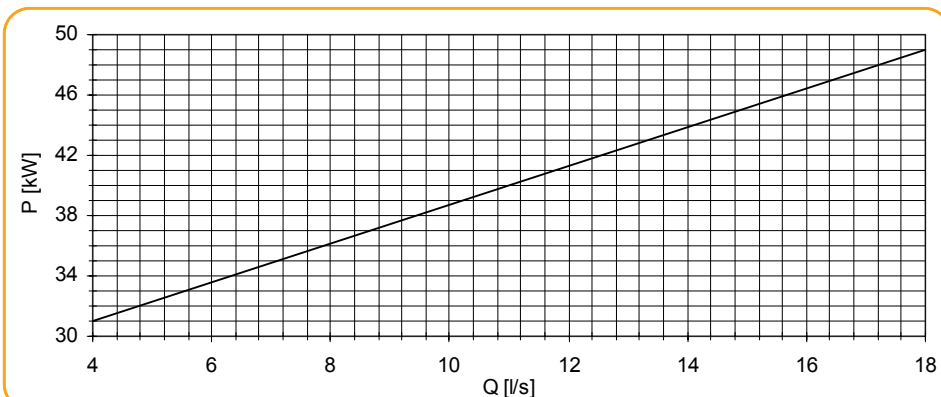


Pump performance curves

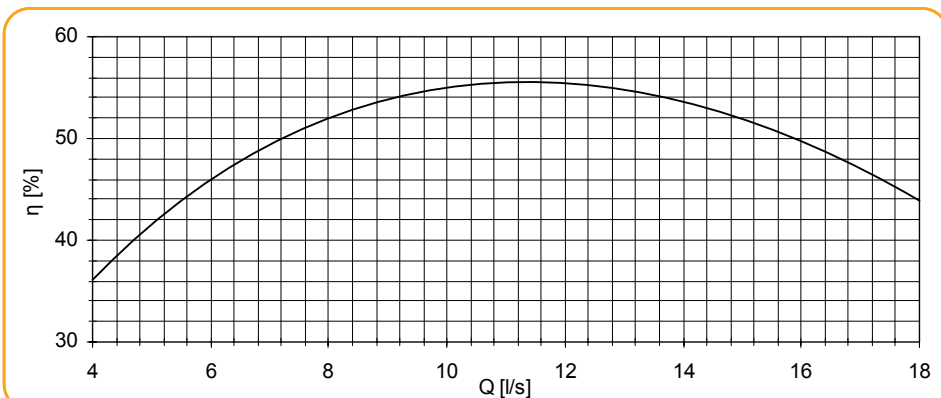
Total
Differential
Head



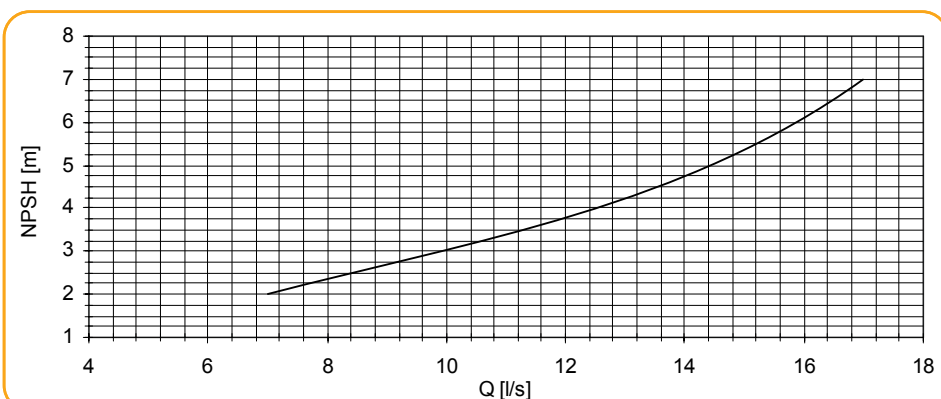
Power Input



Efficiency



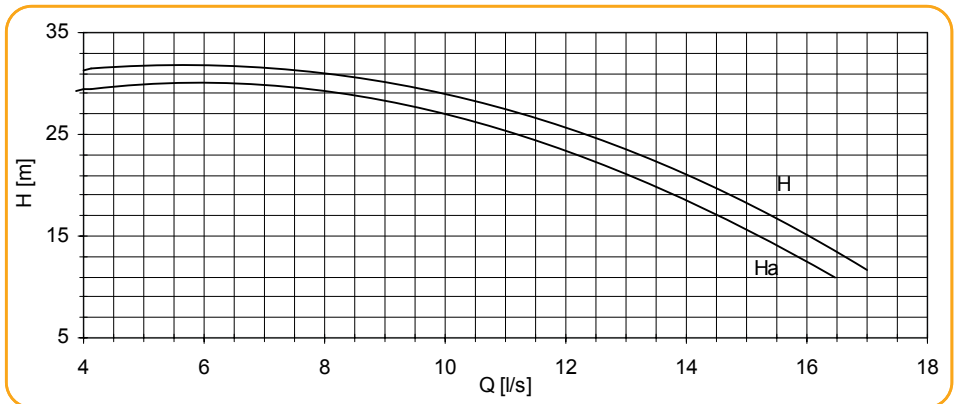
Net Positive
Suction Head



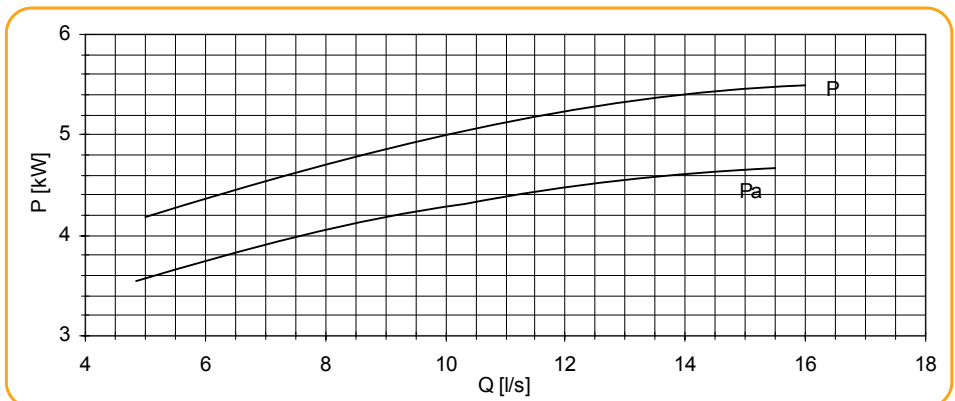
Pump performance curves

KCP 62-2
n = 1450 (rpm)

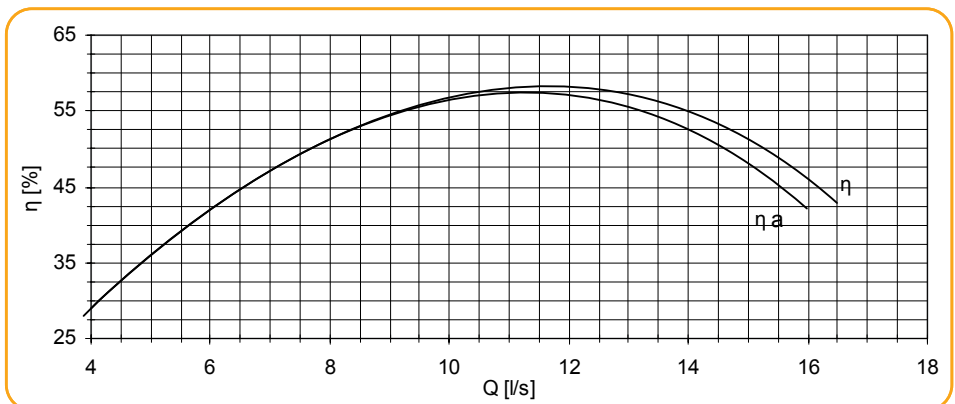
Total
Differential
Head



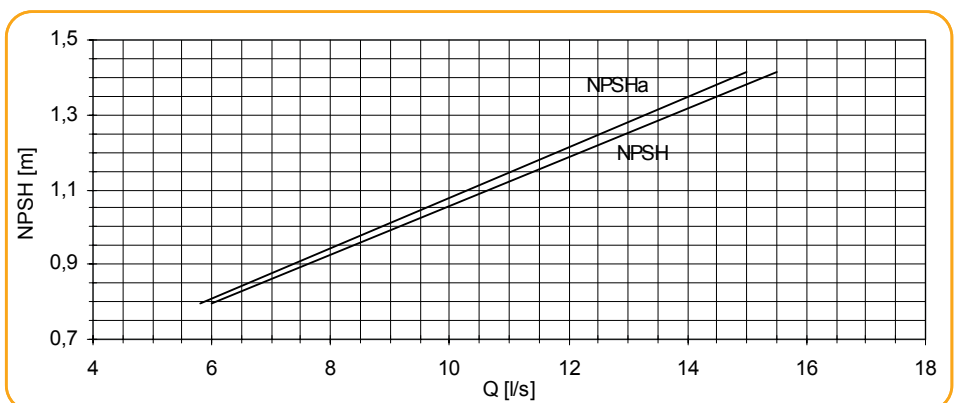
Power Input



Efficiency

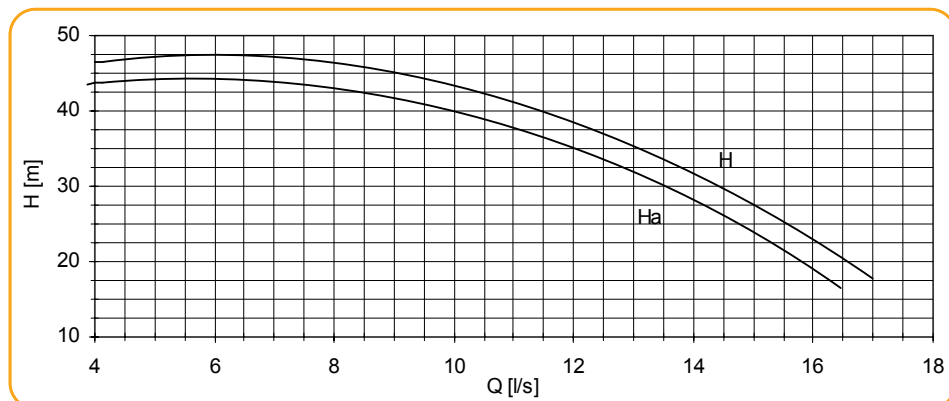


Net Positive
Suction Head

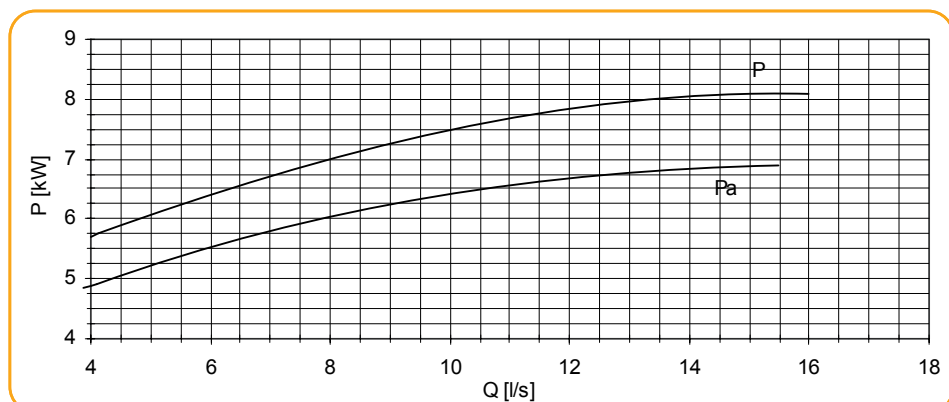


Pump performance curves

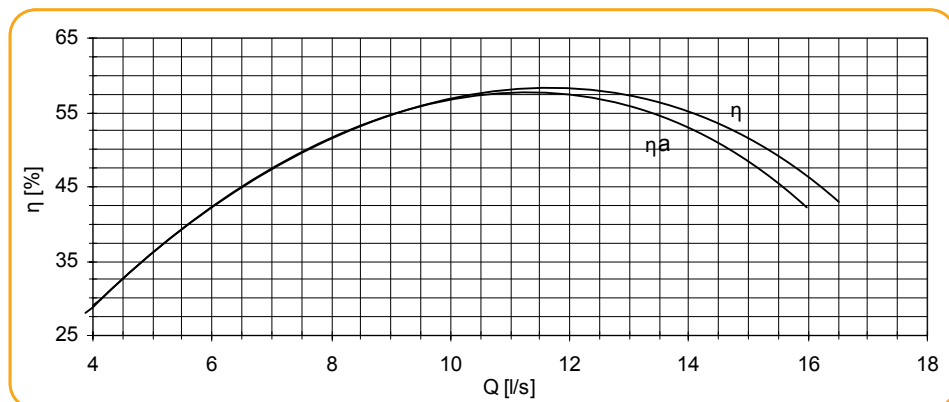
Total
Differential
Head



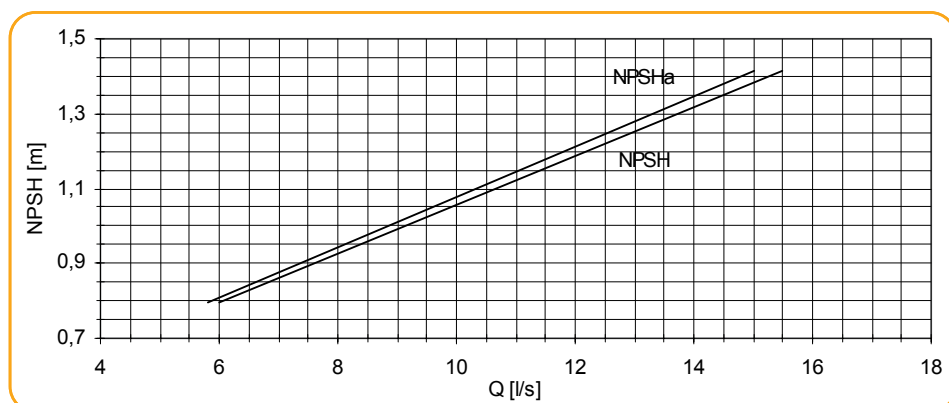
Power Input



Efficiency



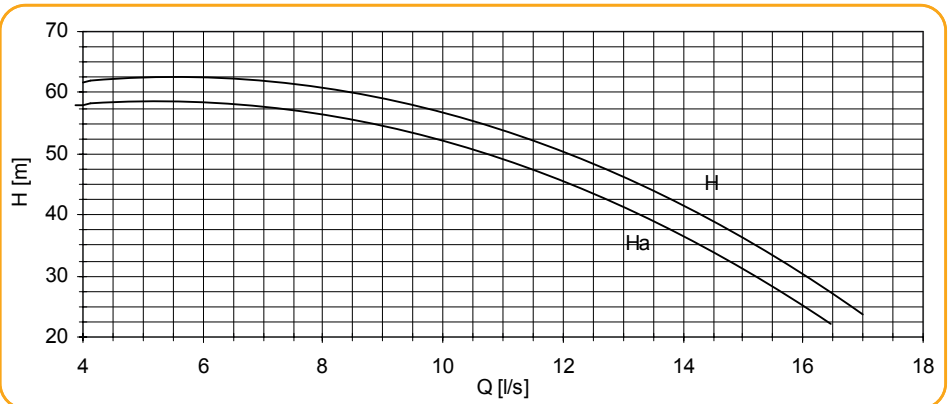
Net Positive
Suction Head



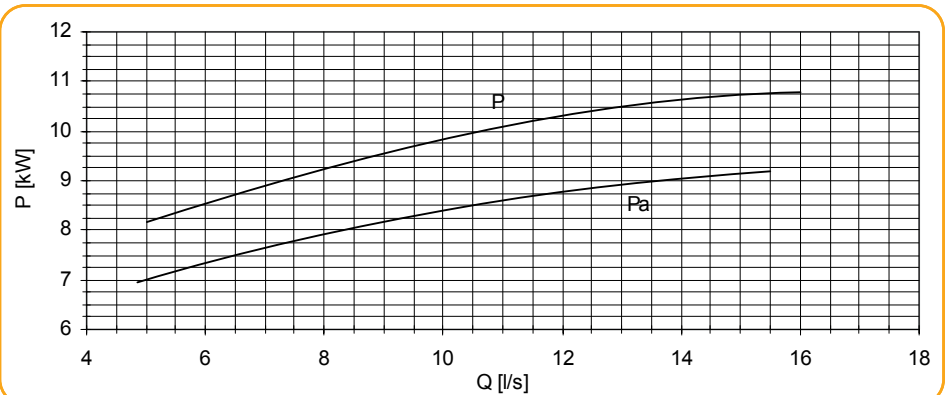
Pump performance curves

KCP 62-4
n = 1450 (rpm)

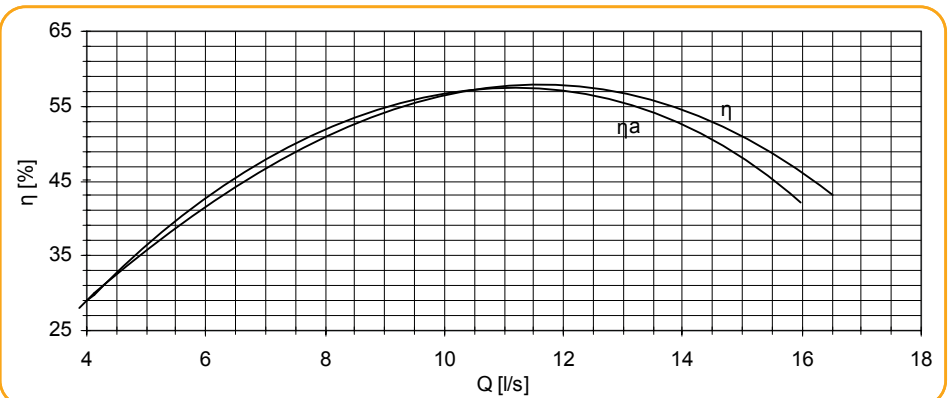
Total
Differential
Head



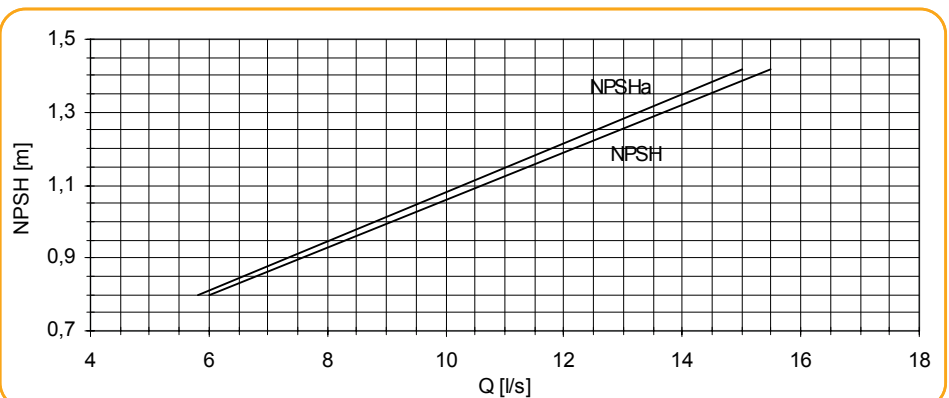
Power Input



Efficiency



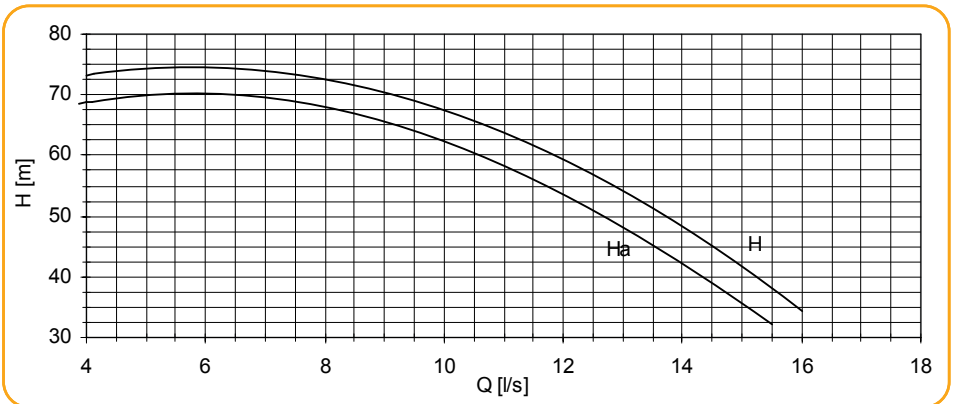
Net Positive
Suction Head



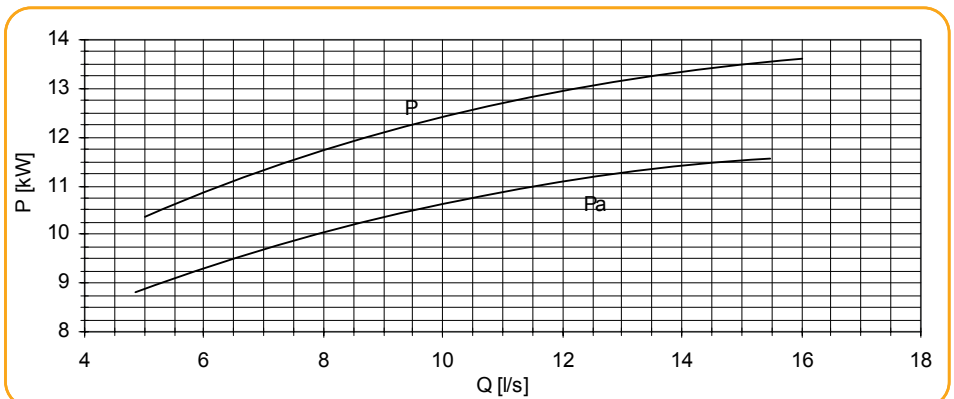
Pump performance curves

KCP 62-5
n = 1450 (rpm)

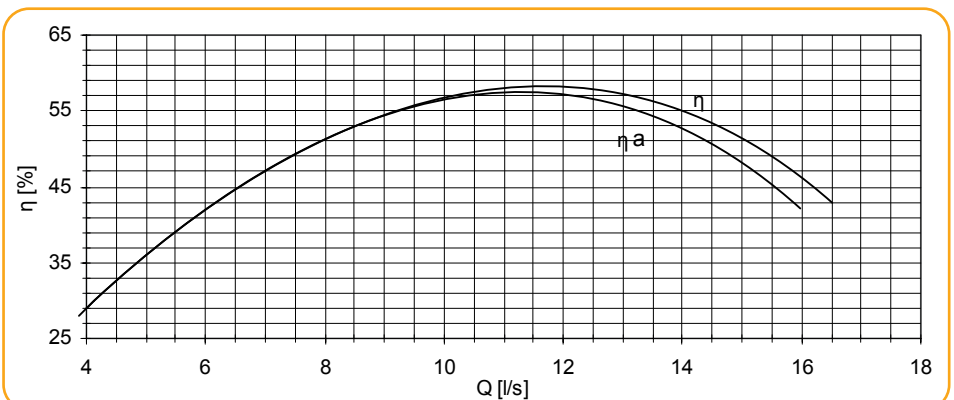
Total
Differential
Head



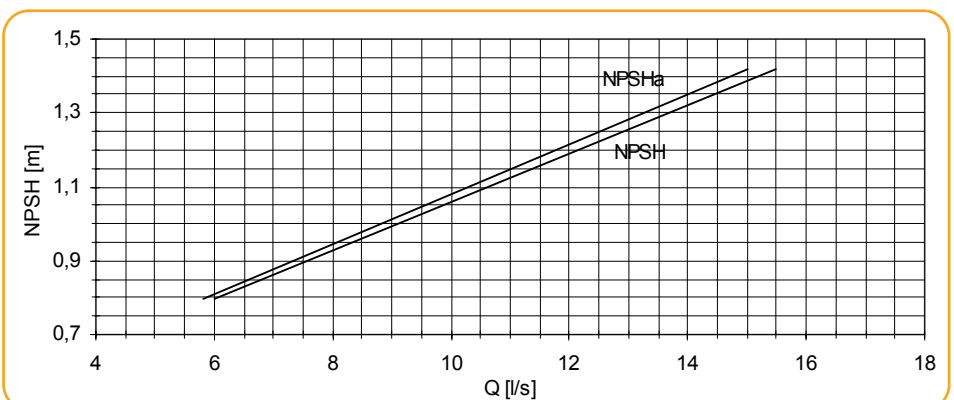
Power Input



Efficiency



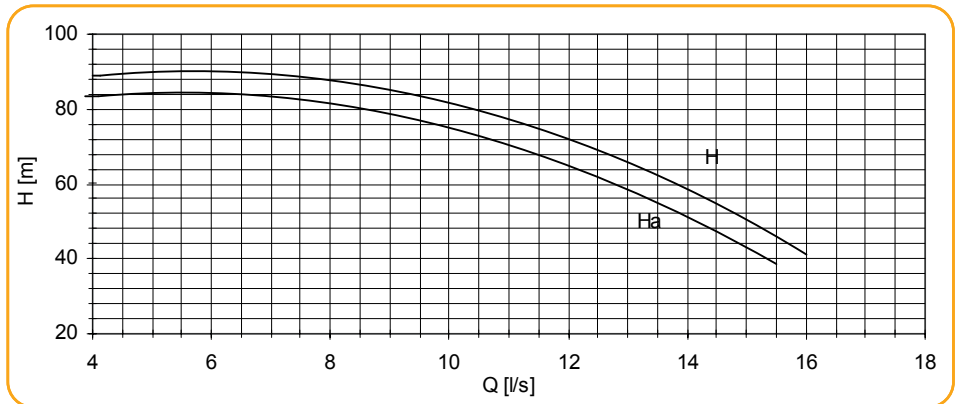
Net Positive
Suction Head



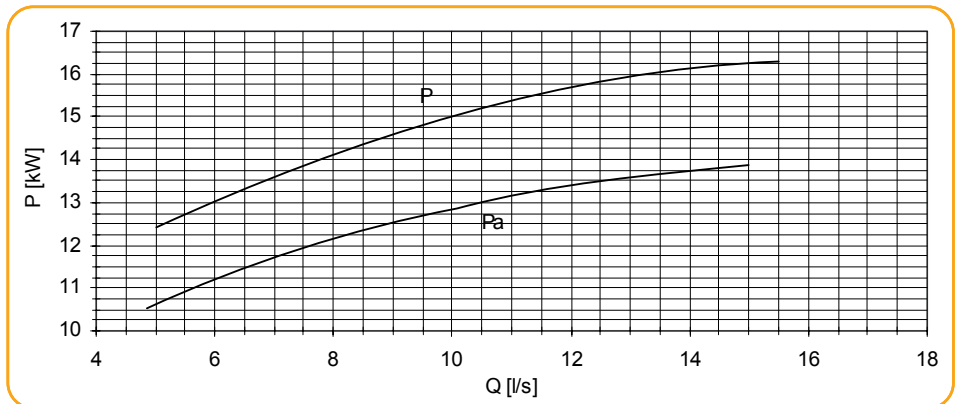
Pump performance curves

KCP 62-6
n = 1450 (rpm)

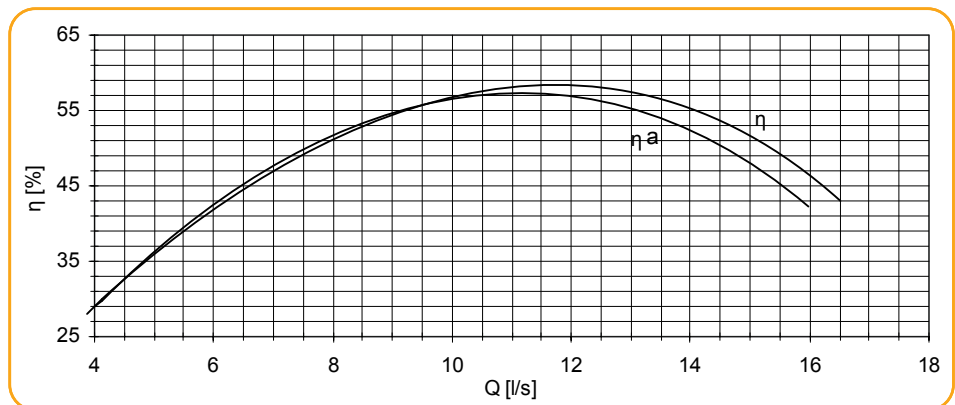
Total
Differential
Head



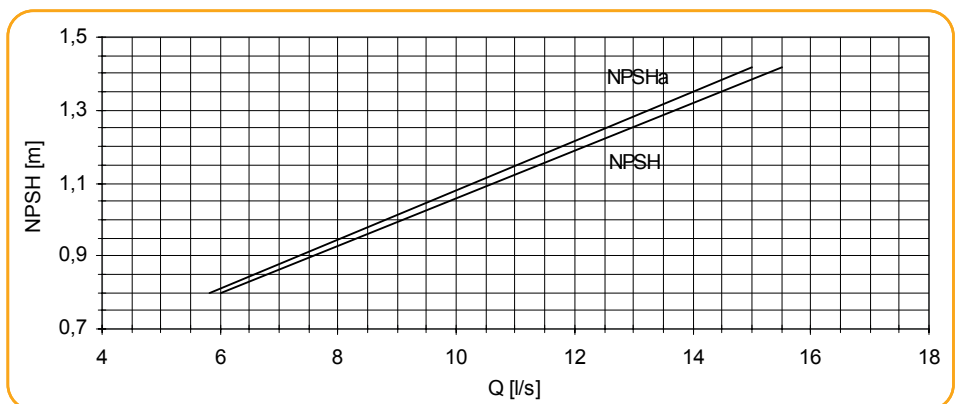
Power Input



Efficiency

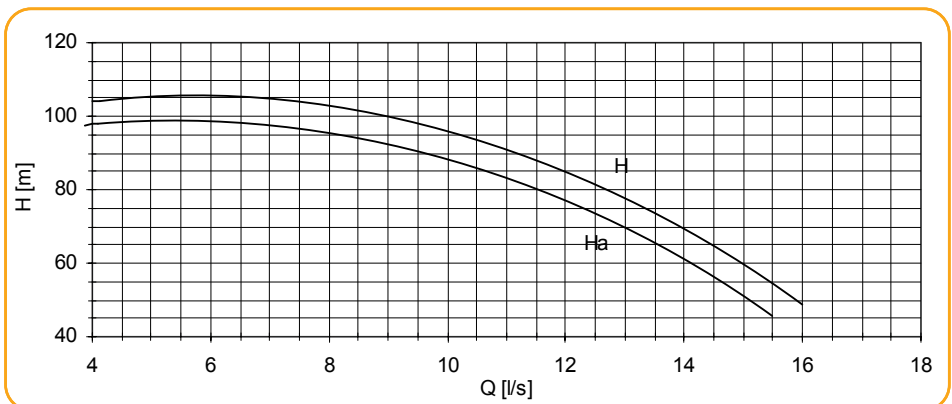


Net Positive
Suction Head

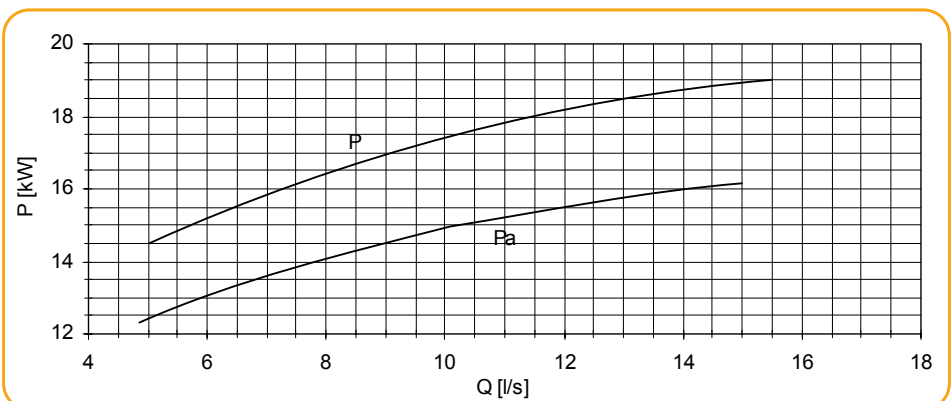


Pump performance curves

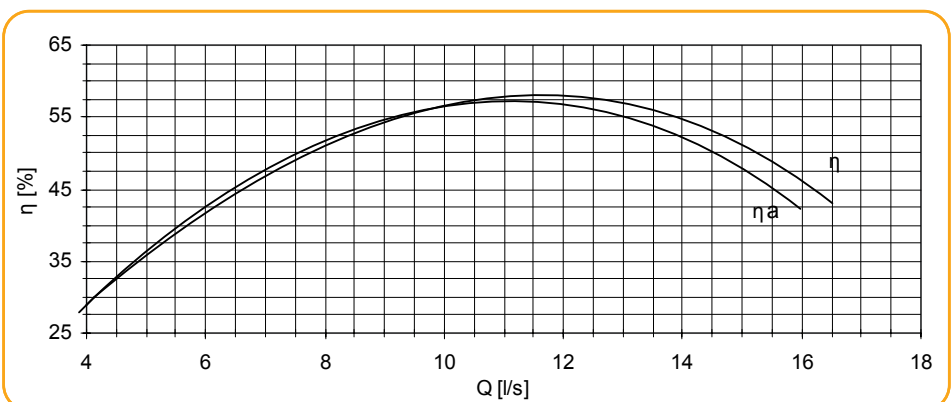
Total
Differential
Head



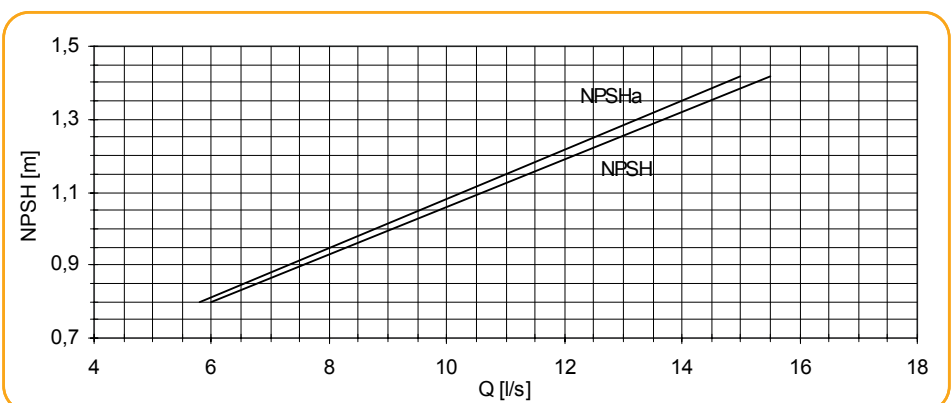
Power Input



Efficiency



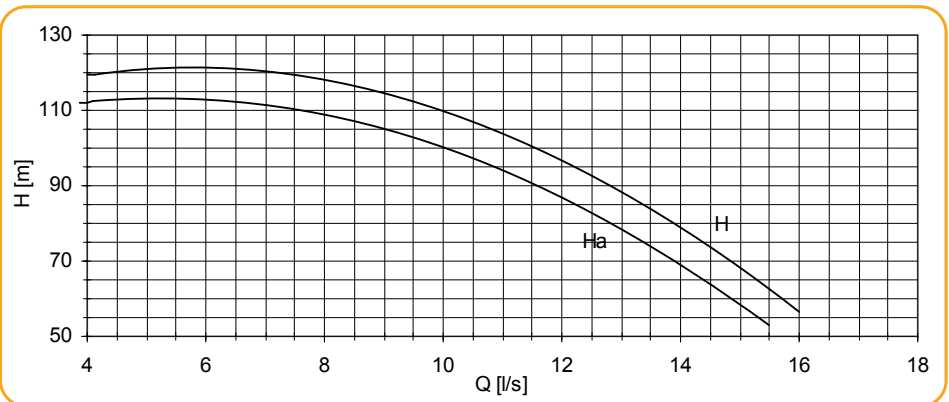
Net Positive
Suction Head



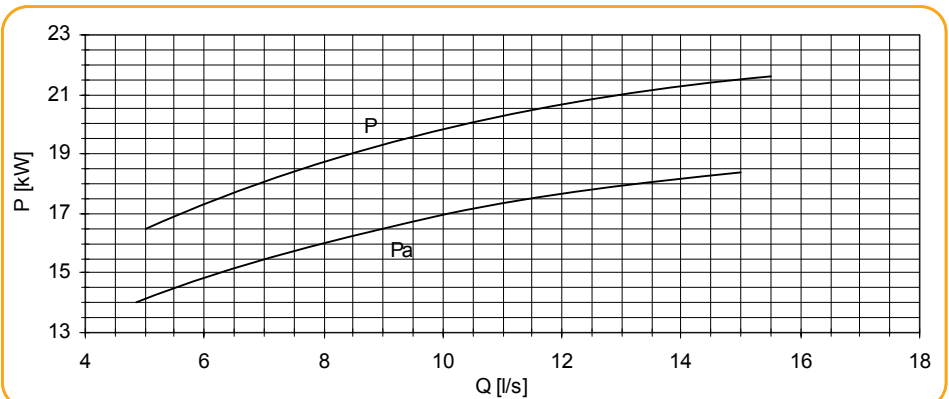
Pump performance curves

KCP 62-8
n = 1450 (rpm)

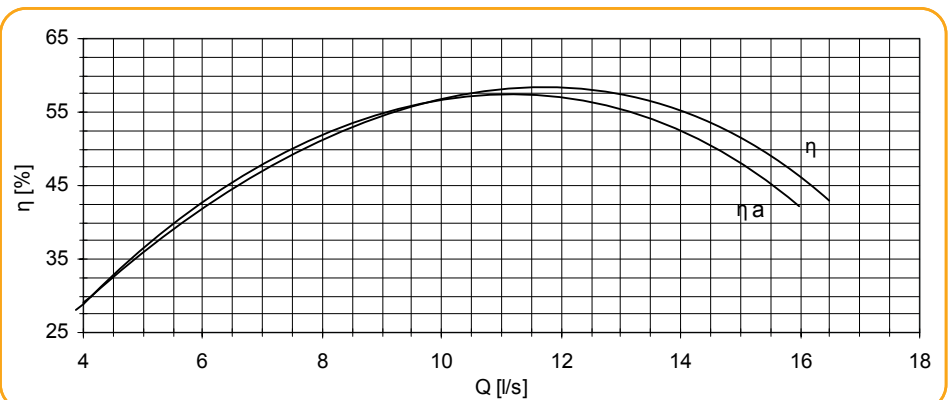
Total
Differential
Head



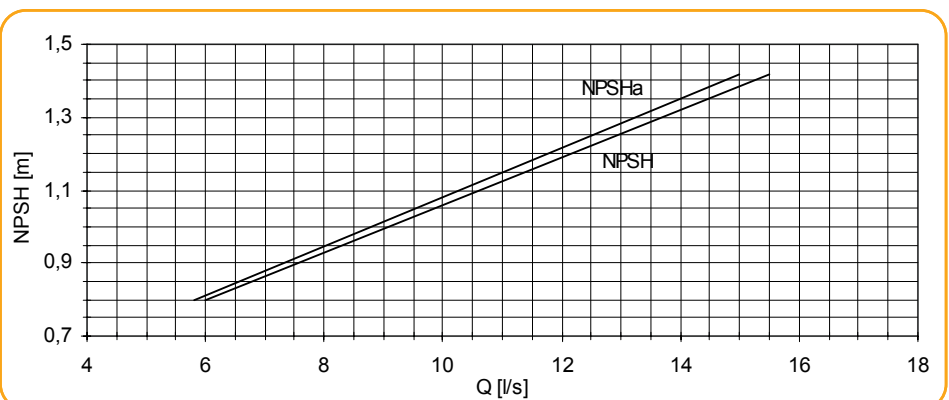
Power Input



Efficiency

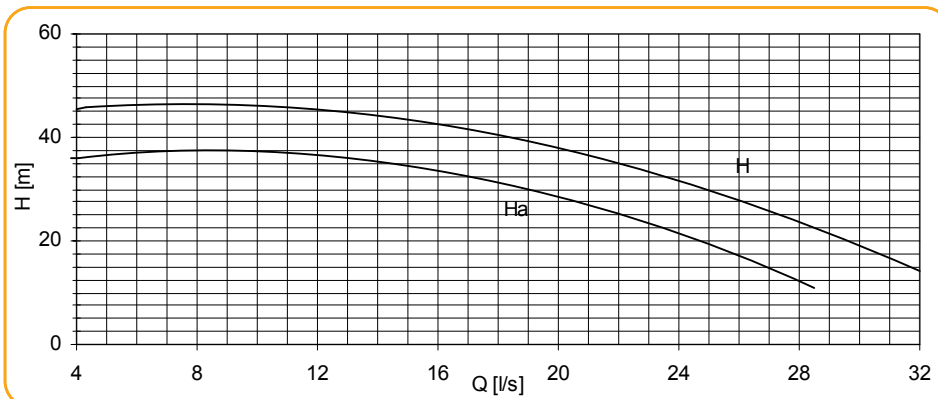


Net Positive
Suction Head

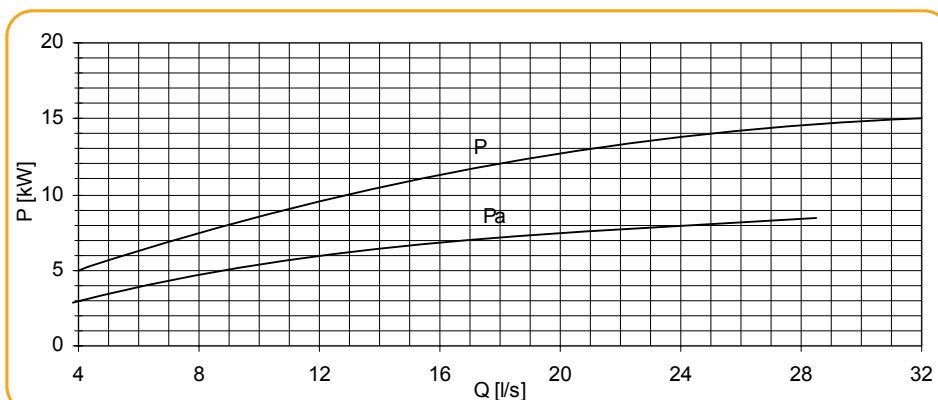


Pump performance curves

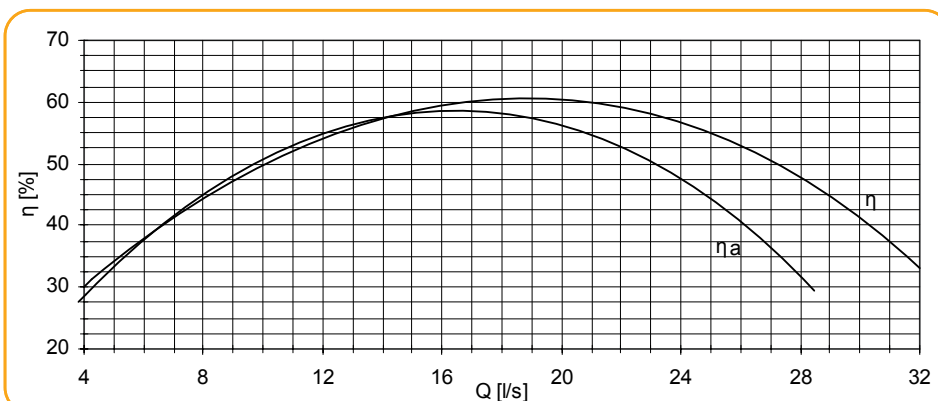
Total
Differential
Head



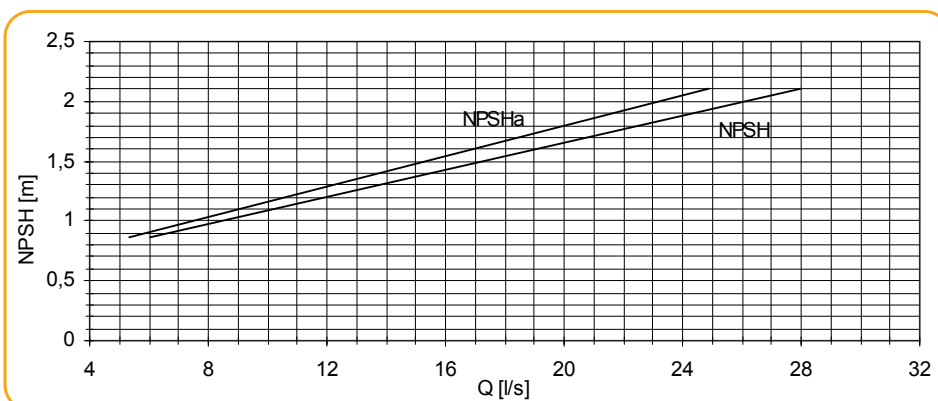
Power Input



Efficiency



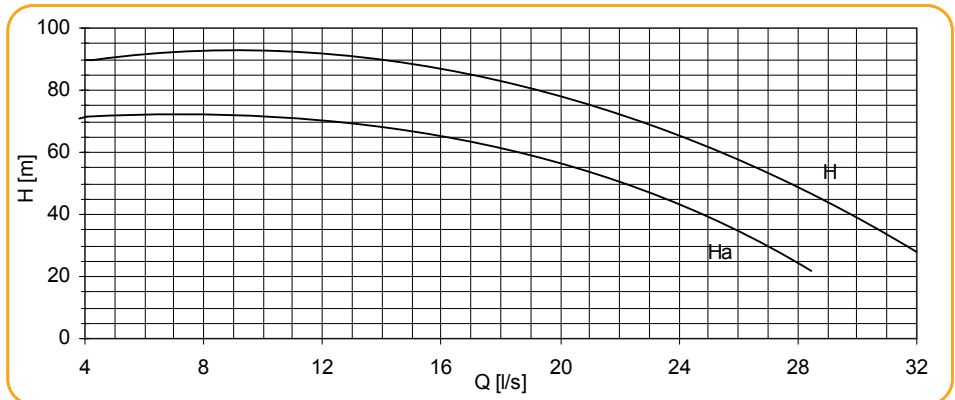
Net Positive
Suction Head



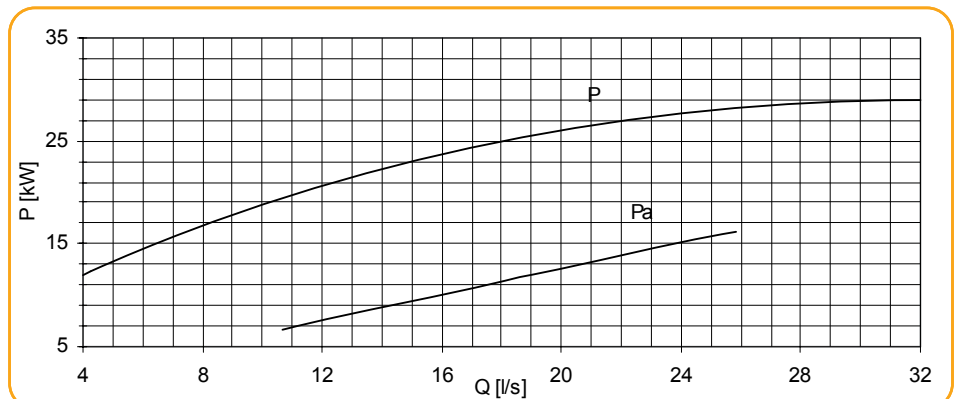
Pump performance curves

KCP 122-4
n = 1450 (rpm)

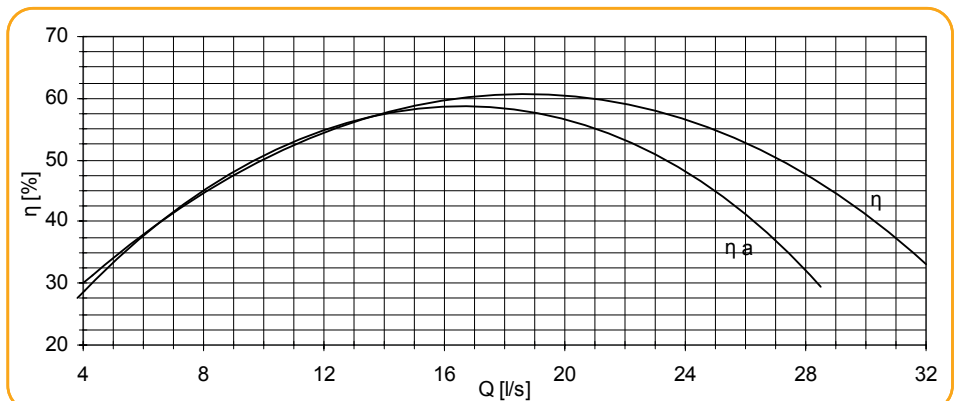
Total
Differential
Head



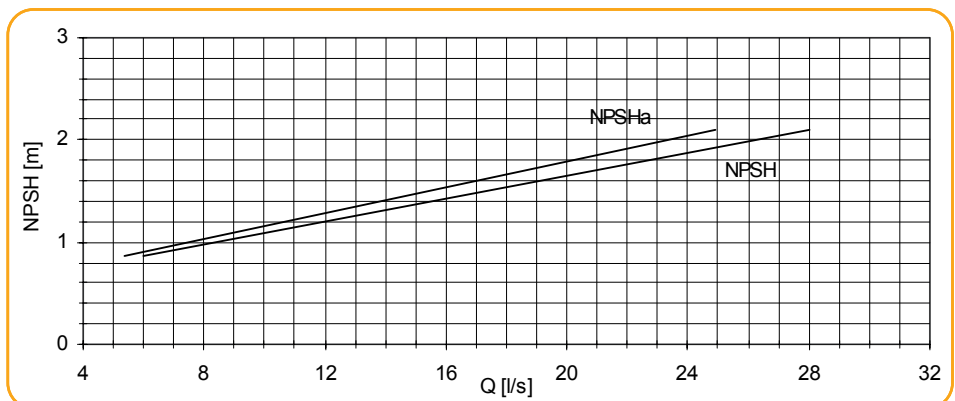
Power Input



Efficiency

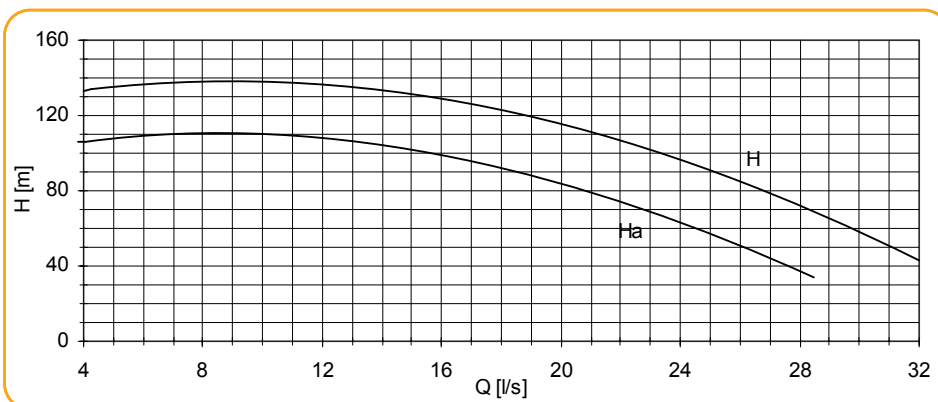


Net Positive
Suction Head

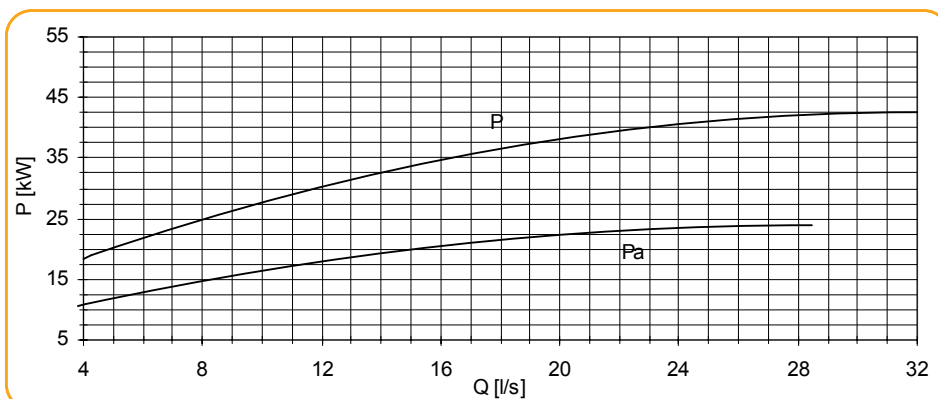


Pump performance curves

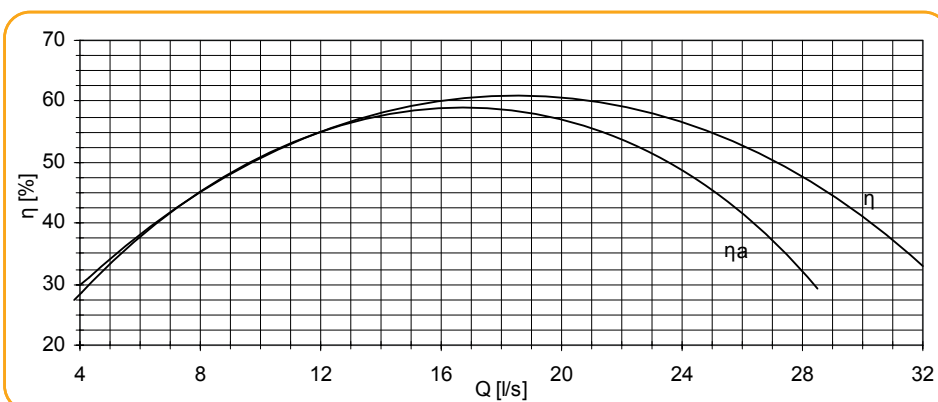
Total
Differential
Head



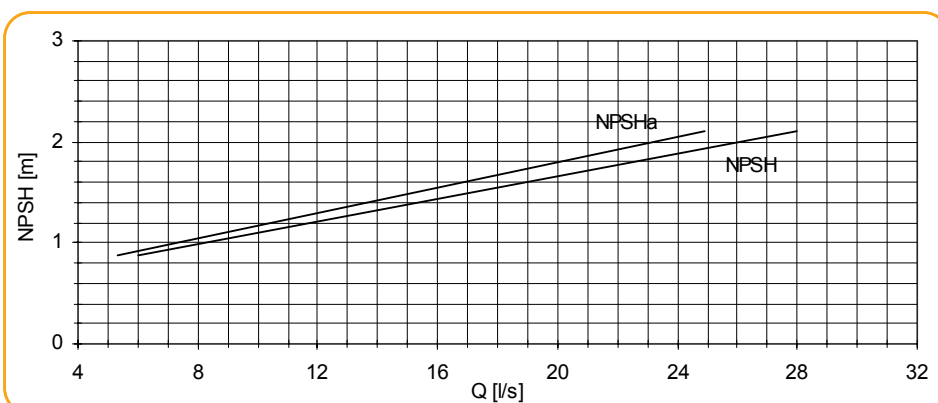
Power Input



Efficiency



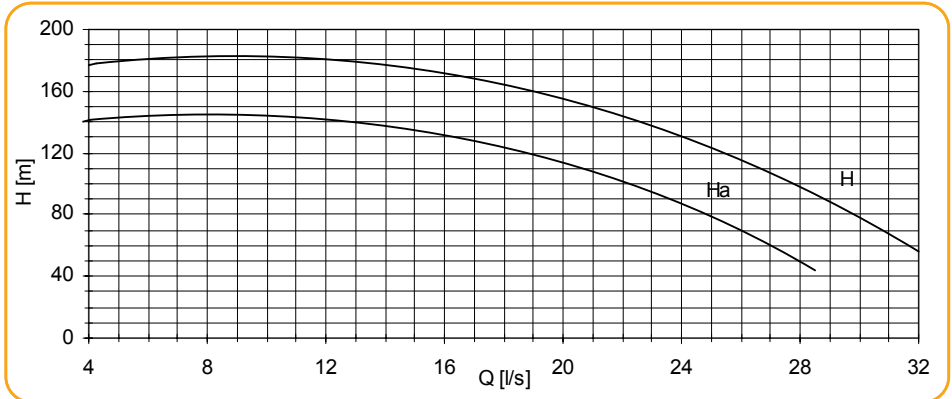
Net Positive
Suction Head



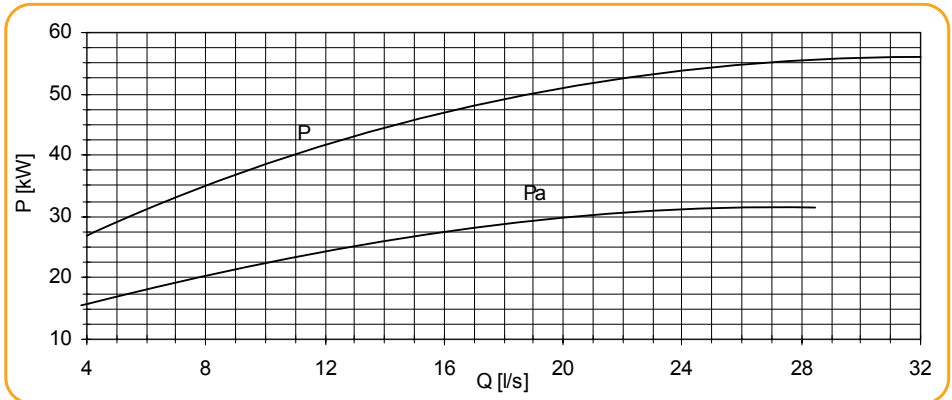
Pump performance curves

KCP 122-8
n = 1450 (rpm)

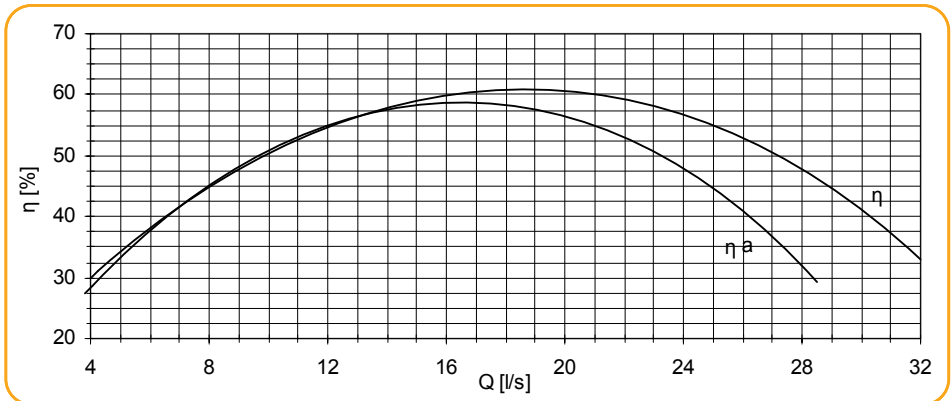
Total
Differential
Head



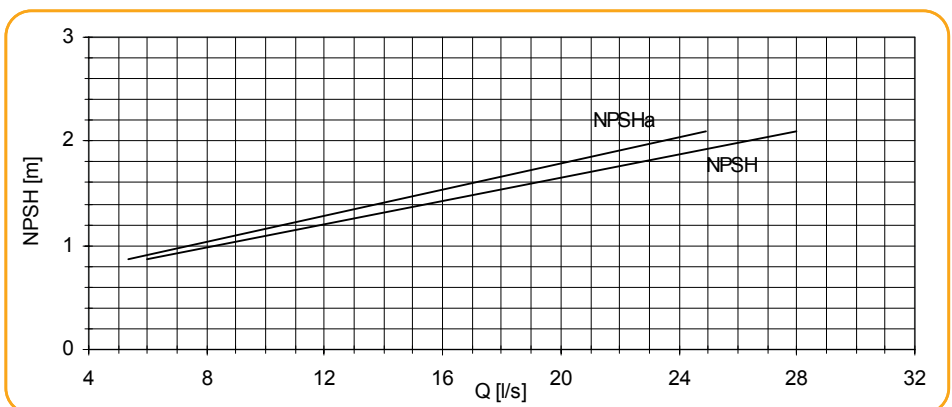
Power Input



Efficiency

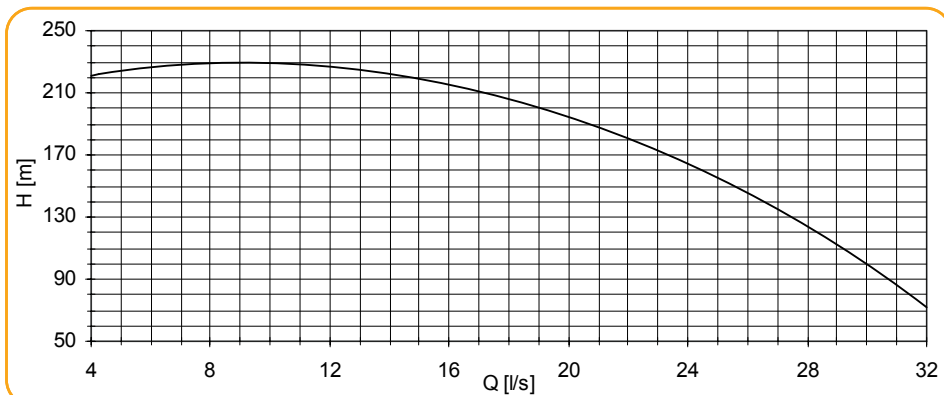


Net Positive
Suction Head

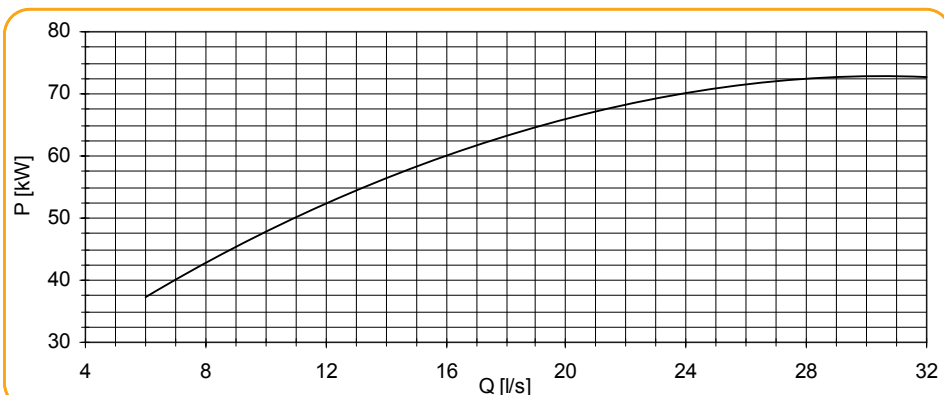


Pump performance curves

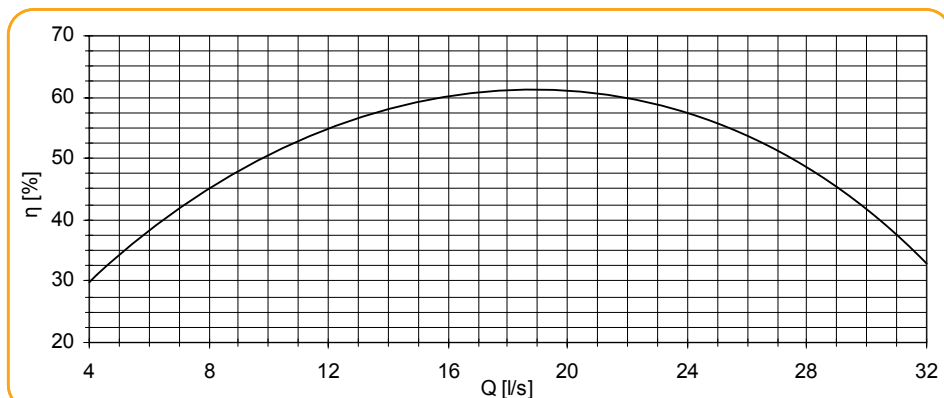
Total
Differential
Head



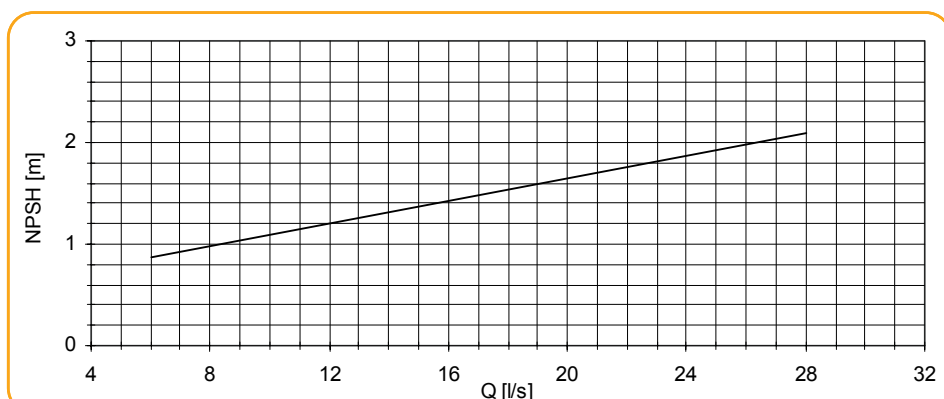
Power Input



Efficiency

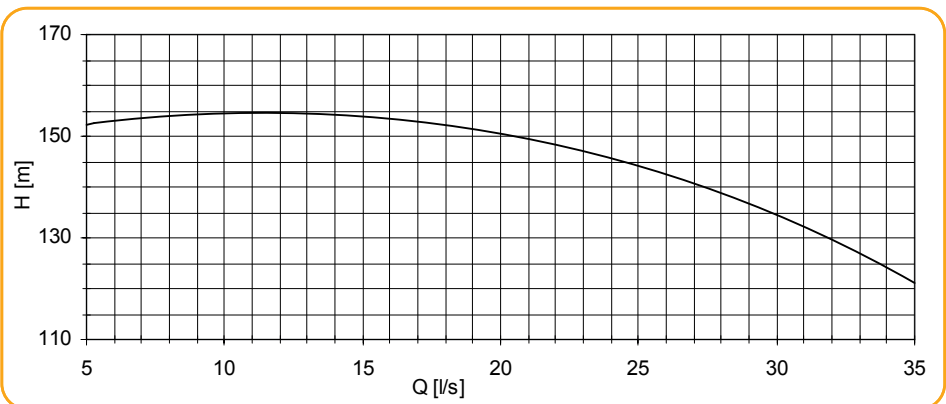


Net Positive
Suction Head

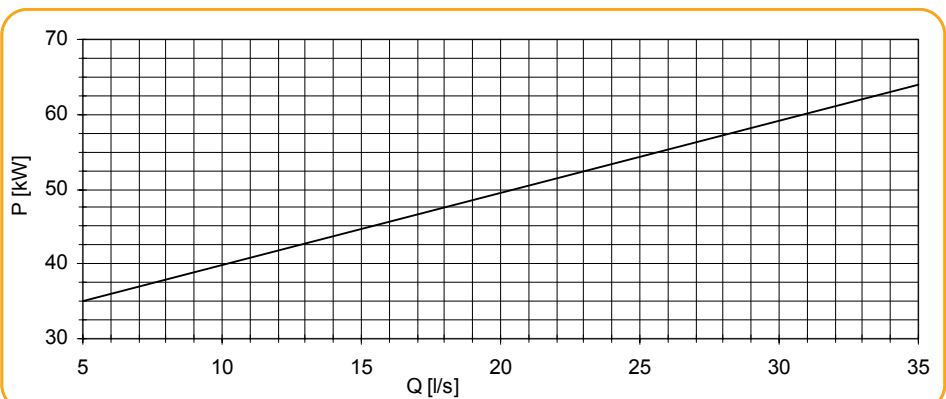


Pump performance curves

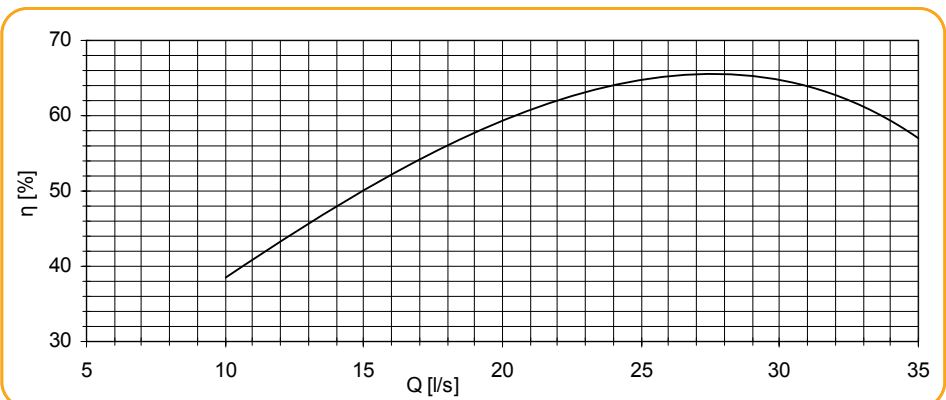
Total
Differential
Head



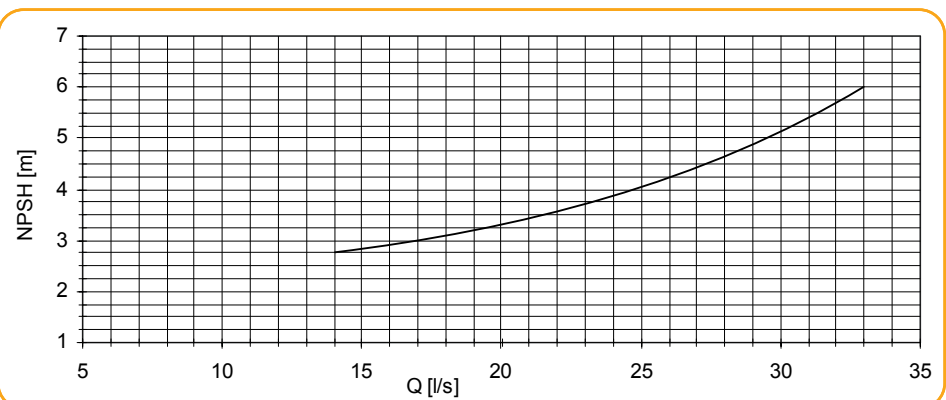
Power Input



Efficiency

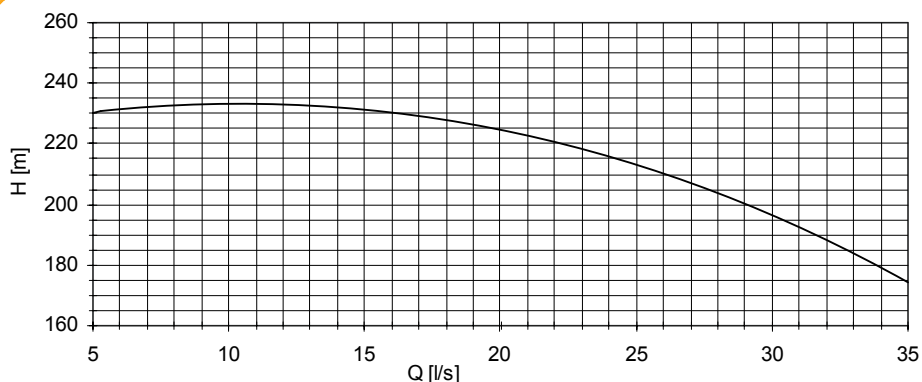


Net Positive
Suction Head

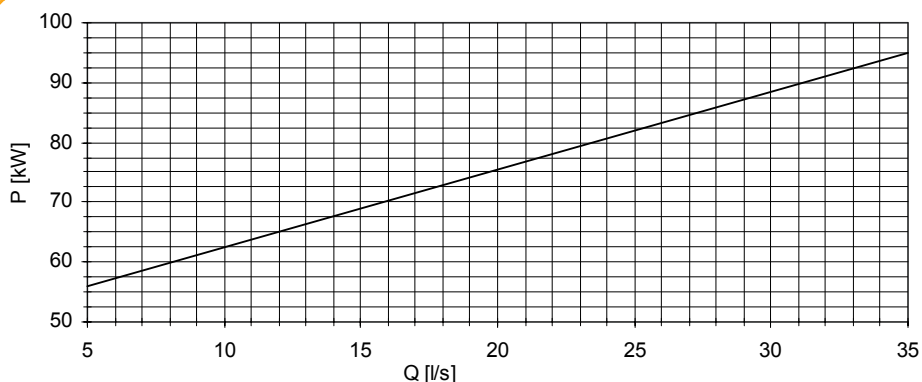


Pump performance curves

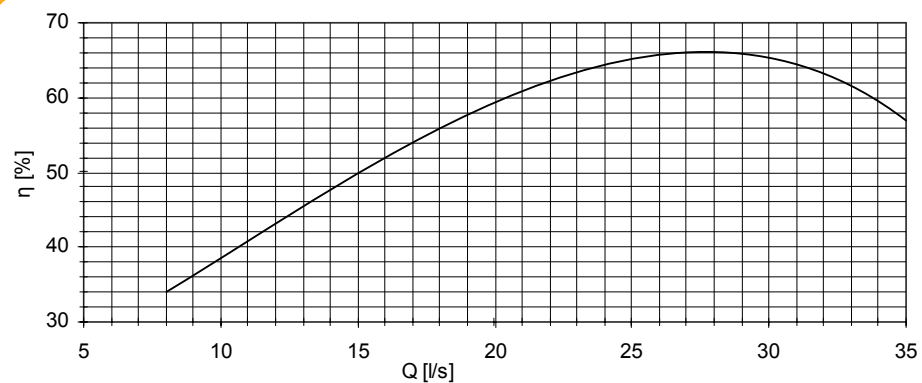
Total
Differential
Head



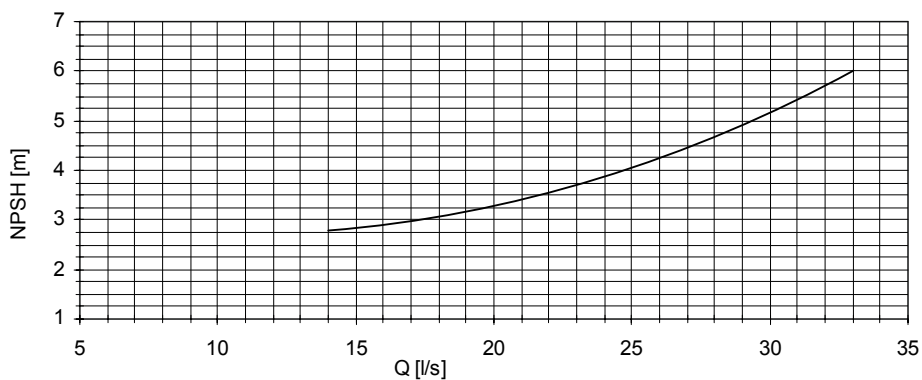
Power Input



Efficiency



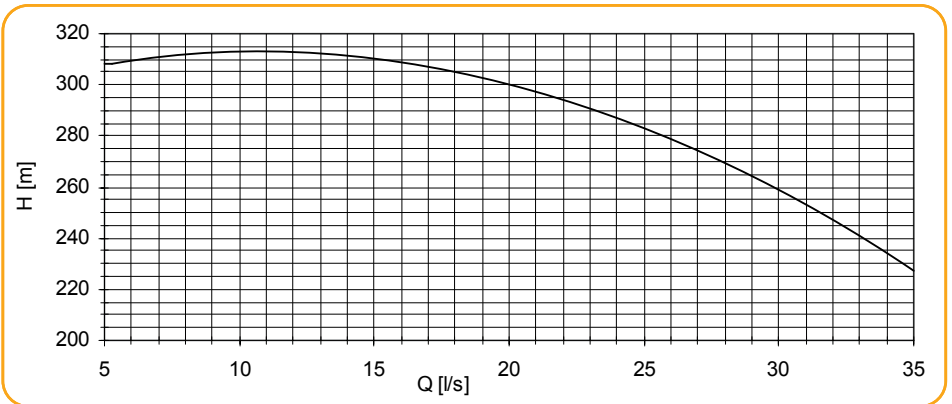
Net Positive
Suction Head



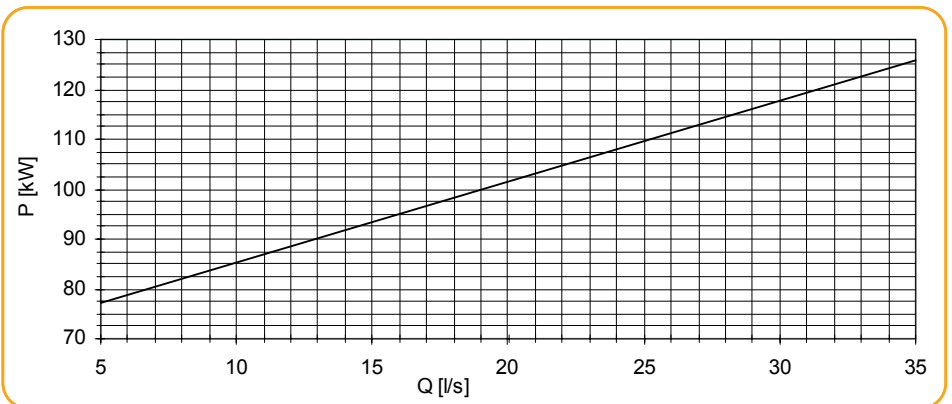
Pump performance curves

KCP 162-4
n =2900 (rpm)

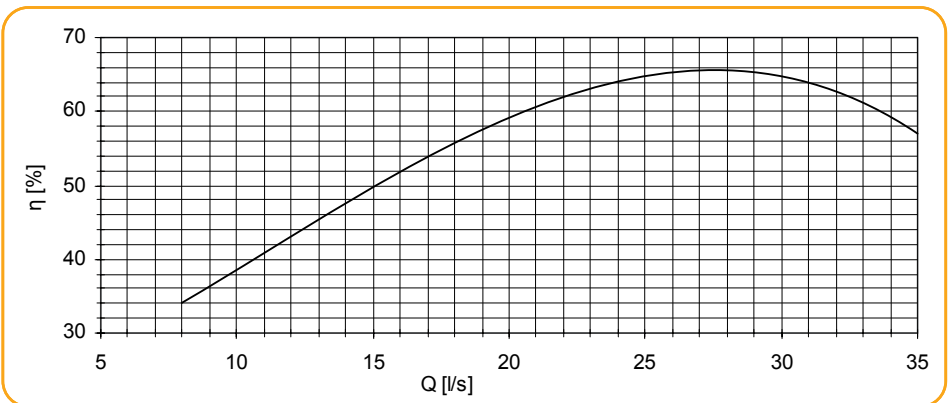
Total
Differential
Head



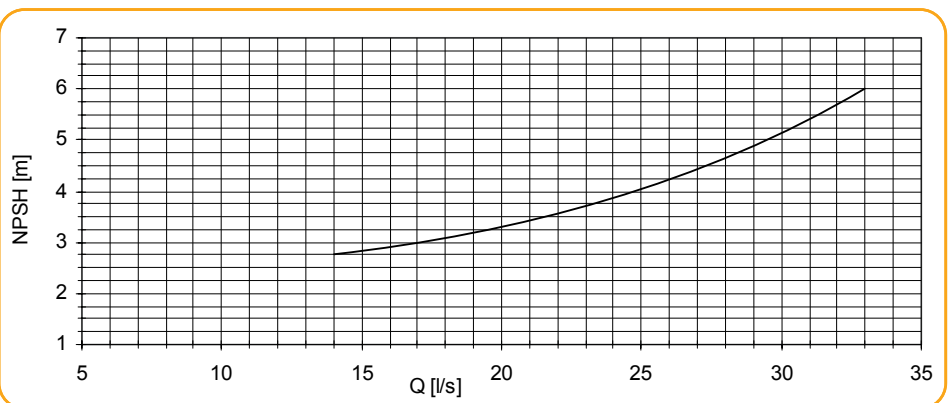
Power Input



Efficiency

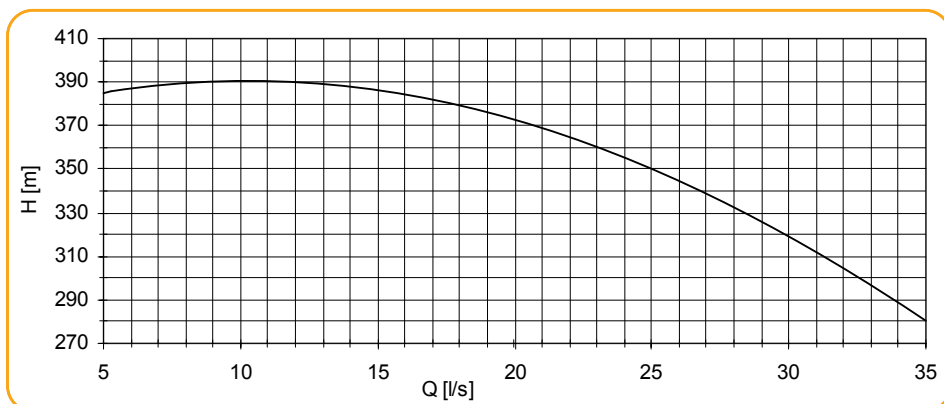


Net Positive
Suction Head

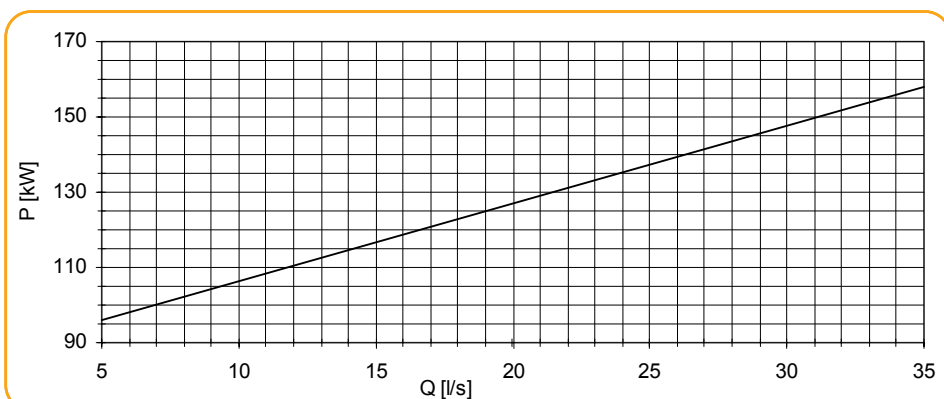


Pump performance curves

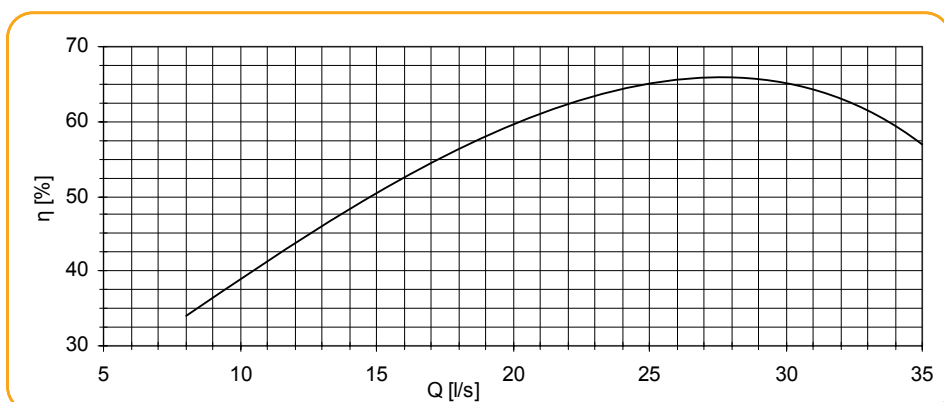
Total
Differential
Head



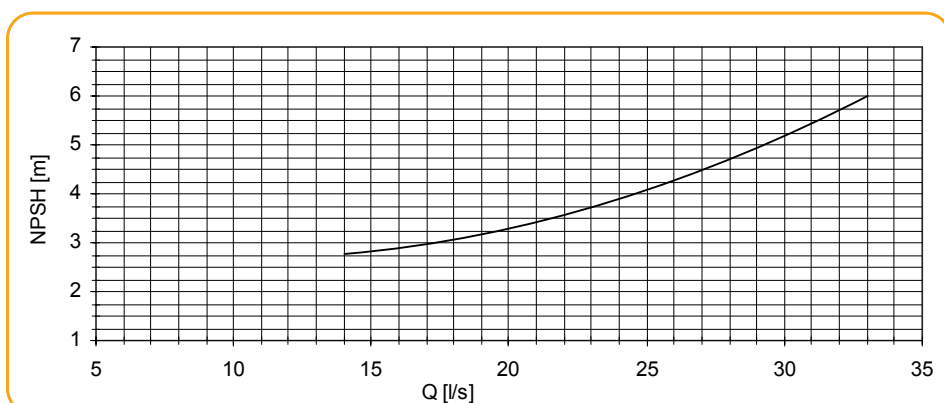
Power Input



Efficiency



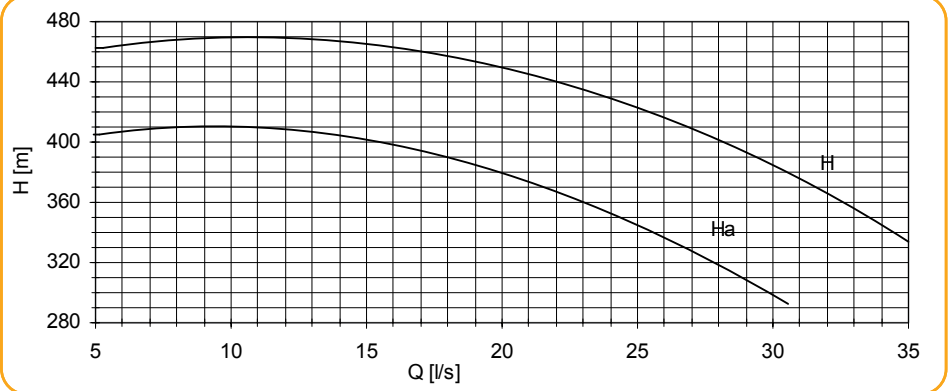
Net Positive
Suction Head



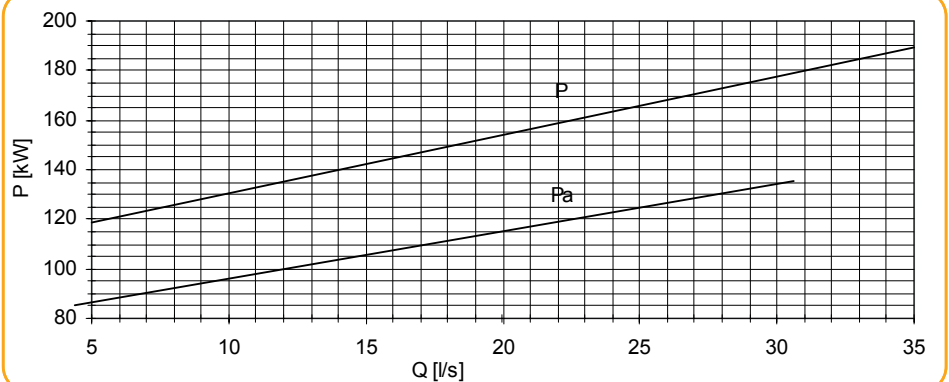
Pump performance curves

KCP 162-6
n =2900 (rpm)

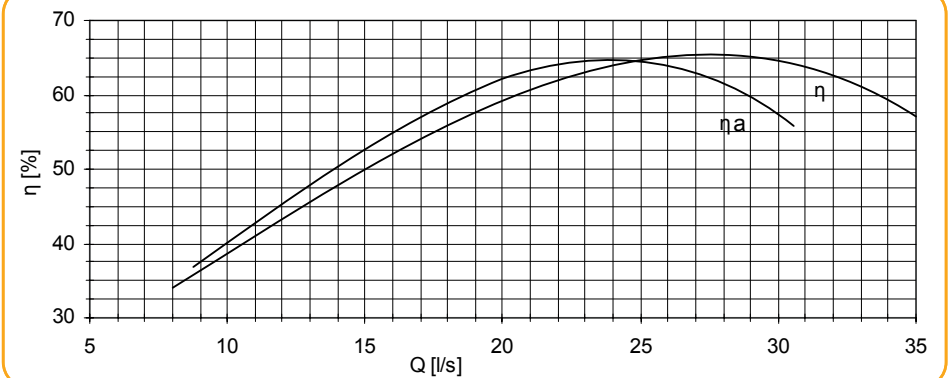
Total
Differential
Head



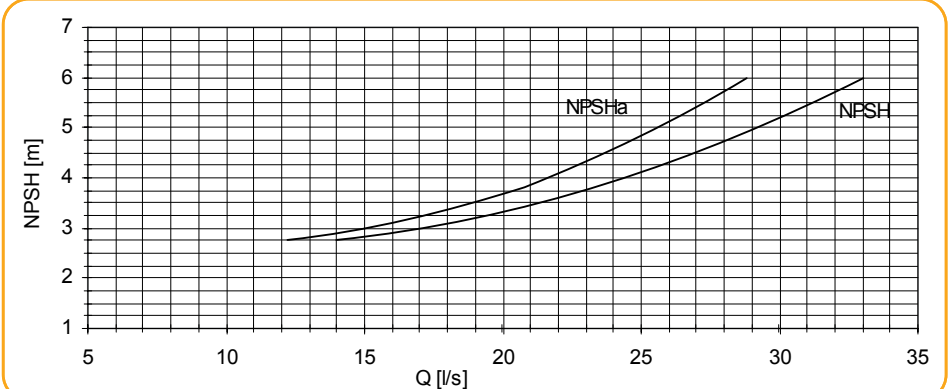
Power Input



Efficiency

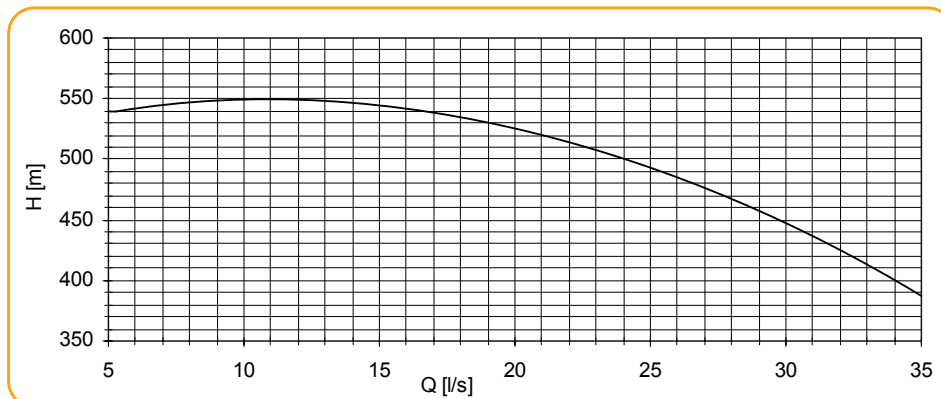


Net Positive
Suction Head

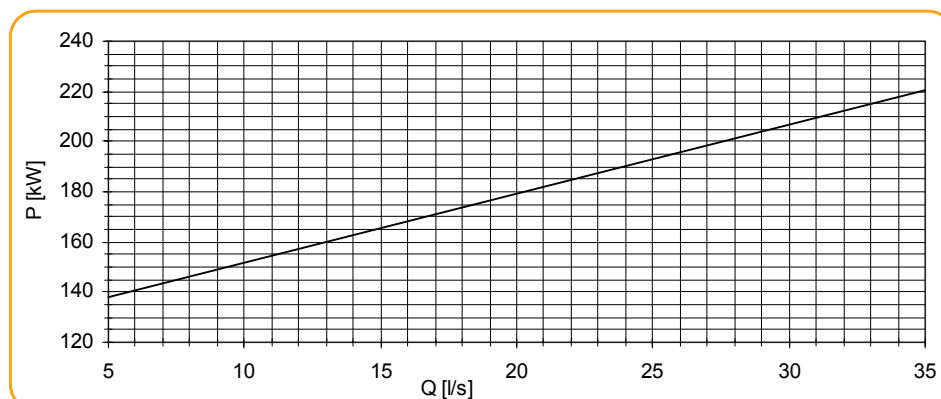


Pump performance curves

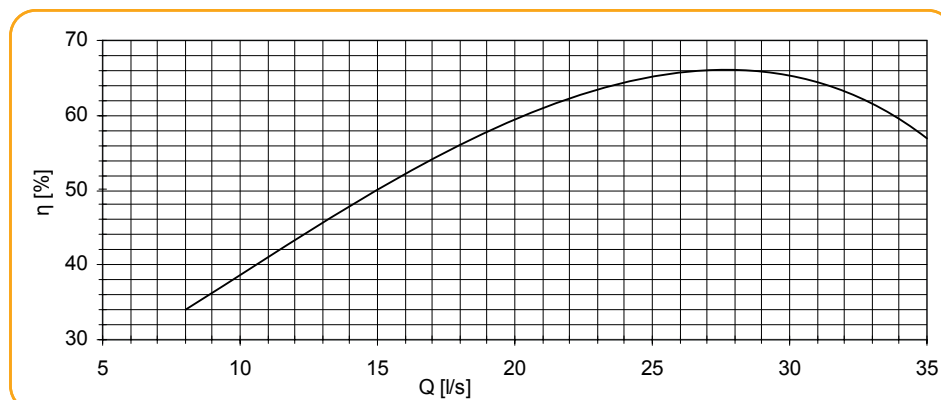
Total
Differential
Head



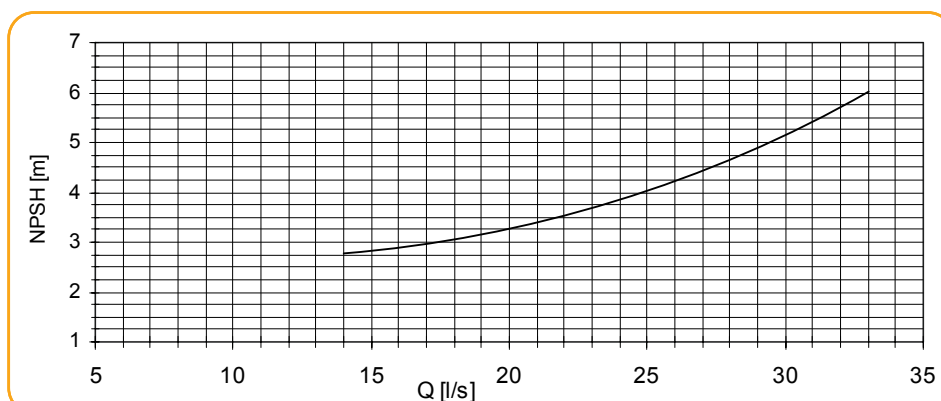
Power Input



Efficiency



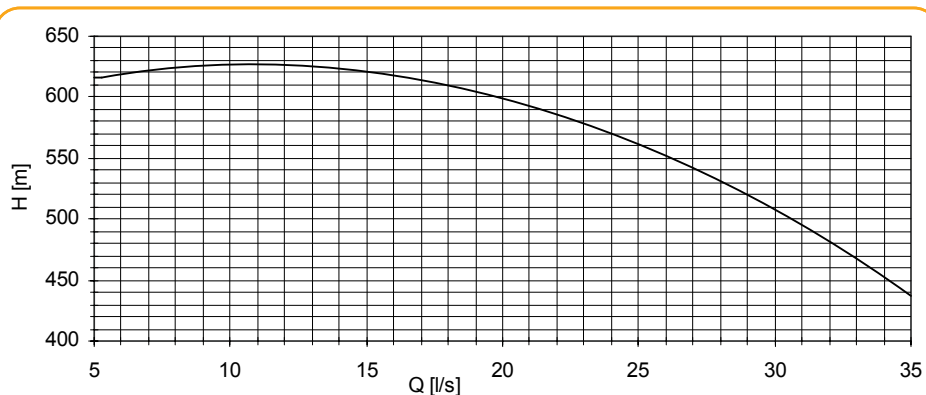
Net Positive
Suction Head



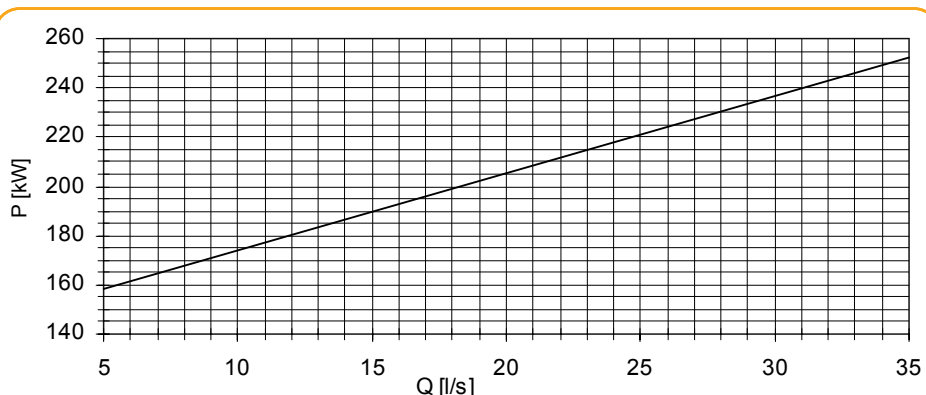
Pump performance curves

KCP 162-8
n = 2900 (rpm)

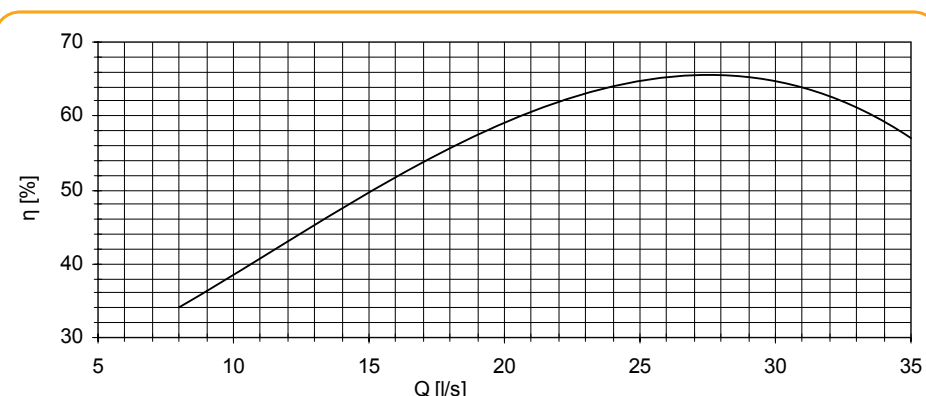
Total
Differential
Head



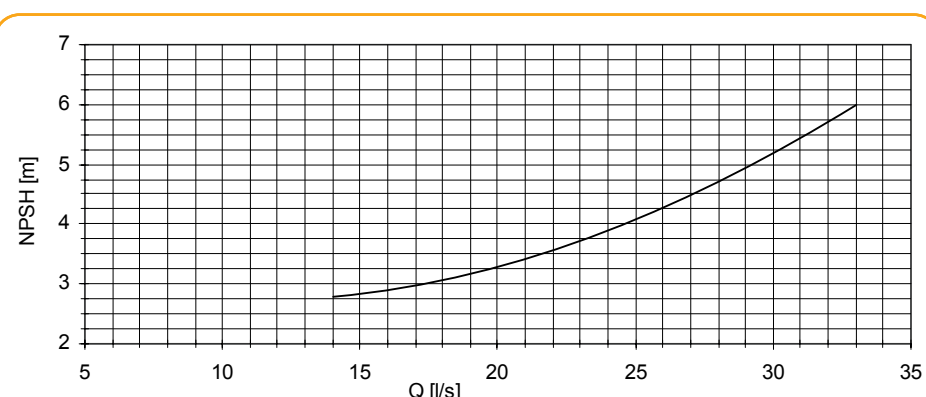
Power Input



Efficiency

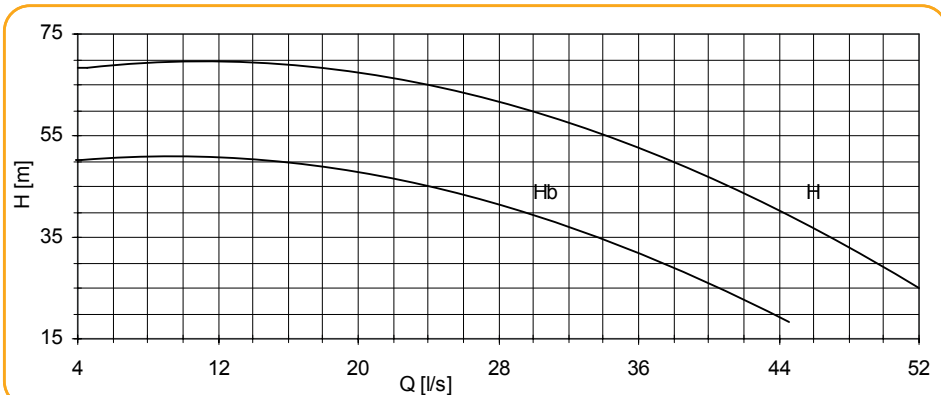


Net Positive
Suction Head

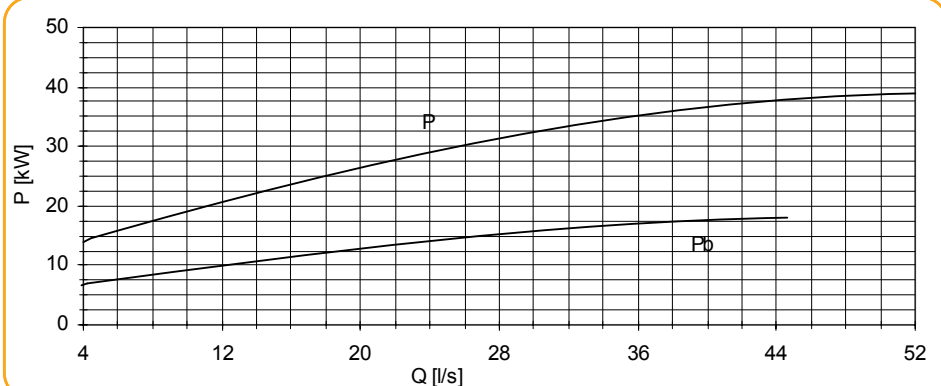


Pump performance curves

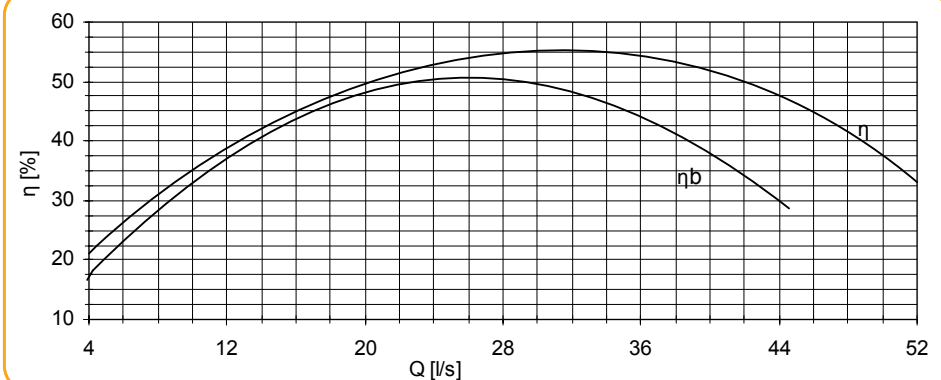
Total
Differential
Head



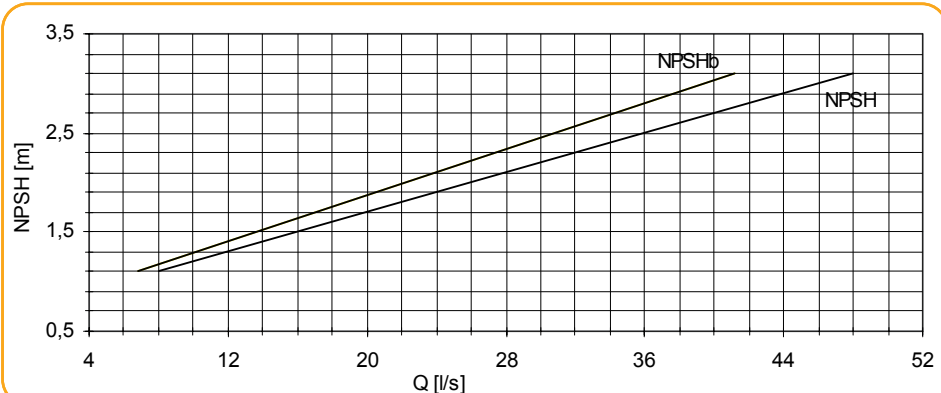
Power Input



Efficiency

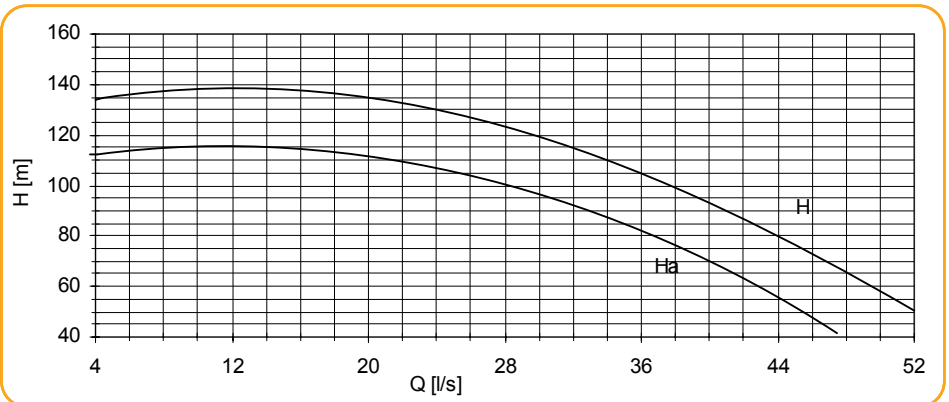


Net Positive
Suction Head

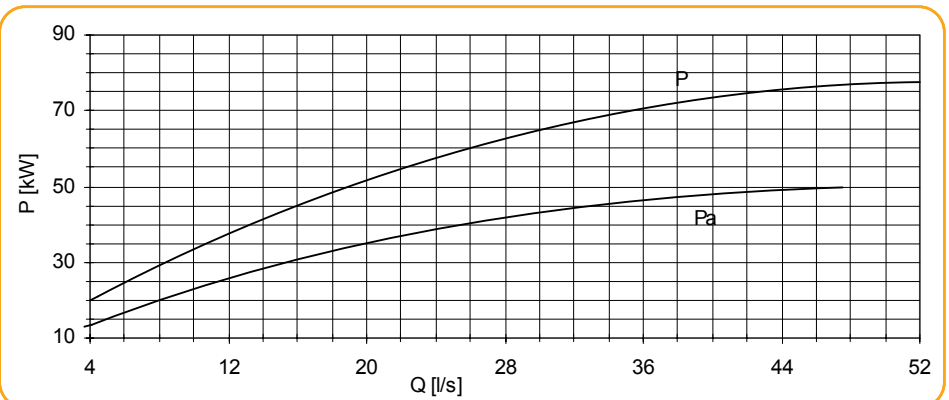


Pump performance curves

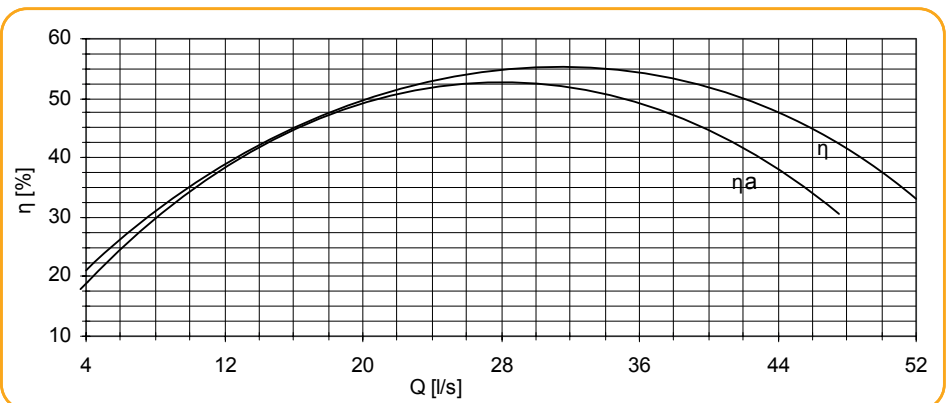
Total
Differential
Head



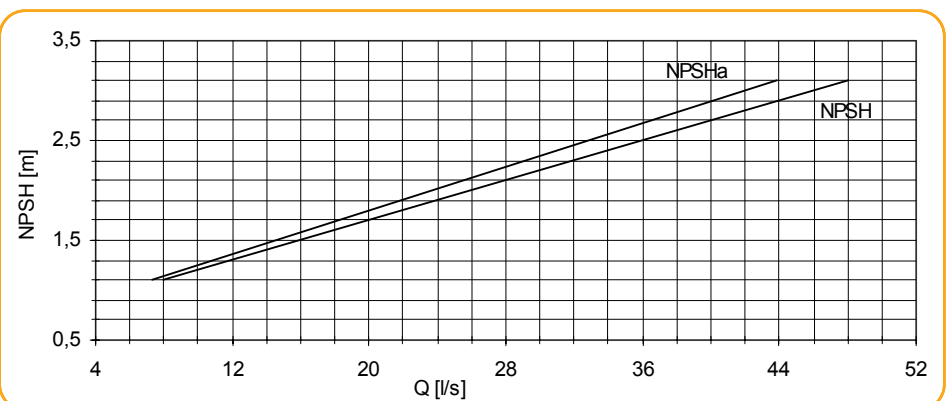
Power Input



Efficiency

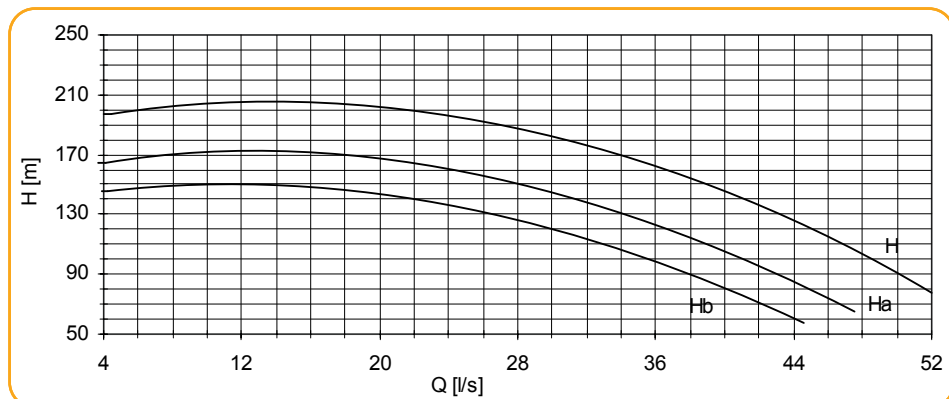


Net Positive
Suction Head

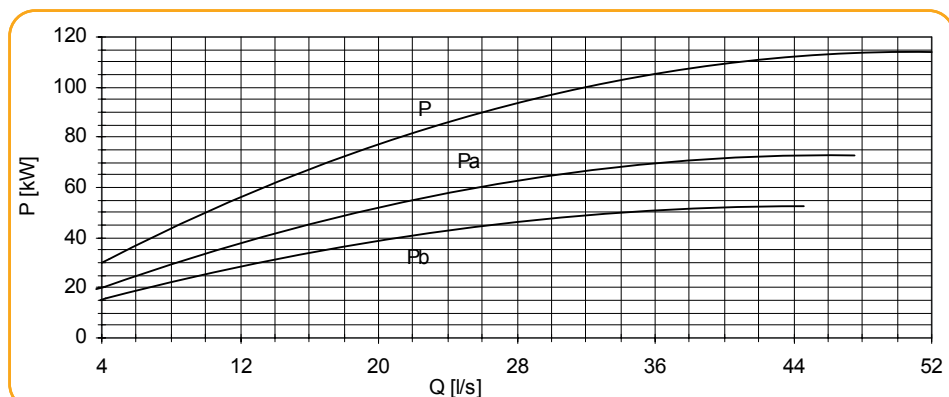


Pump performance curves

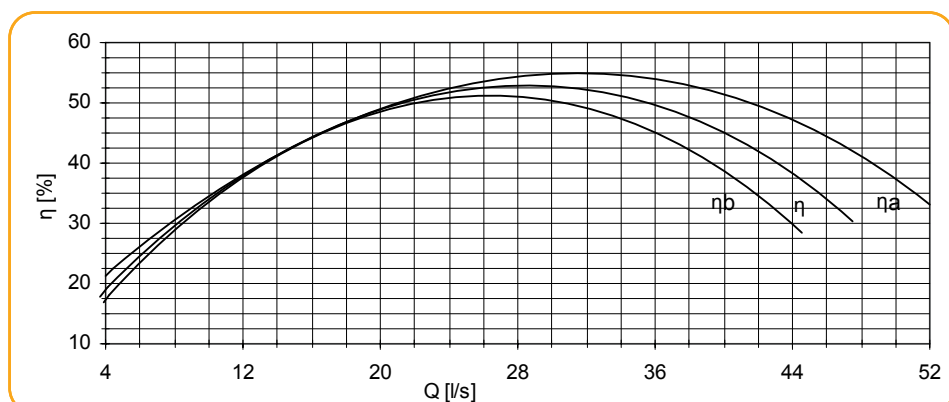
Total
Differential
Head



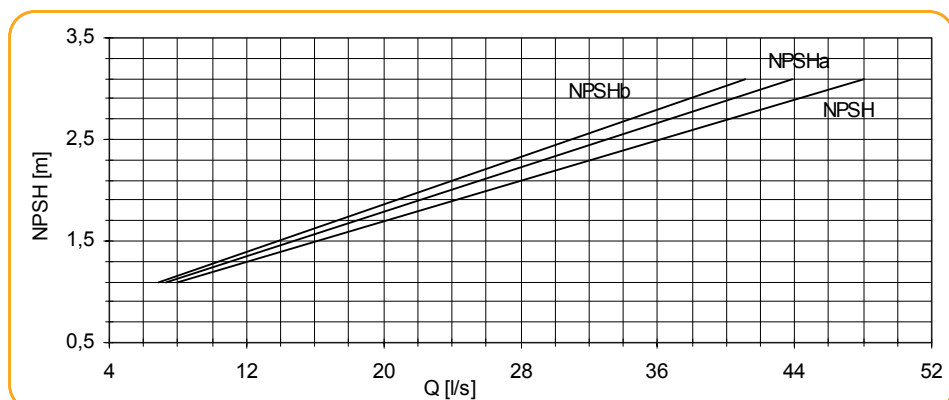
Power Input



Efficiency

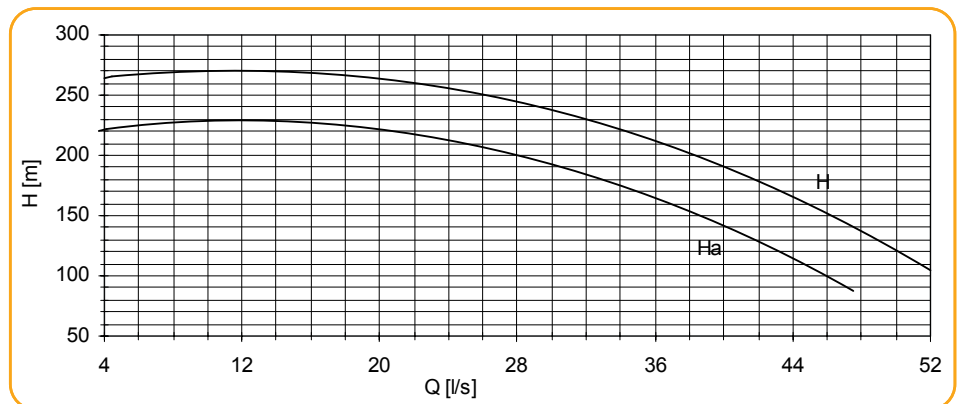


Net Positive
Suction Head

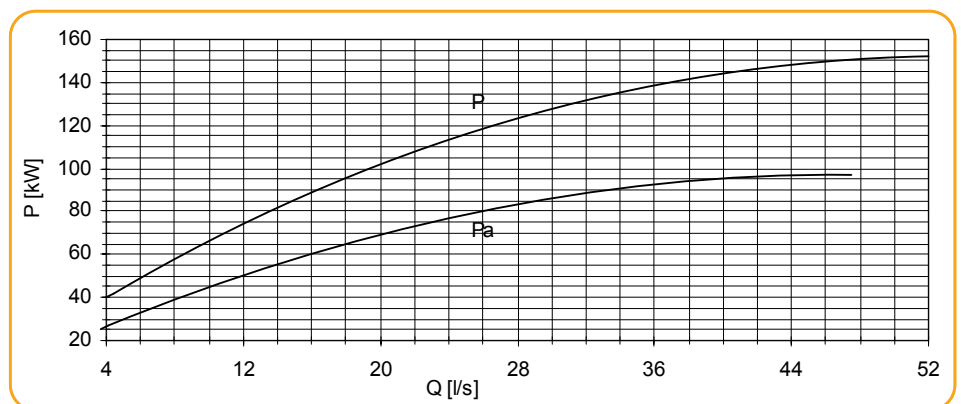


Pump performance curves

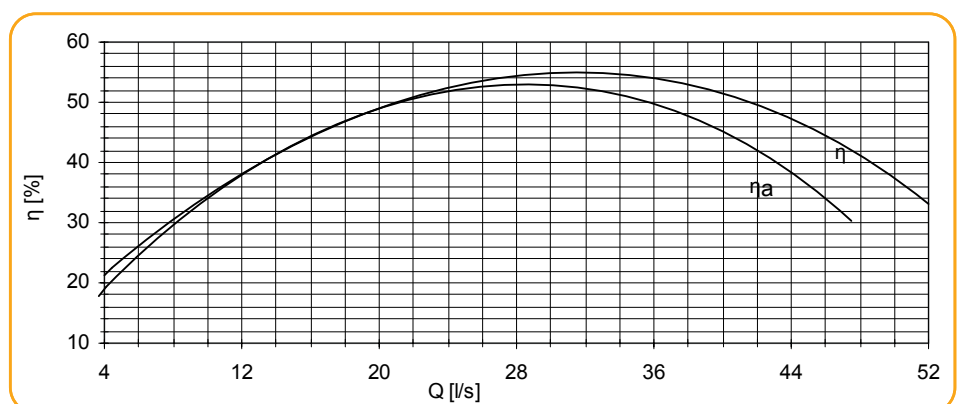
Total
Differential
Head



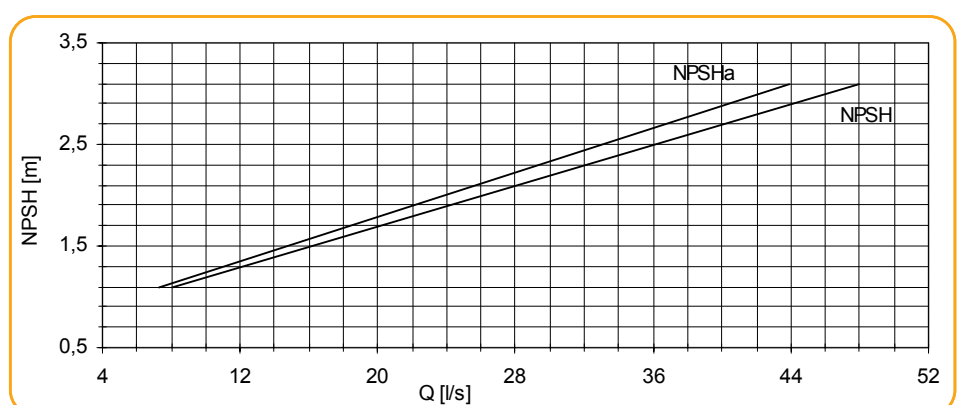
Power Input



Efficiency

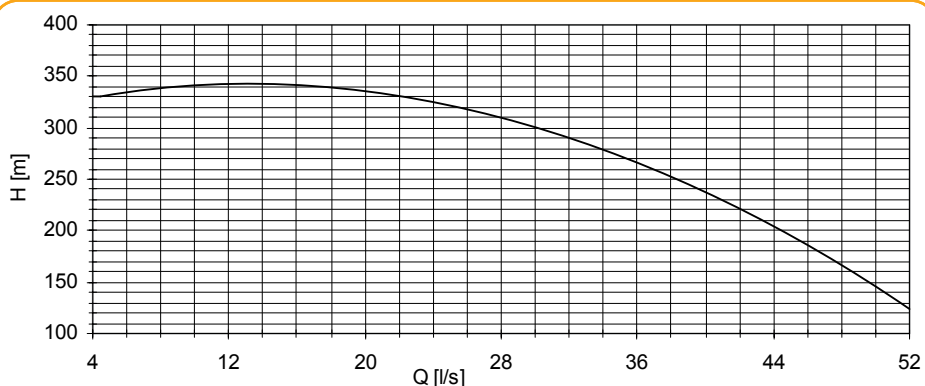


Net Positive
Suction Head

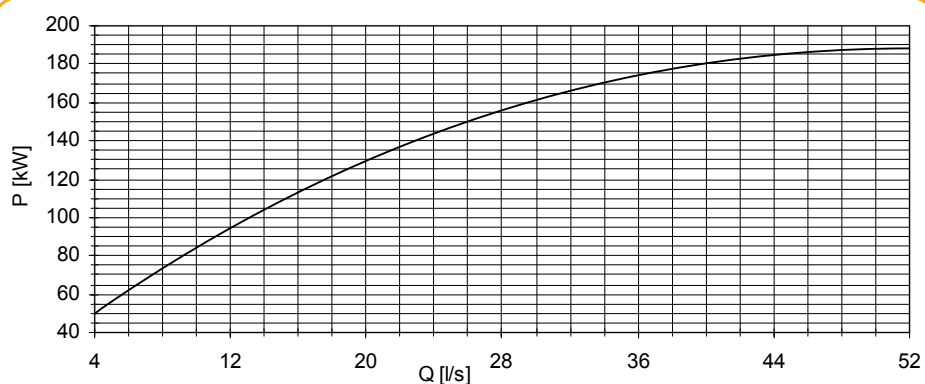


Pump performance curves

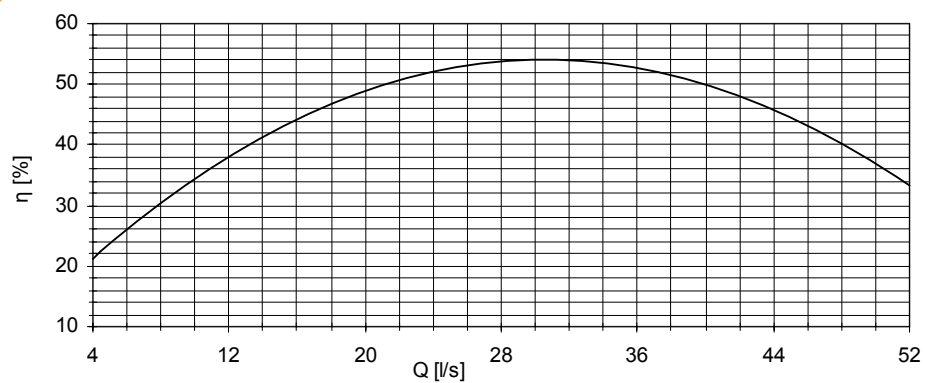
Total
Differential
Head



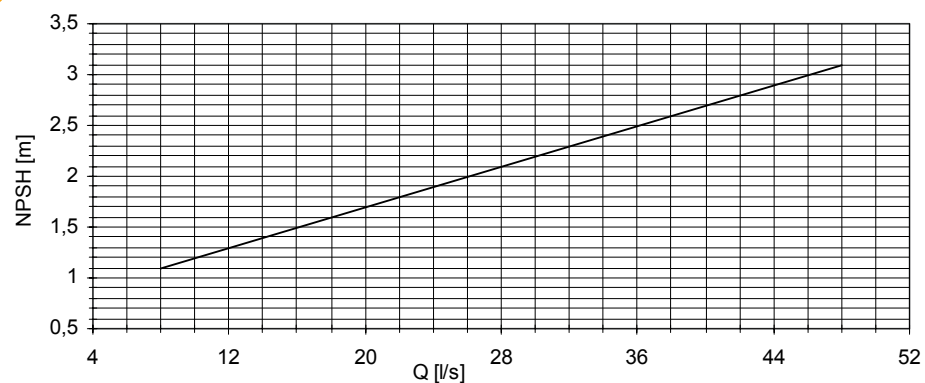
Power Input



Efficiency

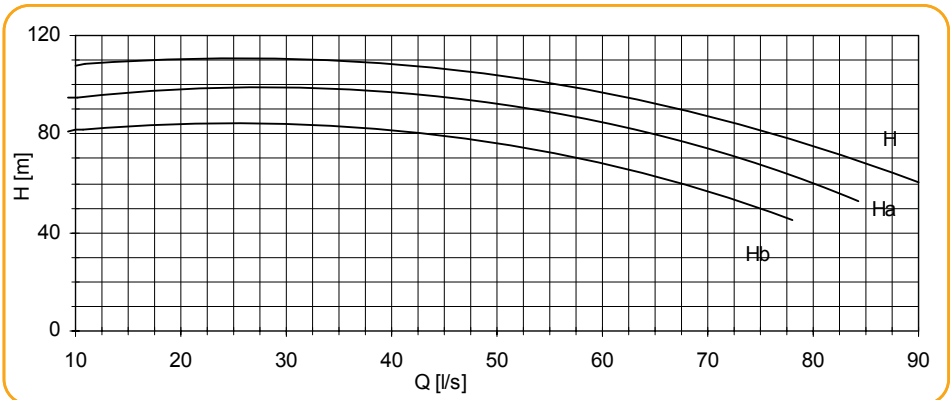


Net Positive
Suction Head

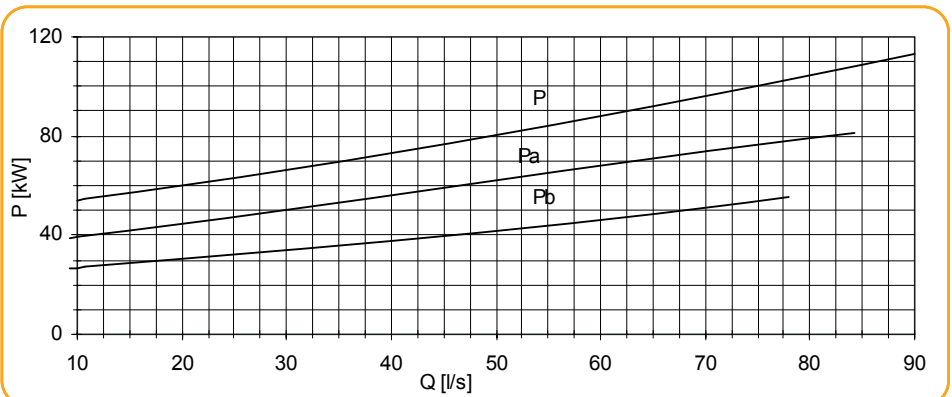


Pump performance curves

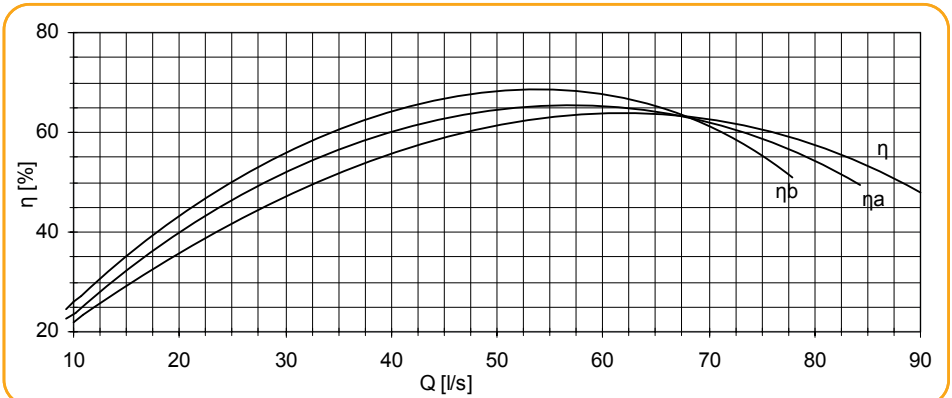
Total
Differential
Head



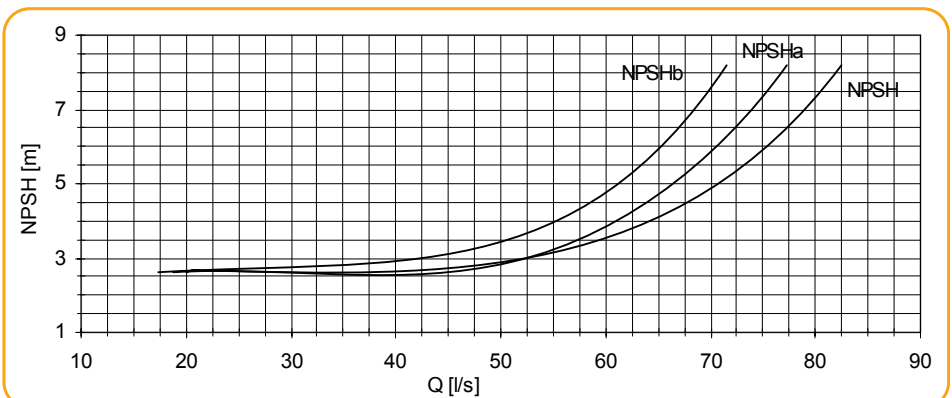
Power Input



Efficiency

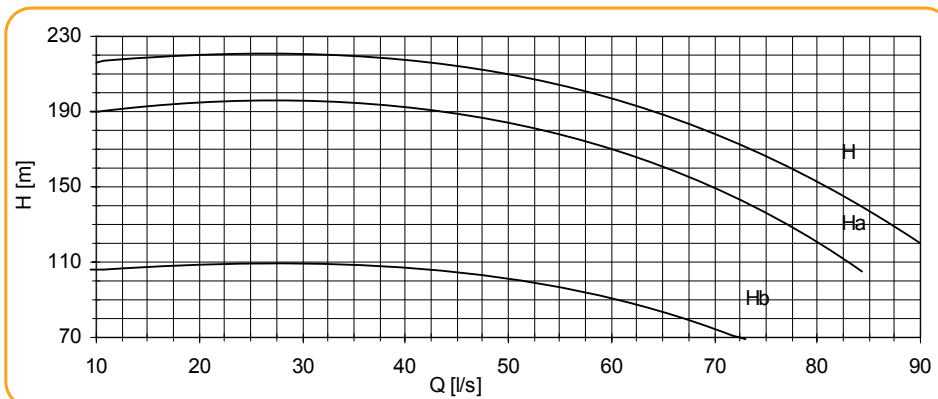


Net Positive
Suction Head

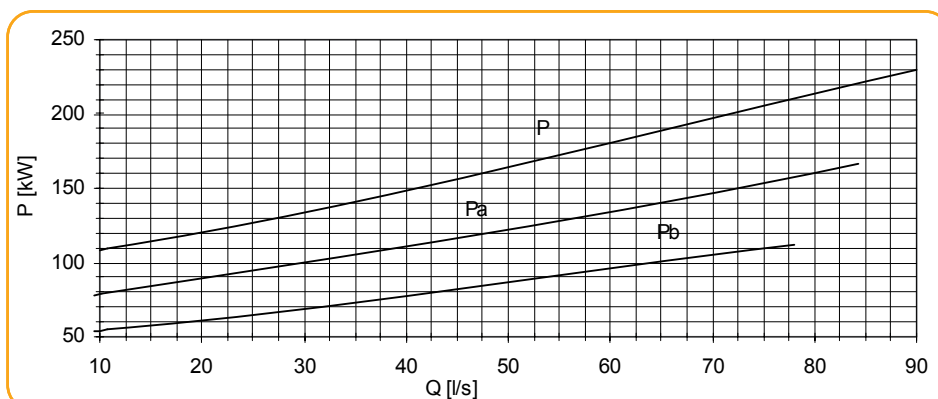


Pump performance curves

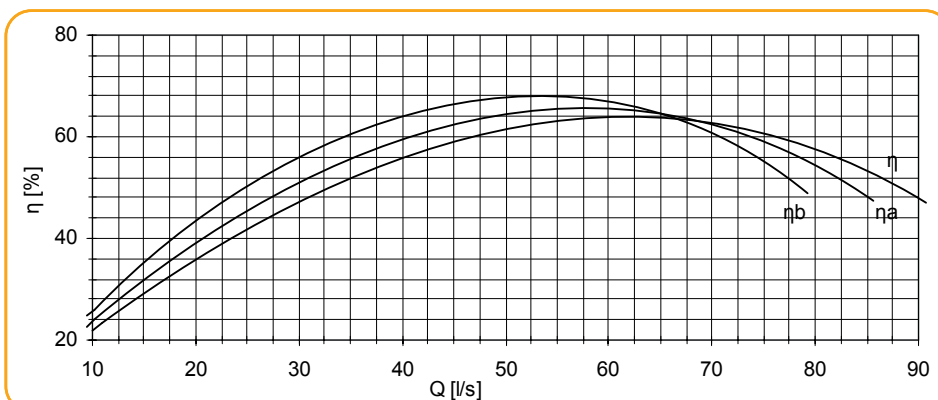
Total
Differential
Head



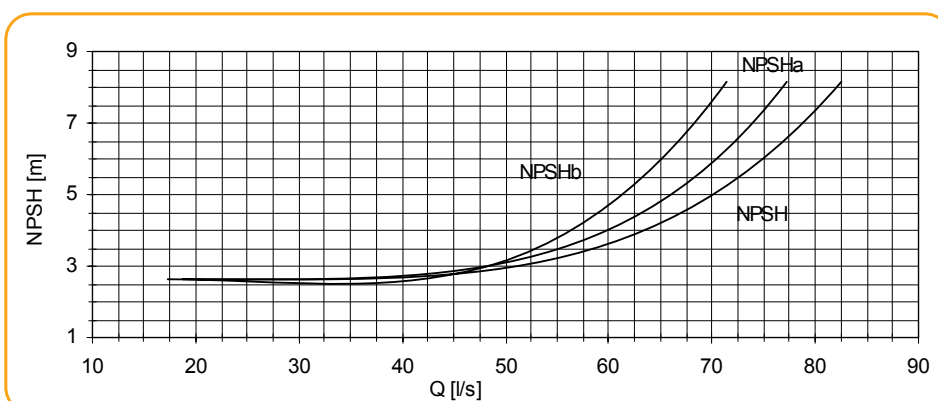
Power Input



Efficiency



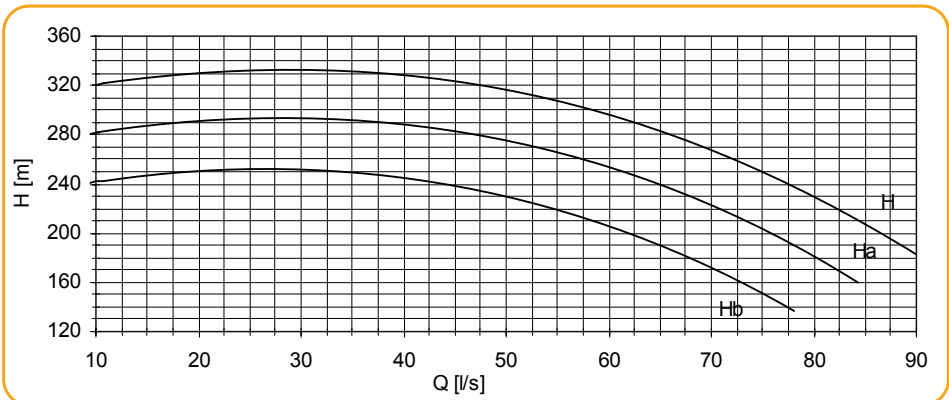
Net Positive
Suction Head



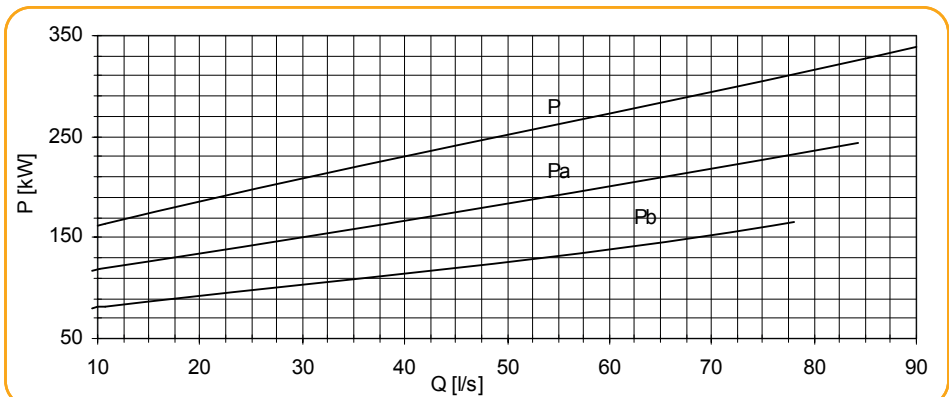
Pump performance curves

KCP 252-6
n = 1450 (rpm)

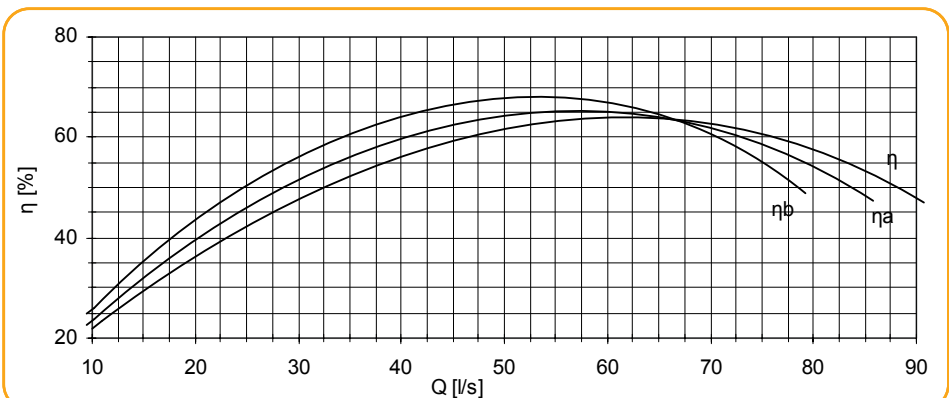
Total
Differential
Head



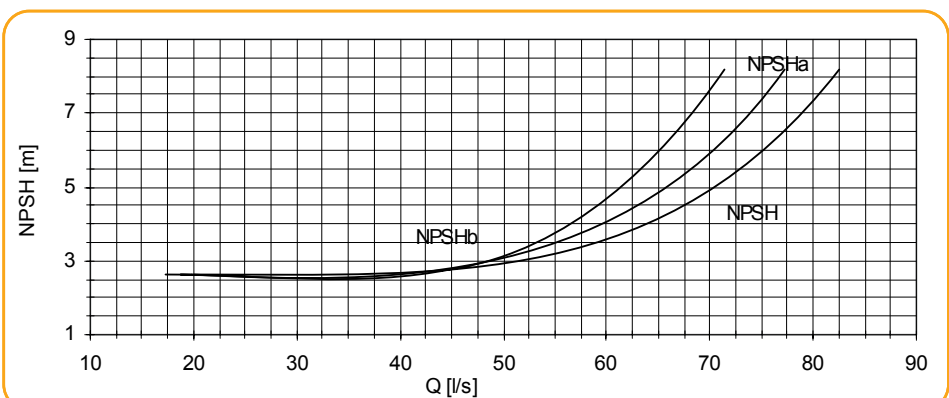
Power Input



Efficiency

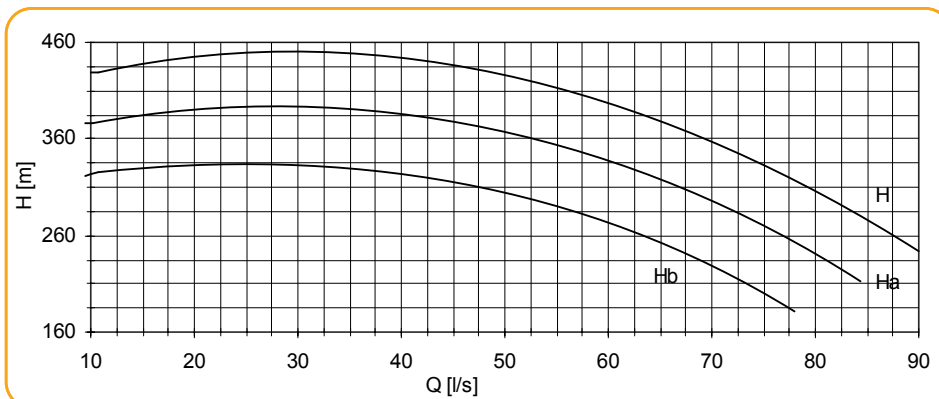


Net Positive
Suction Head

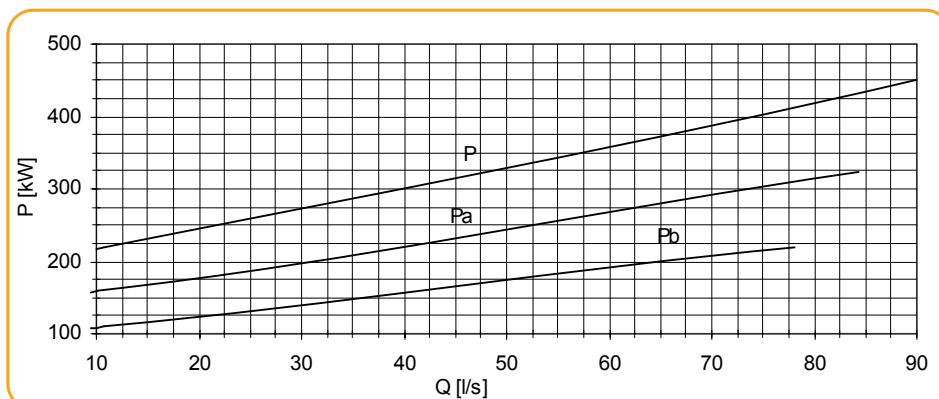


Pump performance curves

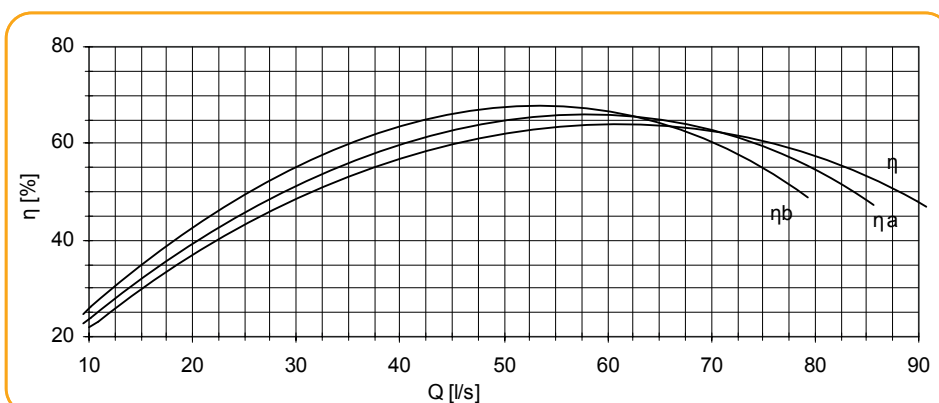
Total
Differential
Head



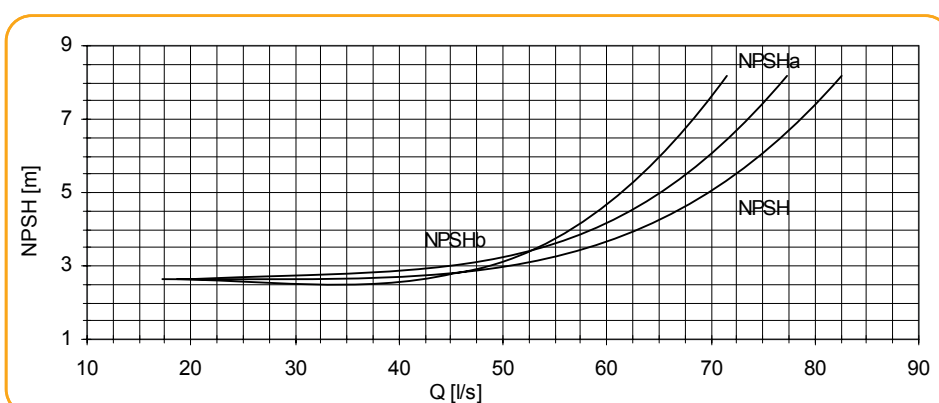
Power Input



Efficiency

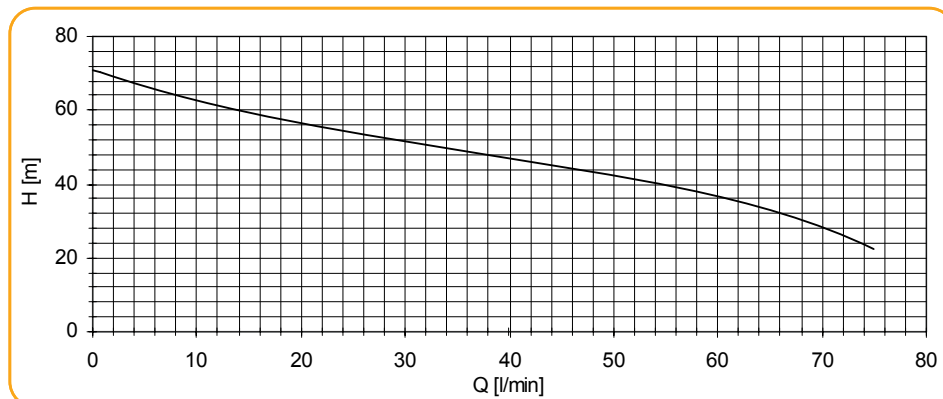


Net Positive
Suction Head

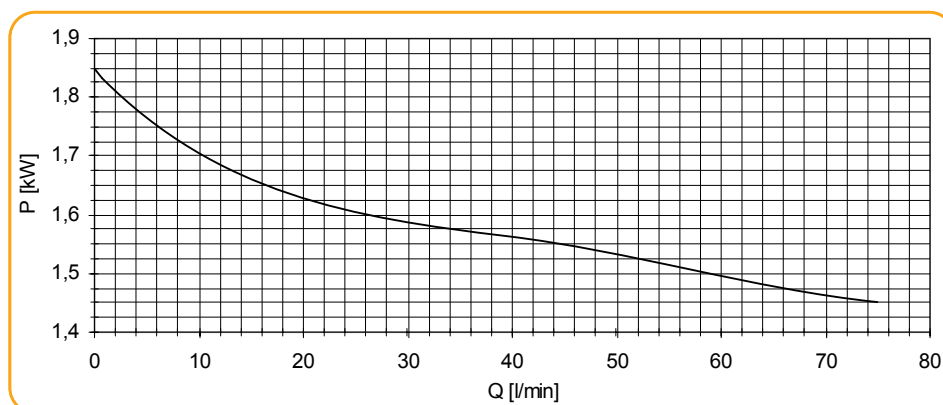


Pump performance curves

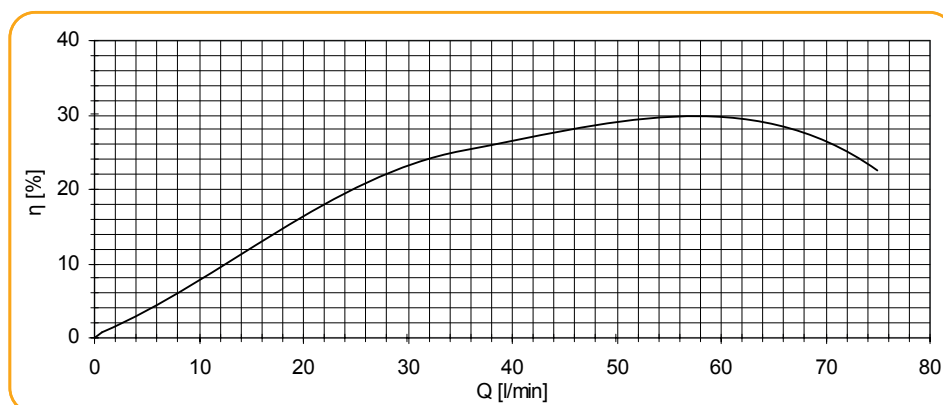
Total
Differential
Head



Power Input

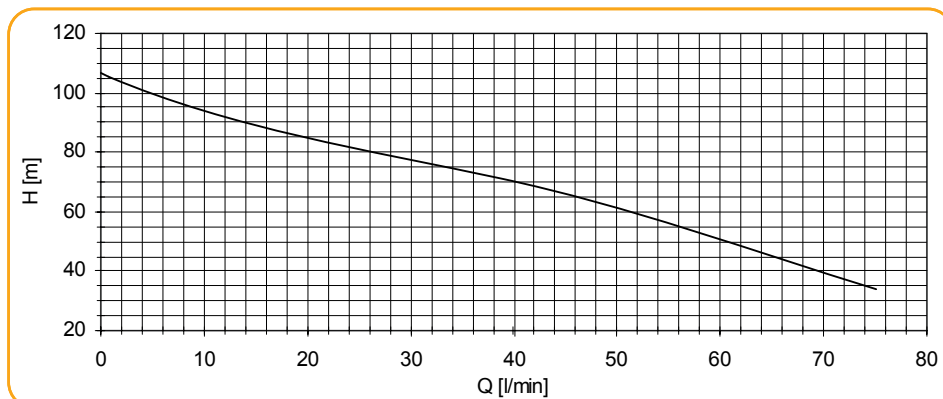


Efficiency

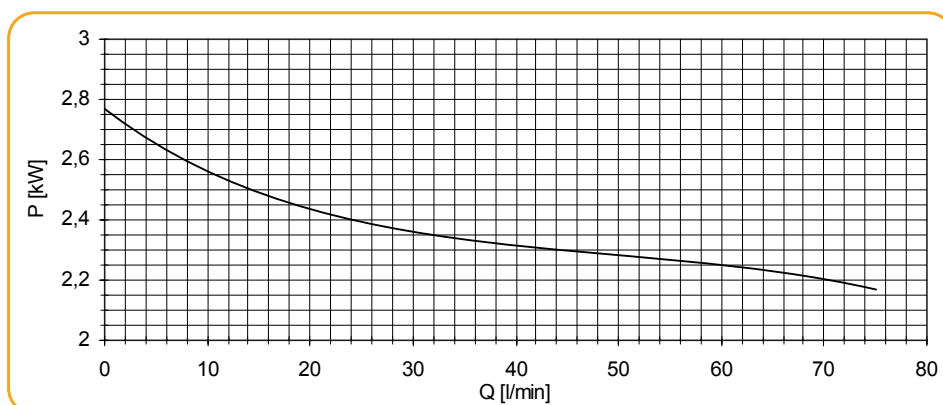


Pump performance curves

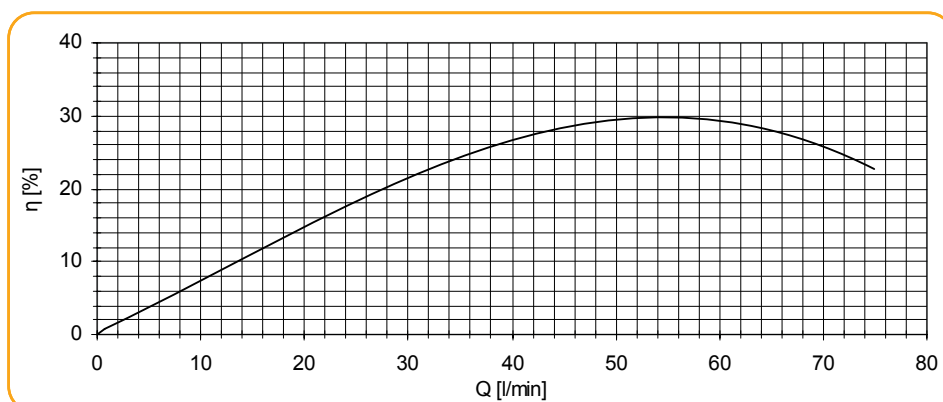
Total
Differential
Head



Power Input

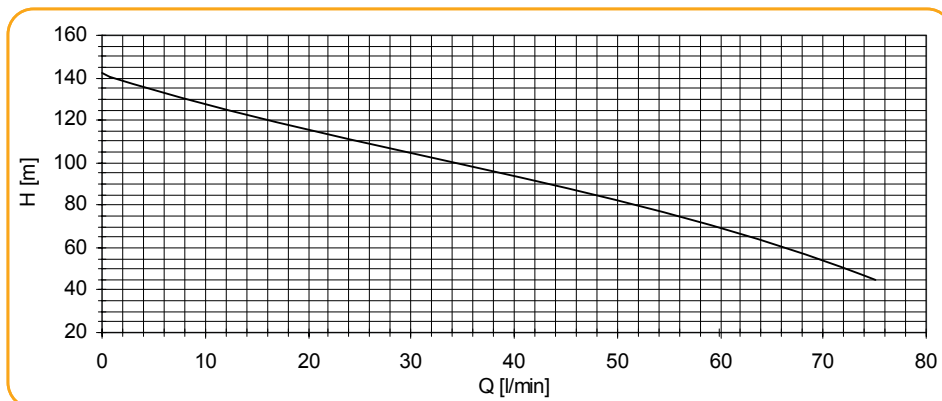


Efficiency

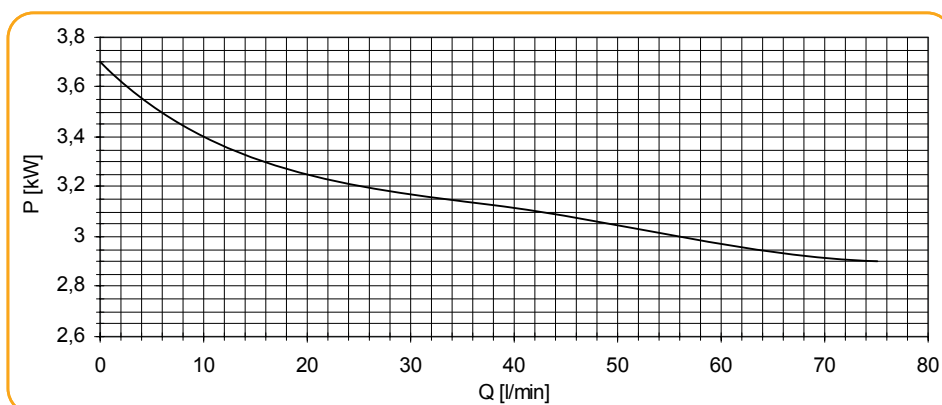


Pump performance curves

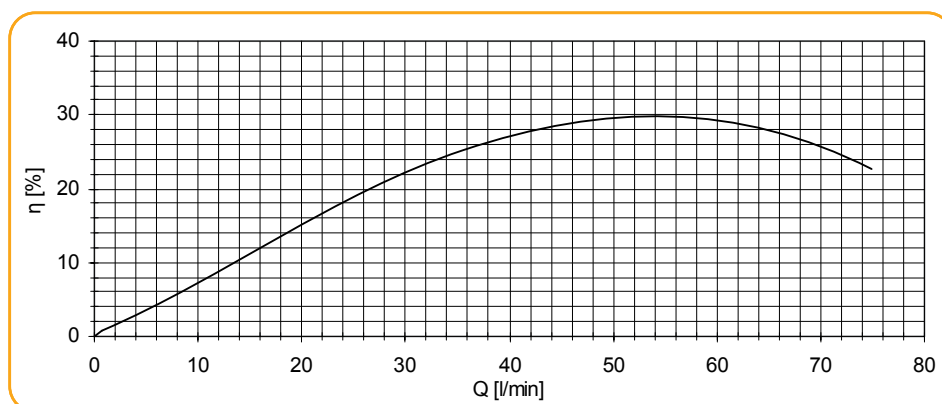
Total
Differential
Head



Power Input

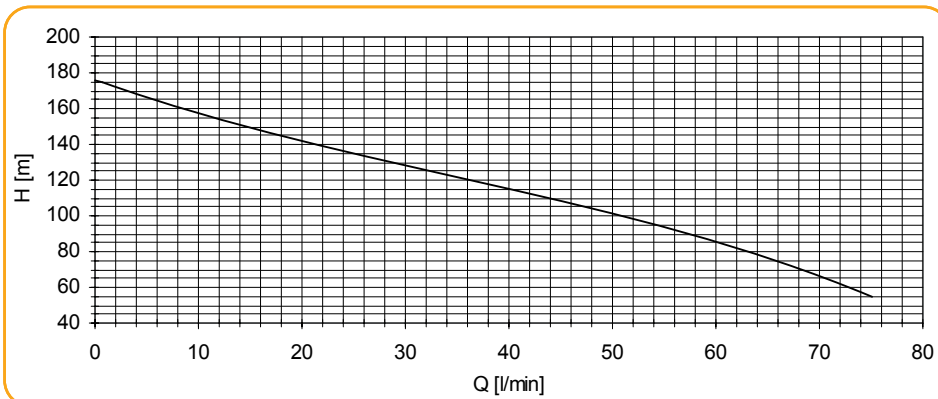


Efficiency

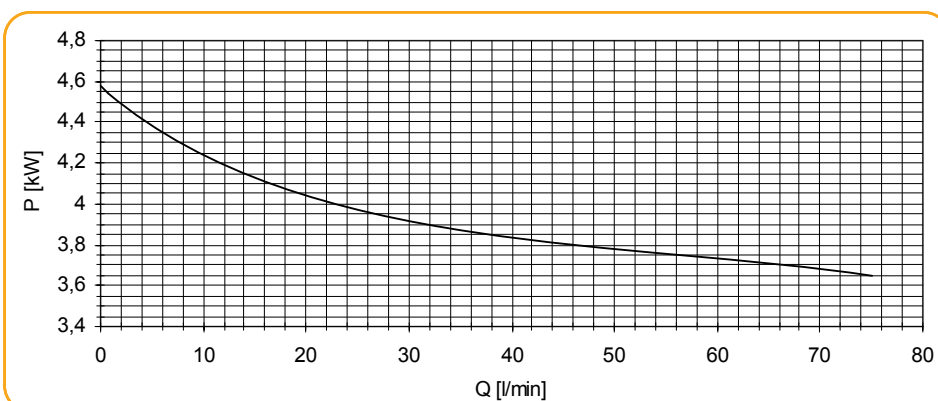


Pump performance curves

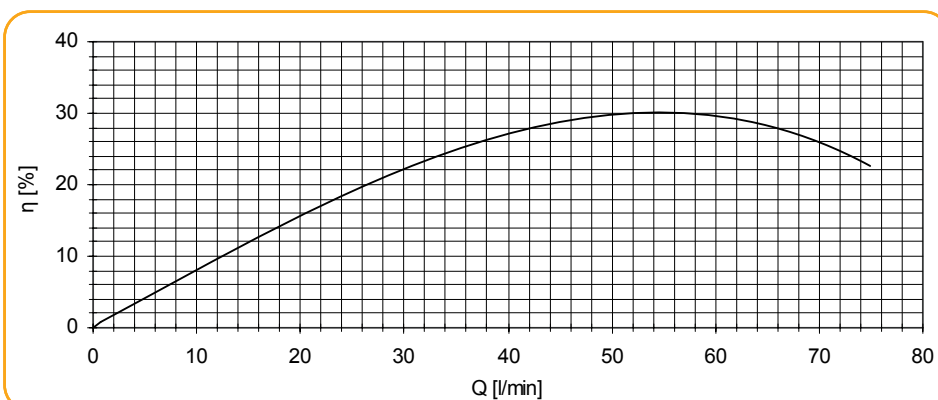
Total
Differential
Head



Power Input

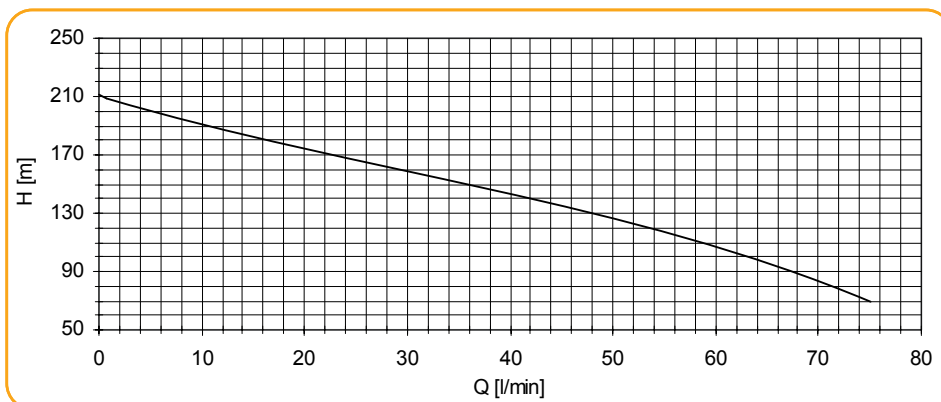


Efficiency

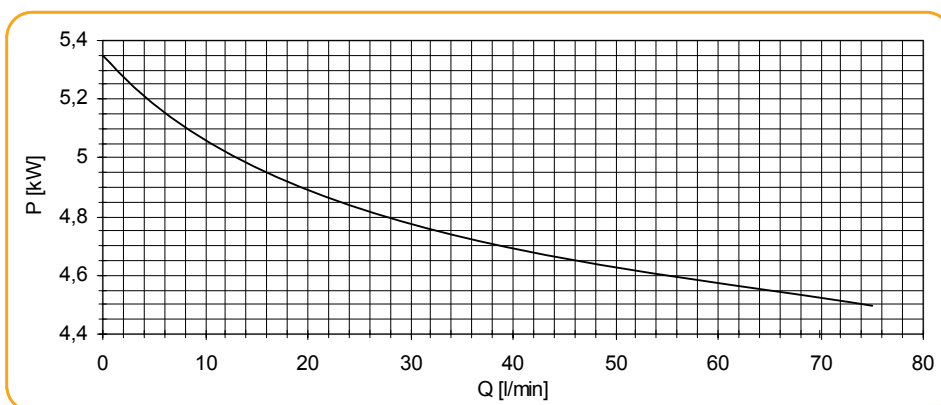


Pump performance curves

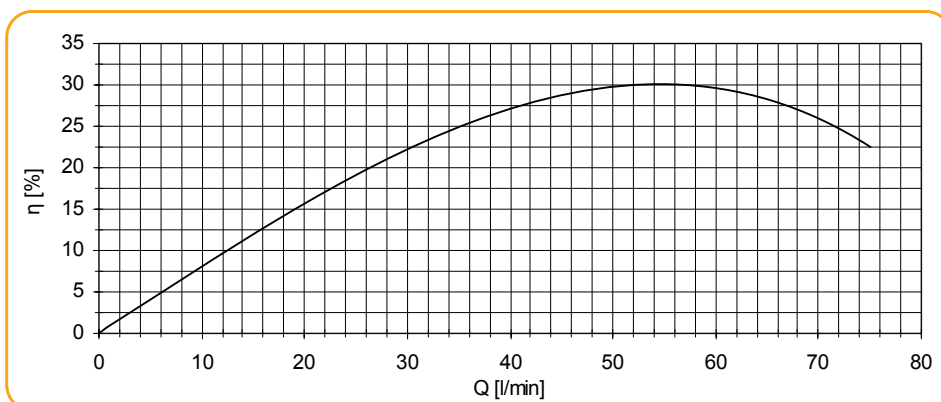
Total
Differential
Head



Power Input

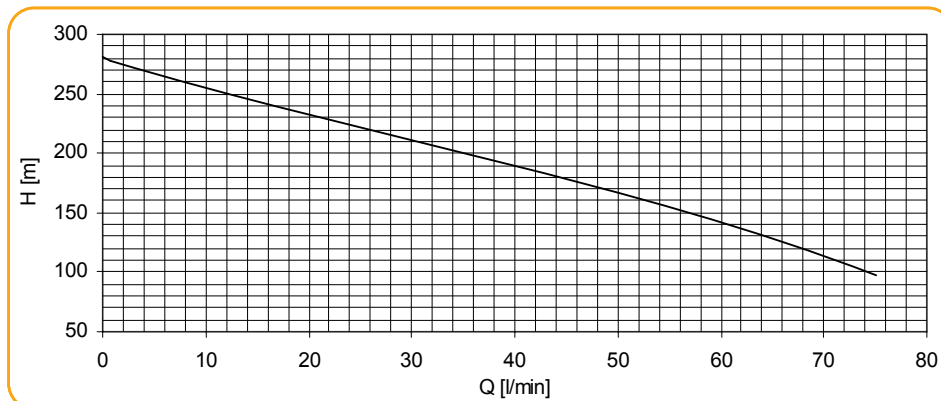


Efficiency

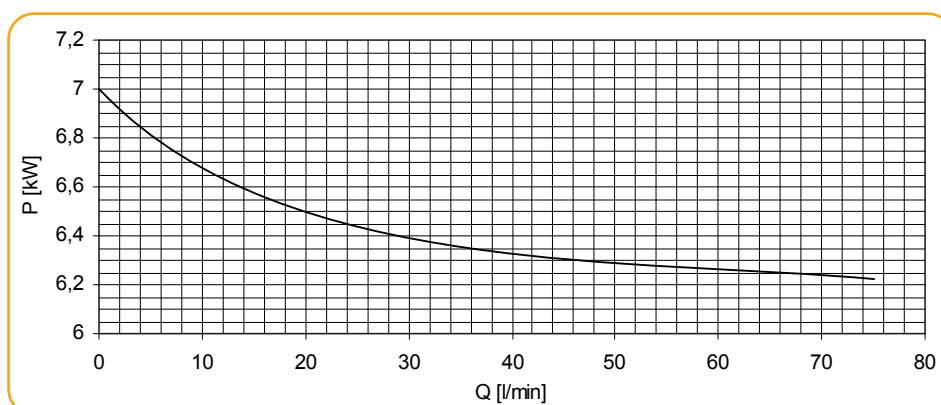


Pump performance curves

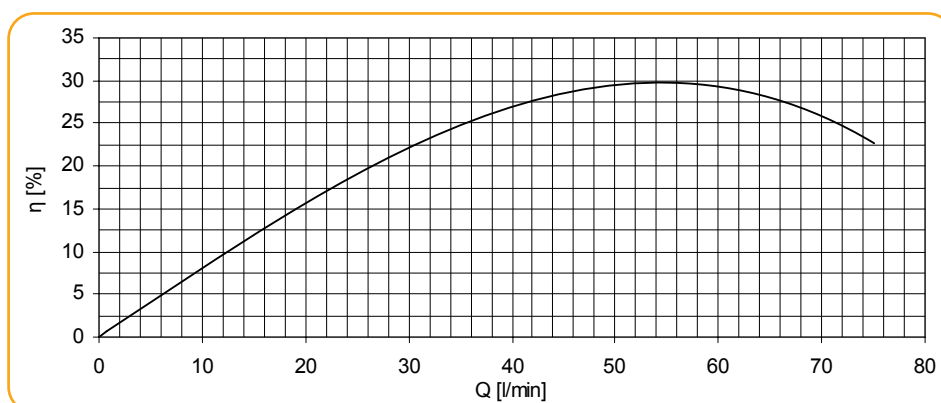
Total
Differential
Head



Power Input

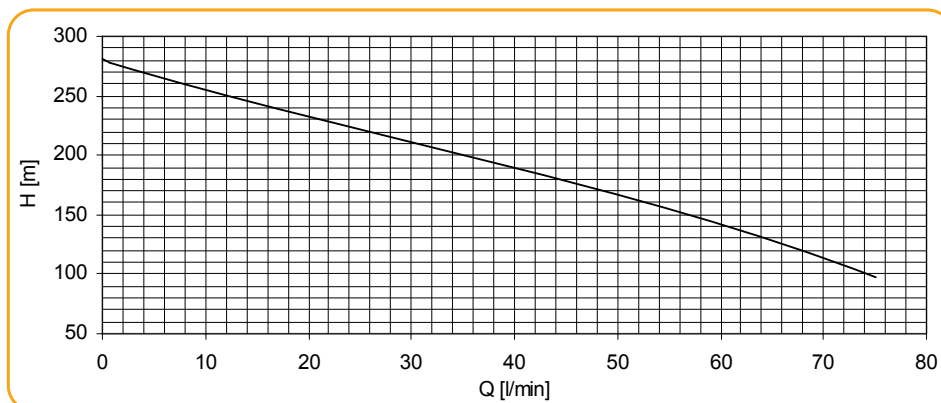


Efficiency

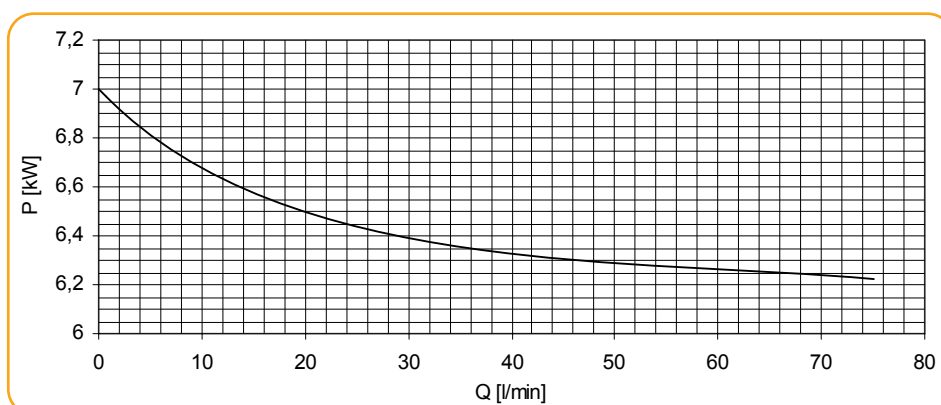


Pump performance curves

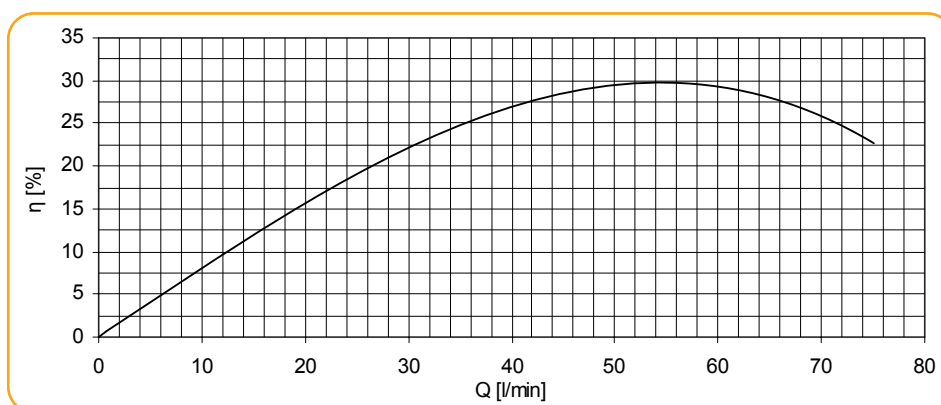
Total
Differential
Head



Power Input

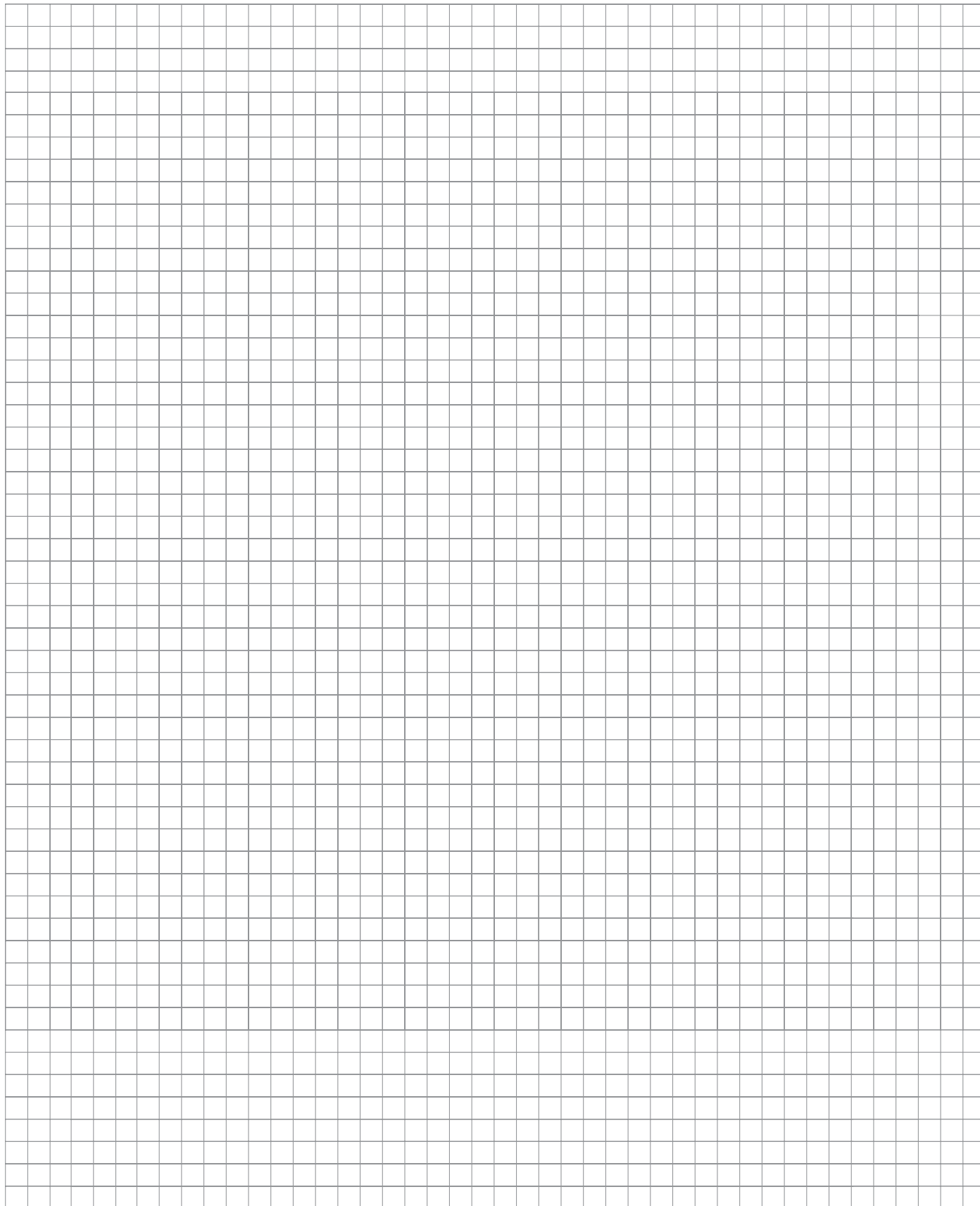


Efficiency



Date: _____

This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. There are no margins, text, or other markings on the page.





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