



TS series

Submersible Turbine Pumps



TS series

5" through to 18" Submersible turbine pumps

The Sterling TS series of submersible pumps are a broad family of engineered pumps offering reliable and efficient pumping of water in many applications.

- 5": 40 m³/h
- 6": 17, 40, 60 and 85 m³/h
- 7": 60, 72 and 100 m³/h
- 8": 90, 150, 200 and 230 m³/h
- 10": 250, 280, 350, 440 and 550 m³/h
- 12": 800 m³/h
- 14" 1100 m³/h
- 16" 850 m³/h
- 18" 1100 m³/h

Features

- All Sterling Pumps are 100% factory tested
- All feature built in Check Valve
- Couplings to NEMA standard
- BSP and flanged discharges
- Maximum water temperature is 30°C, higher temp available
- Submergence rating – refer model chart
- Maximum solid handling – refer to model chart
- Stainless Steel 431 shafts
- Due to many material combinations to suit the pumped fluid, bearings, impeller and elastomer materials are matched to the duty and main construction materials





Material options

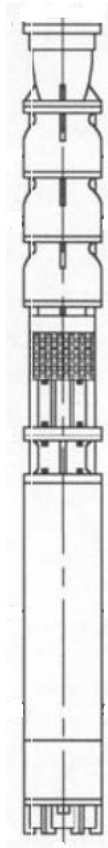
- Cast Iron
- 316 Stainless Steel
- Carbon Steel
- Zinc Free Bronze
- Nickel Aluminium Bronze
- Duplex and Super Duplex stainless steel
- Zeron 100

Nomenclature-Ordering:

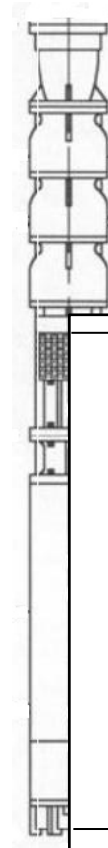
- TS = Series
- 8 = nominal pump bowl diameter
- 230 = nominal flow as metres per cubic metre
- 5 = number of stages



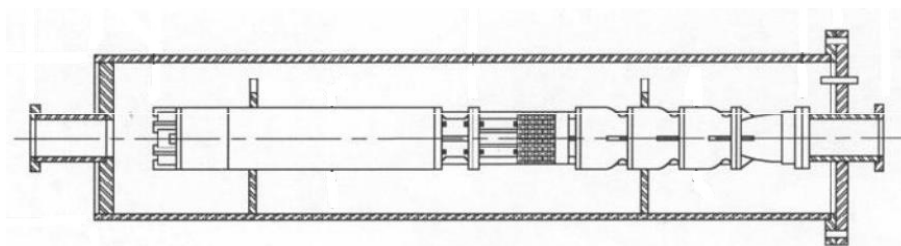
**Submersible
Turbine**

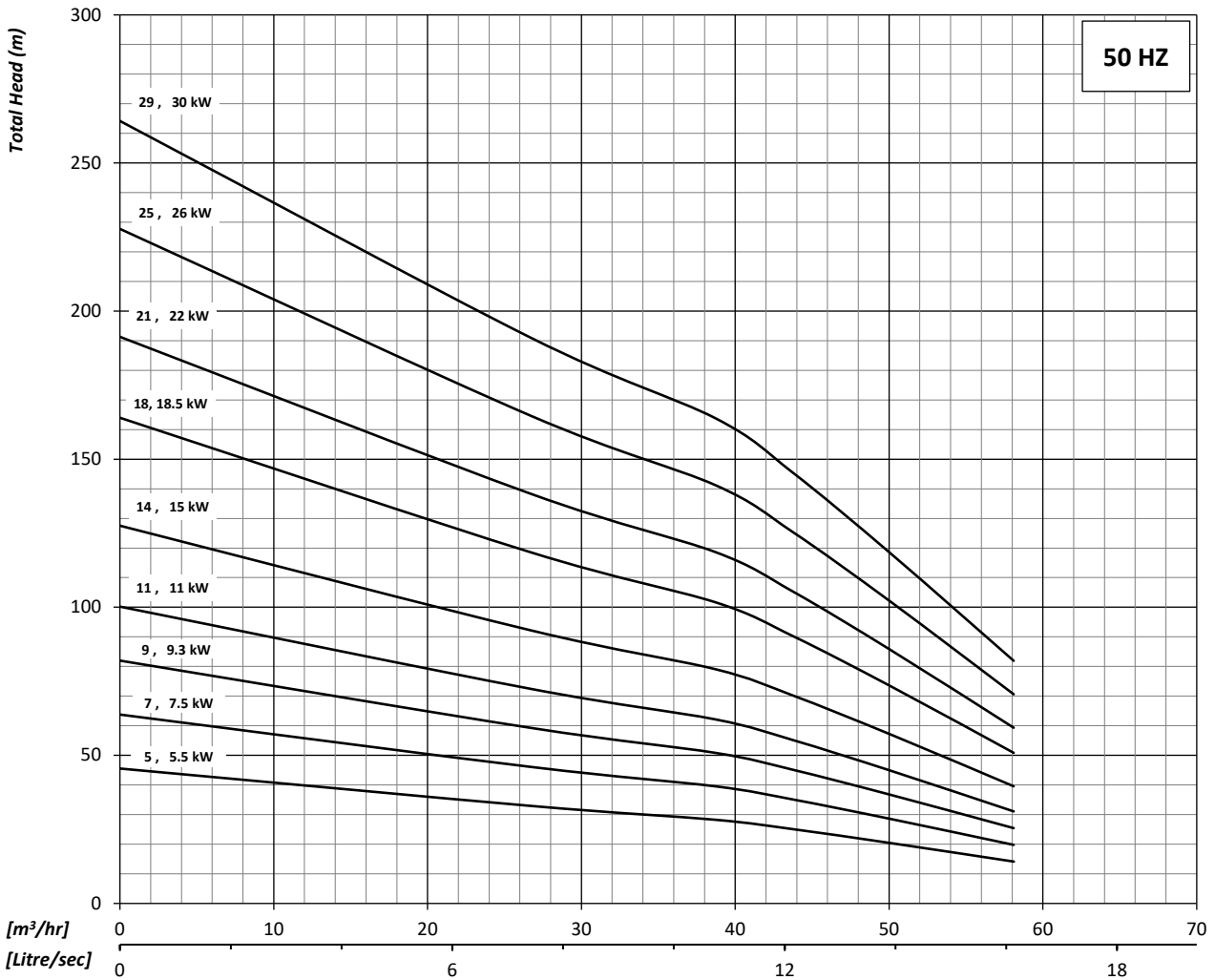
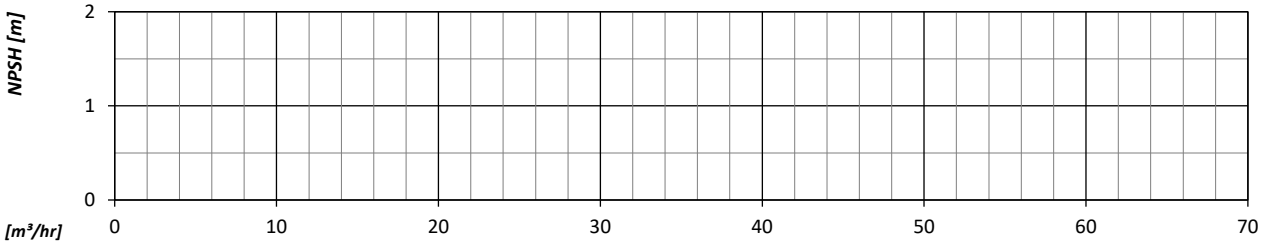
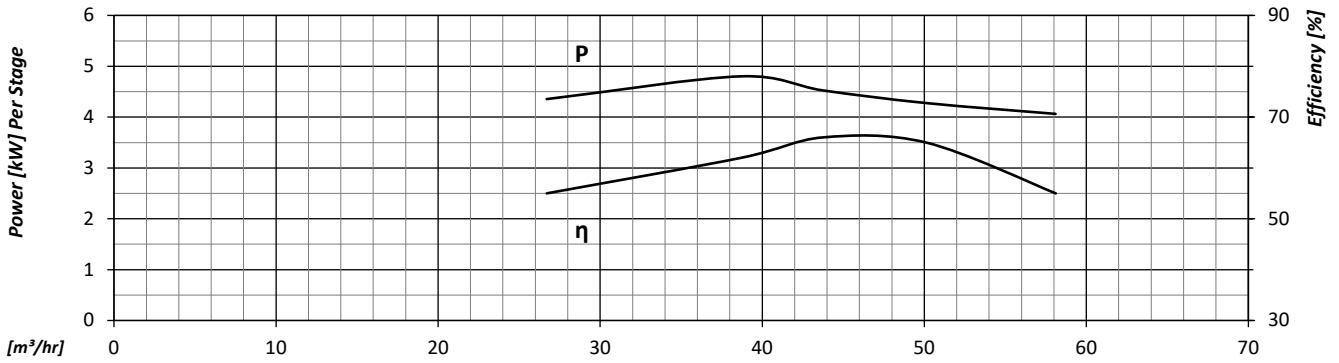


**Submersible
Turbine with
shroud**



Submersible Turbine Inline Booster



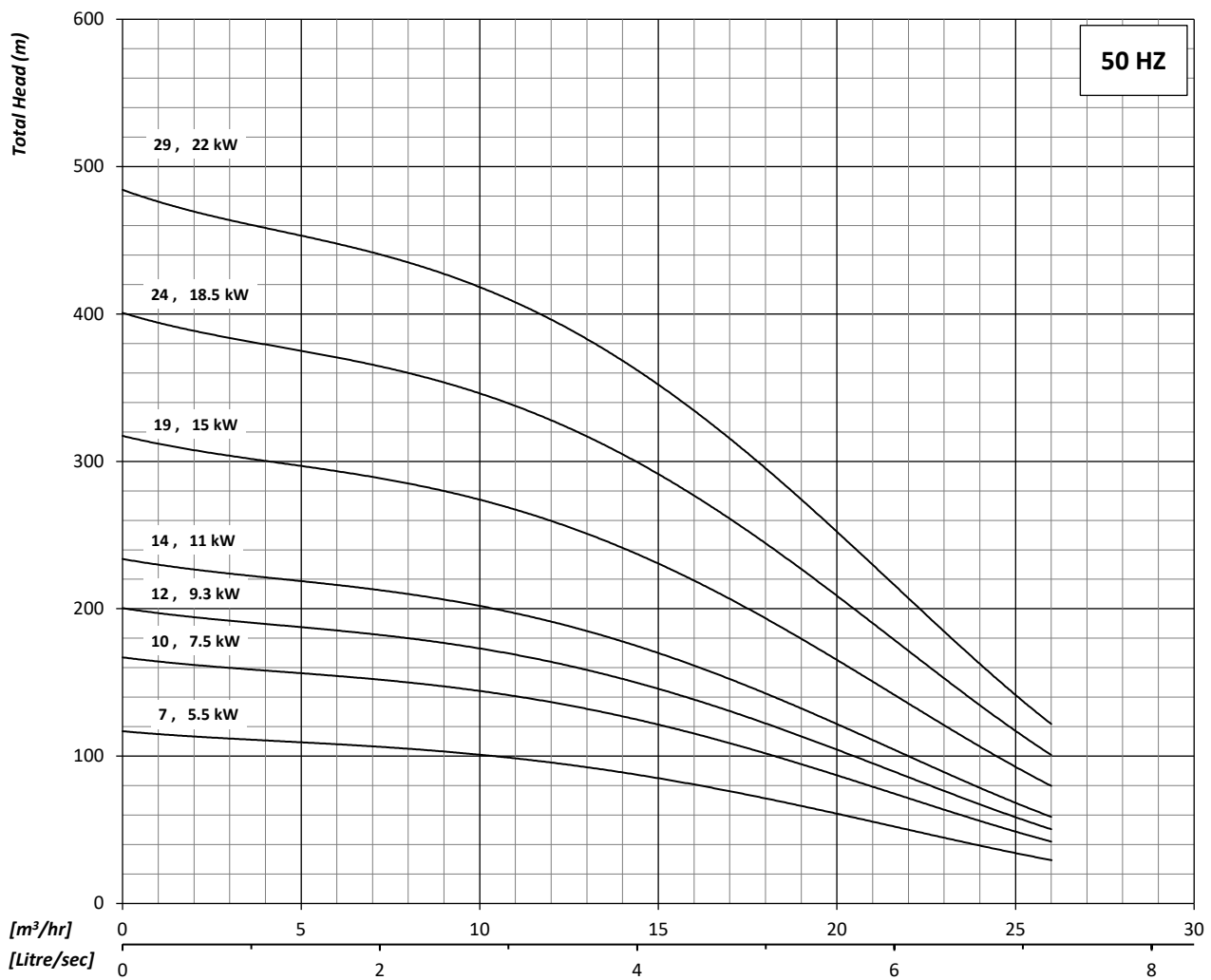
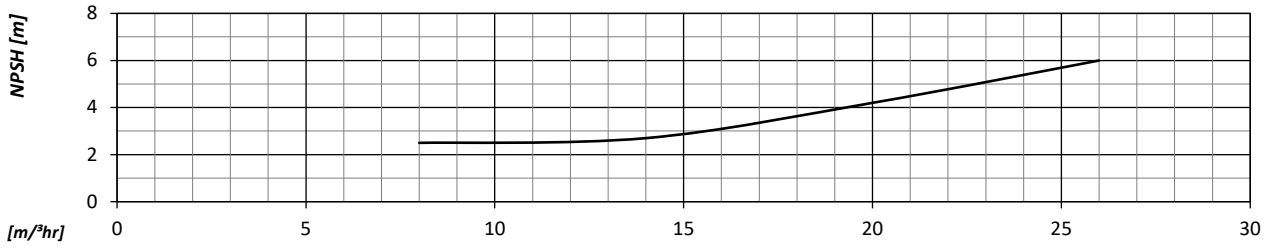
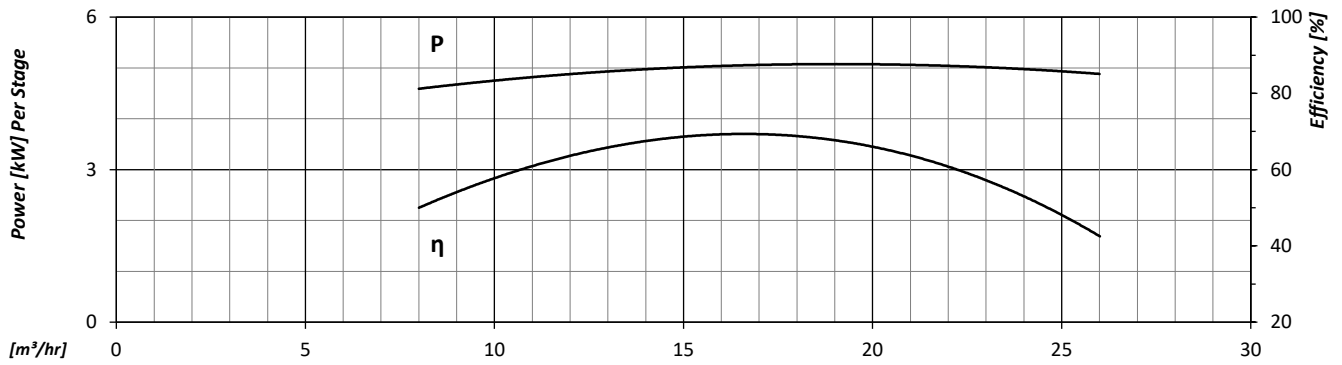


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Pump performance comply to ISO 9906 gr. 3b.

Indicated efficiency values are valid for pumps in 3 stages or more.

Consult with factory for curves at different speeds or trimmed impeller diameter.

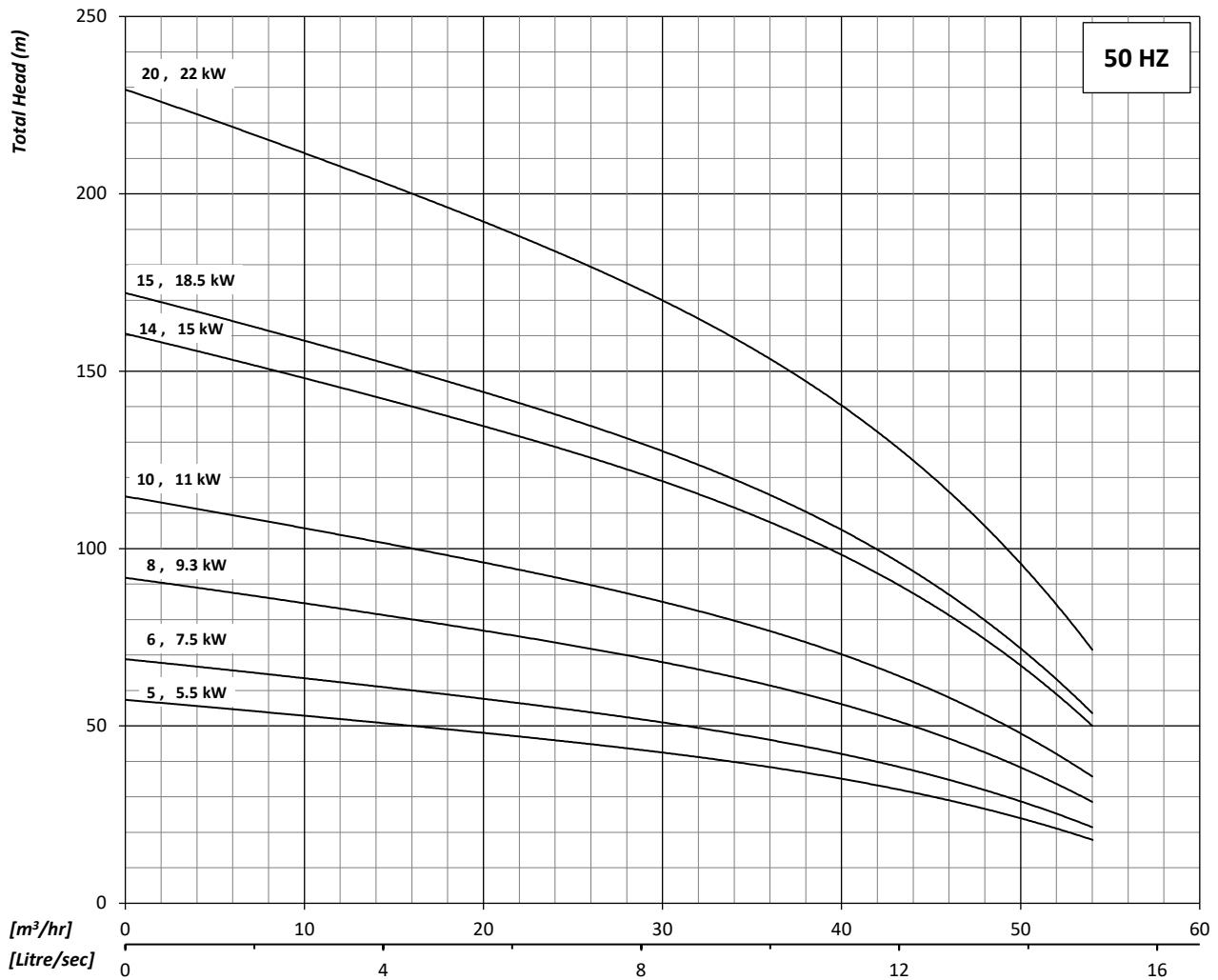
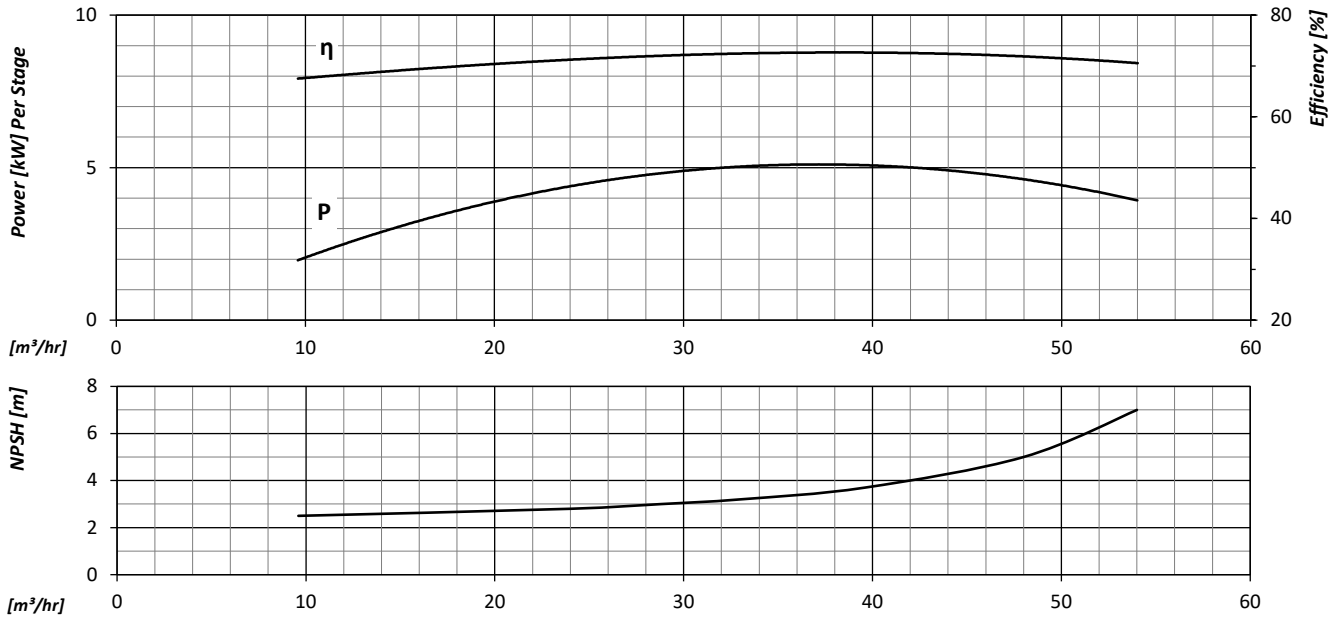


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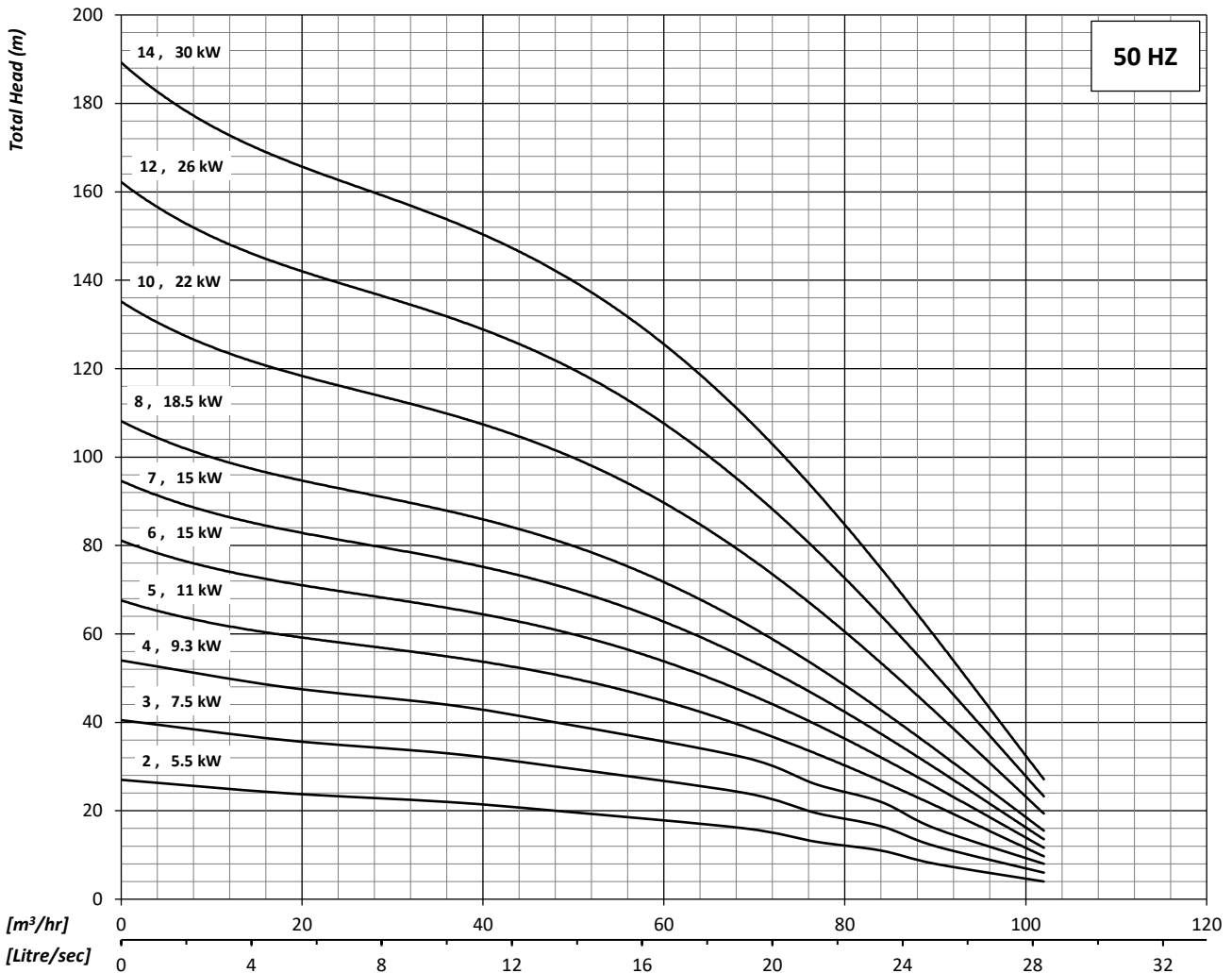
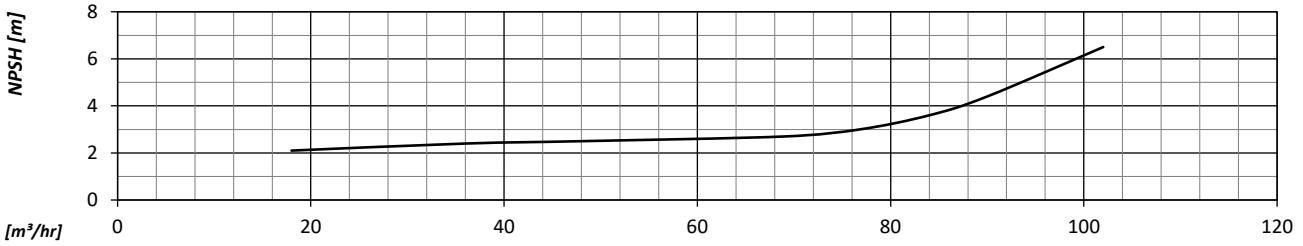
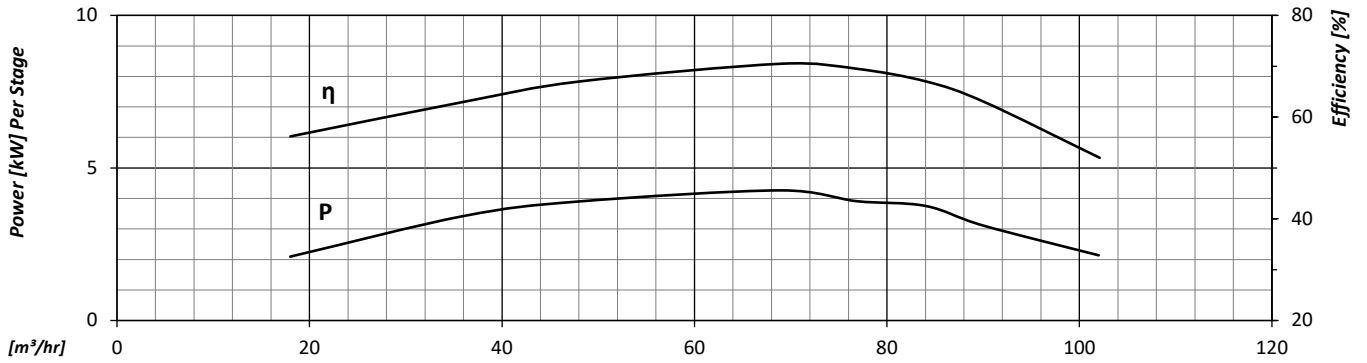


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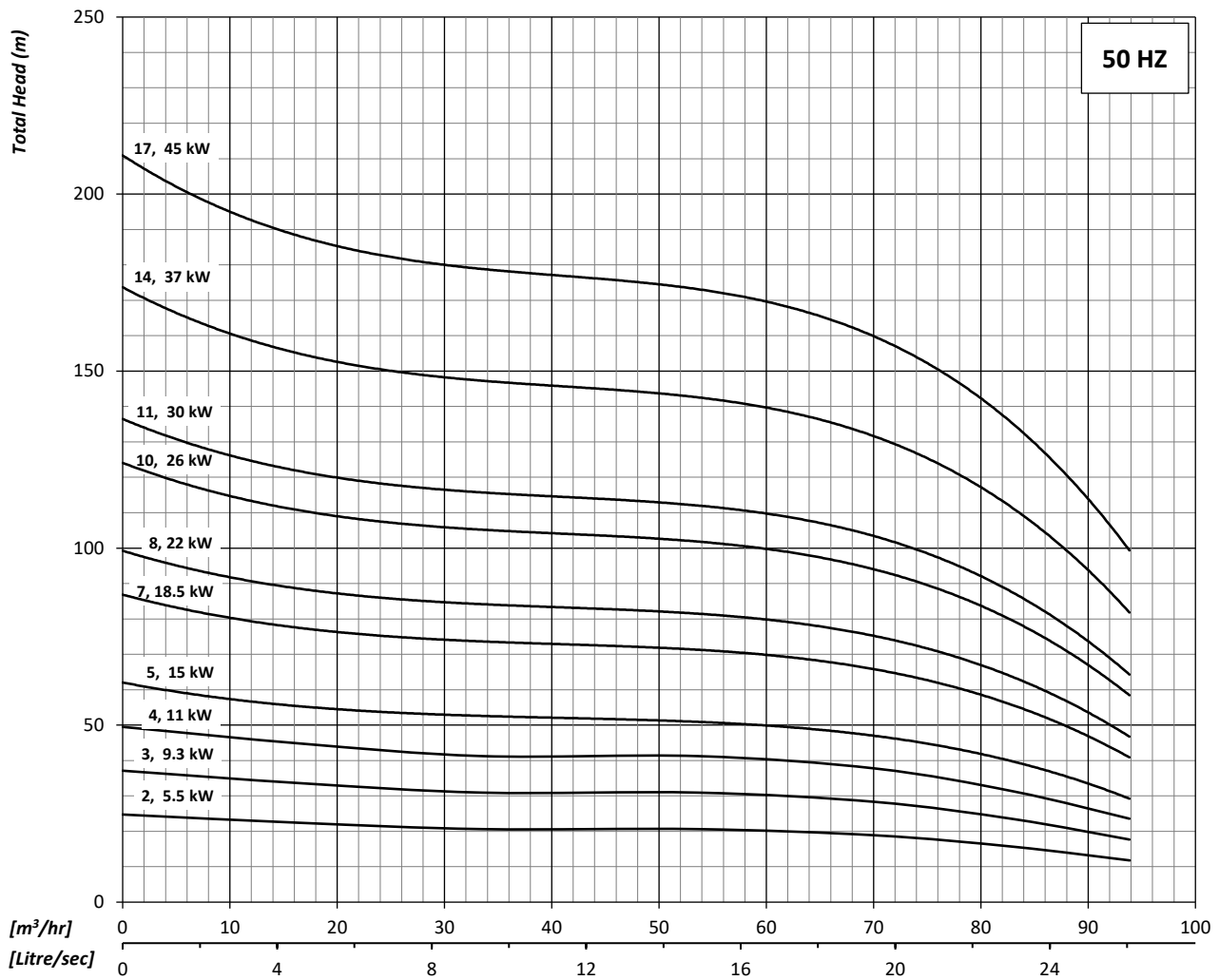
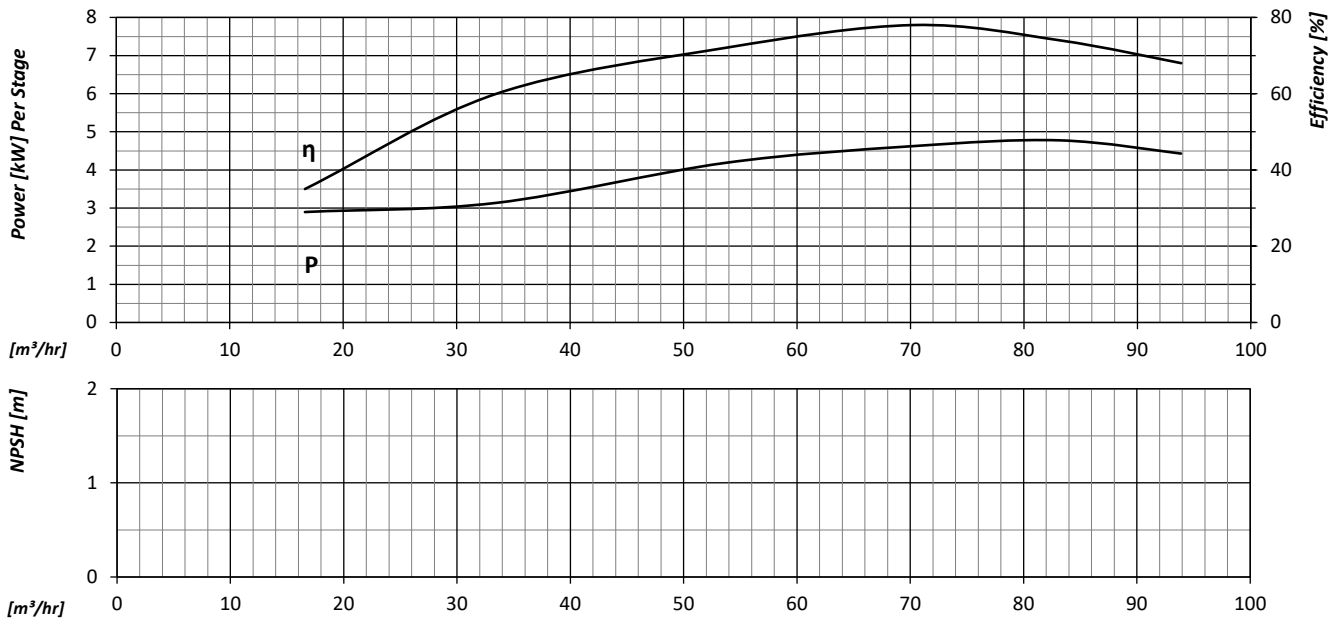


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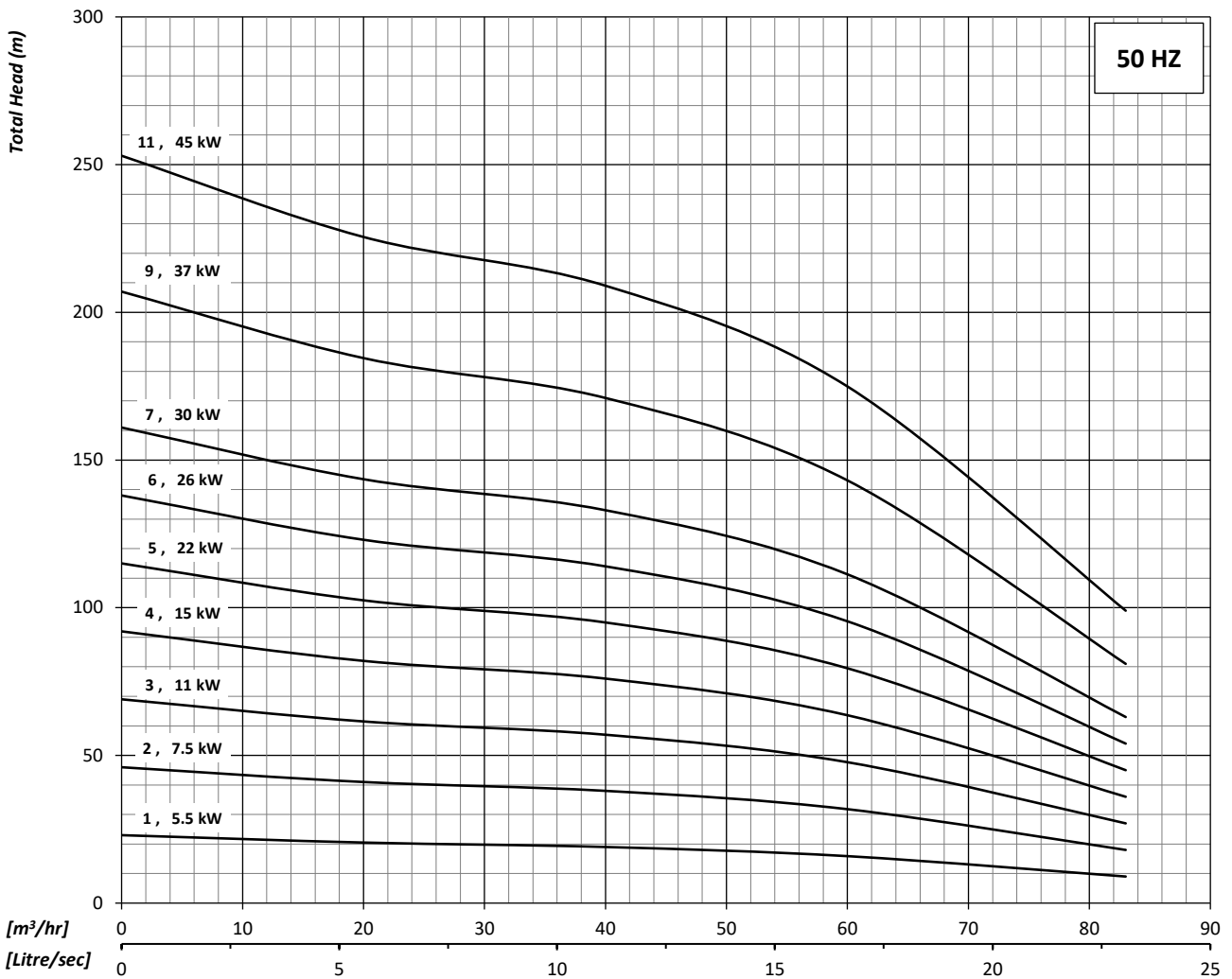
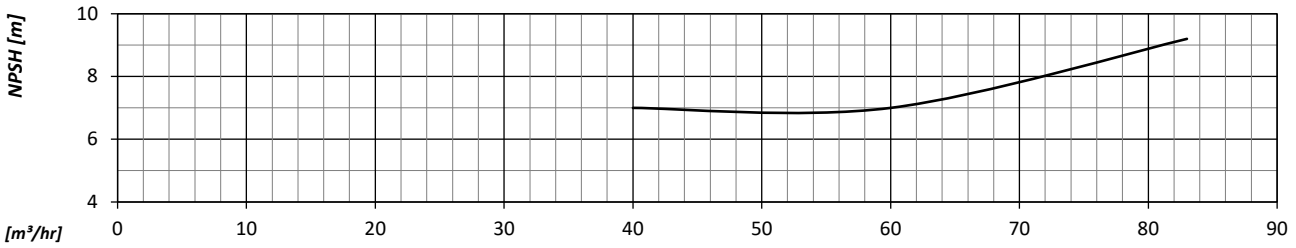
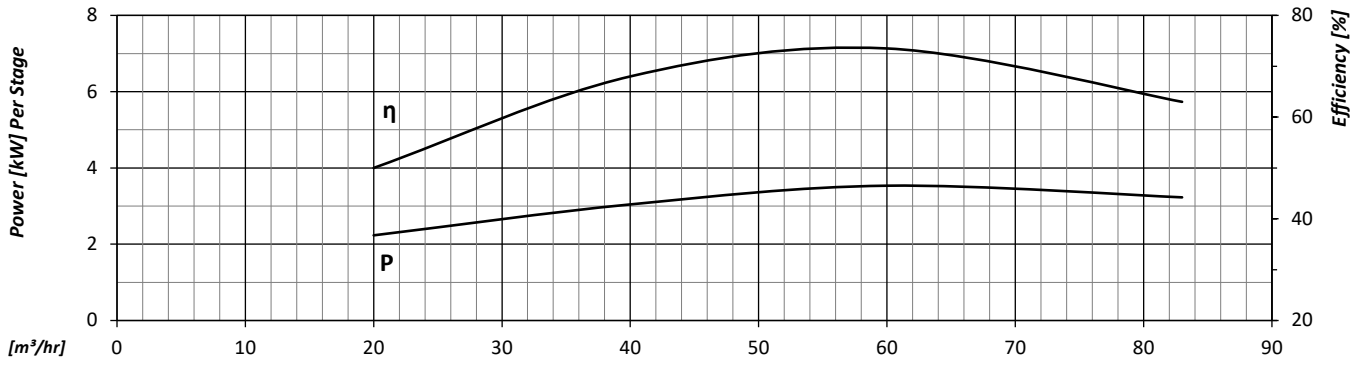


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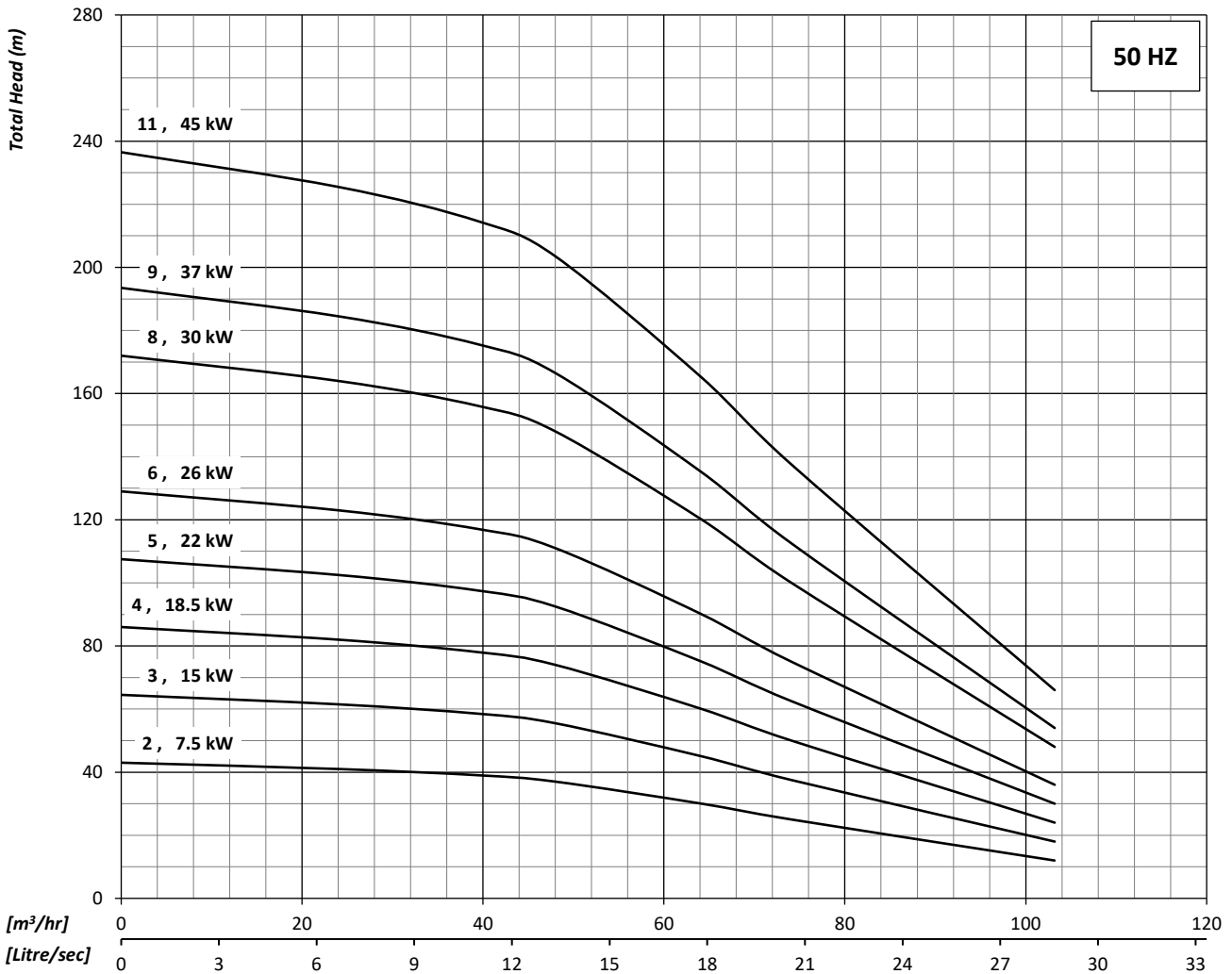
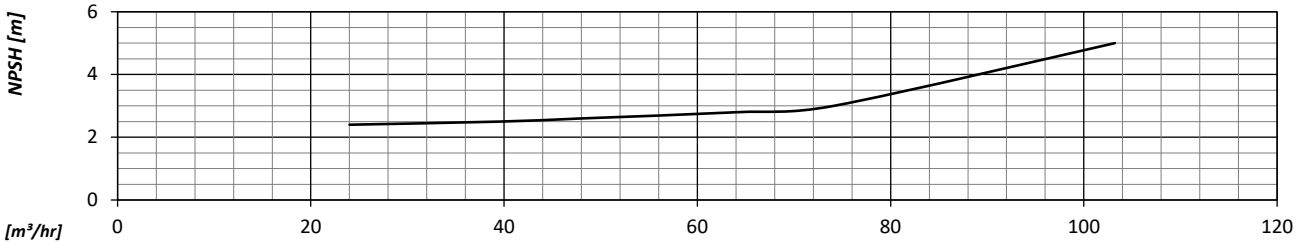
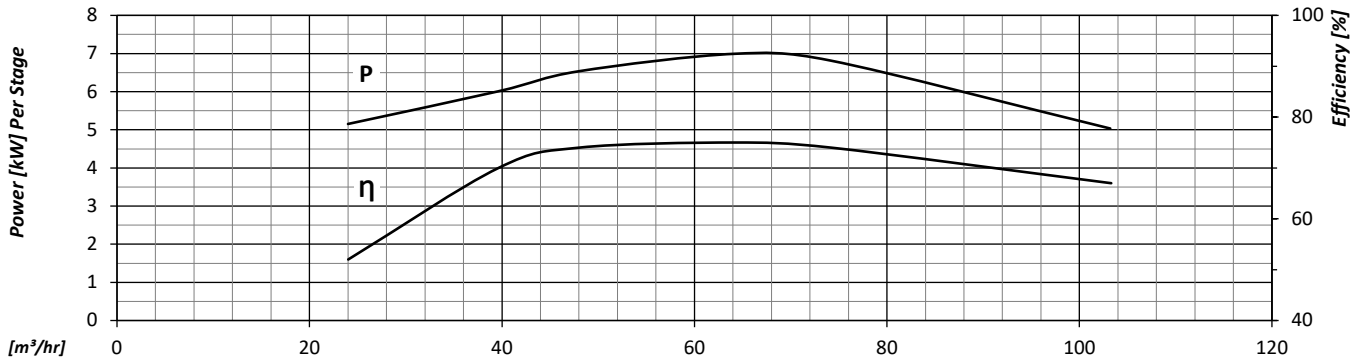


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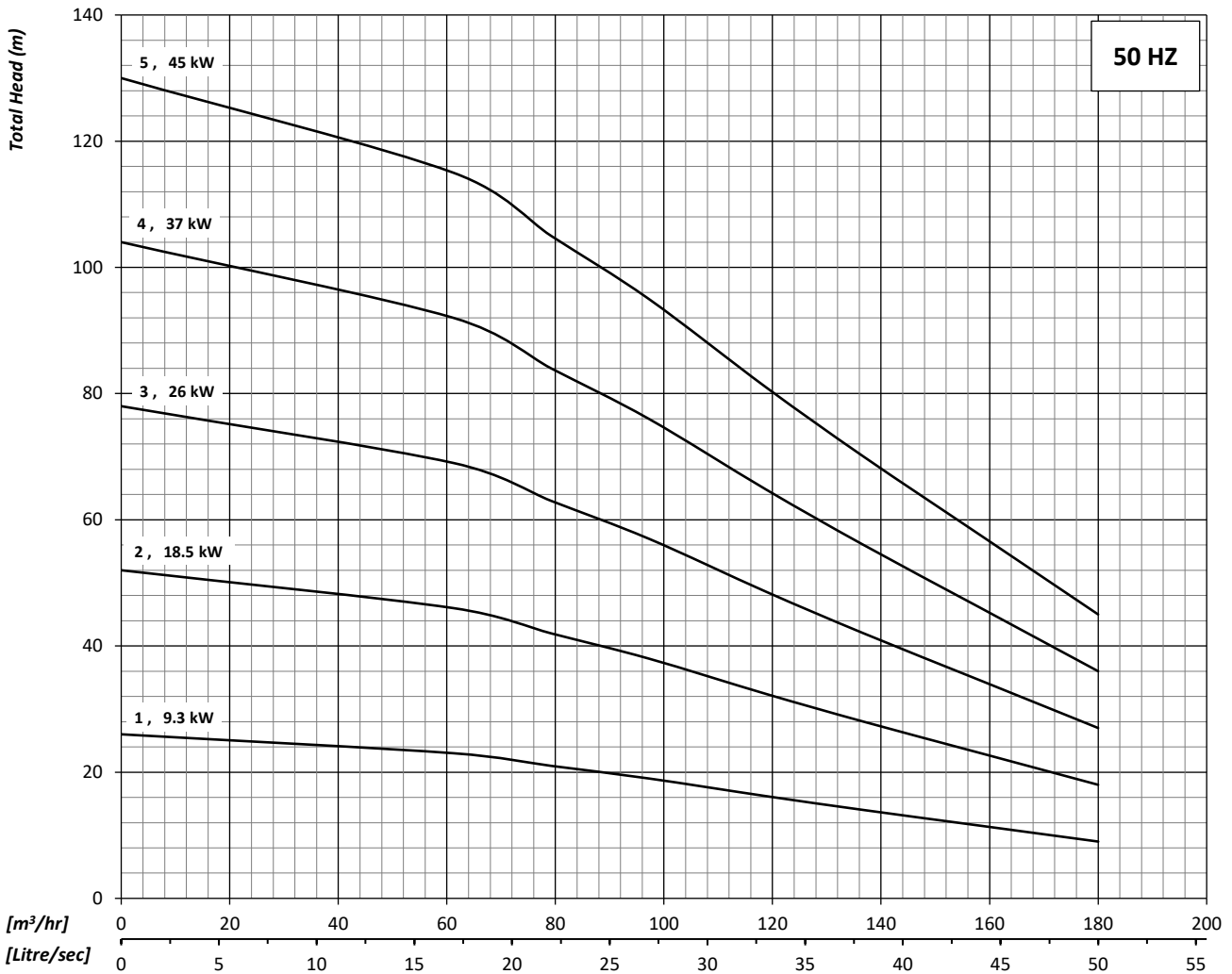
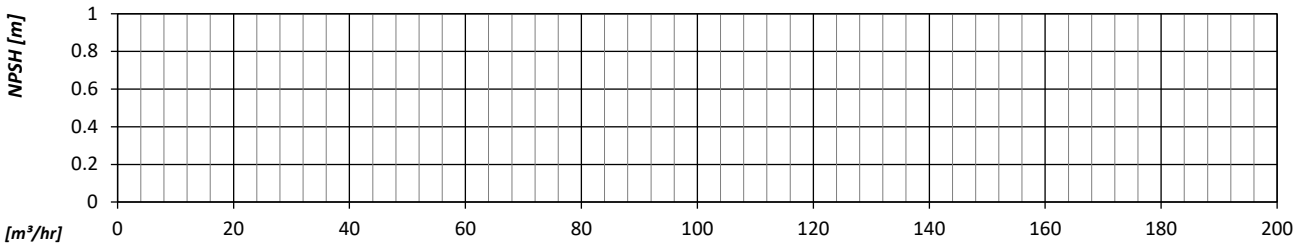
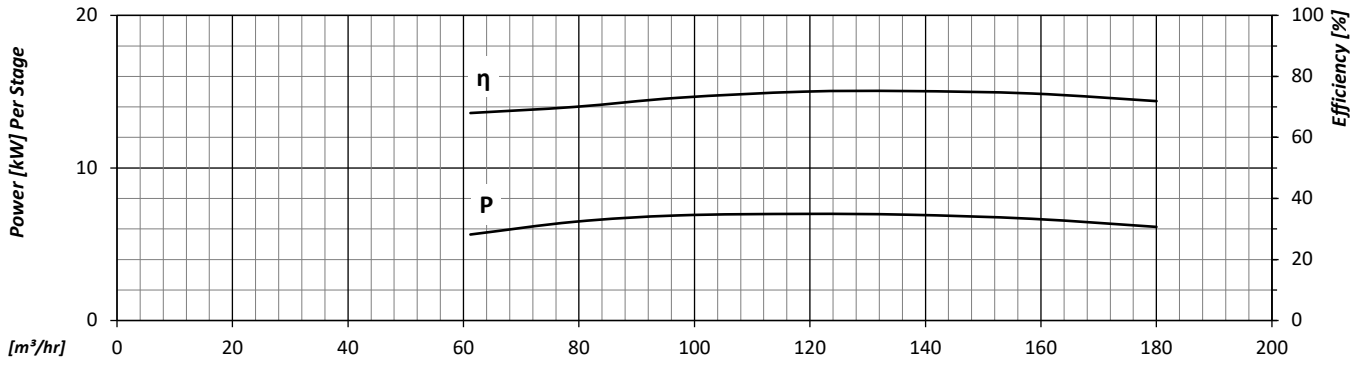


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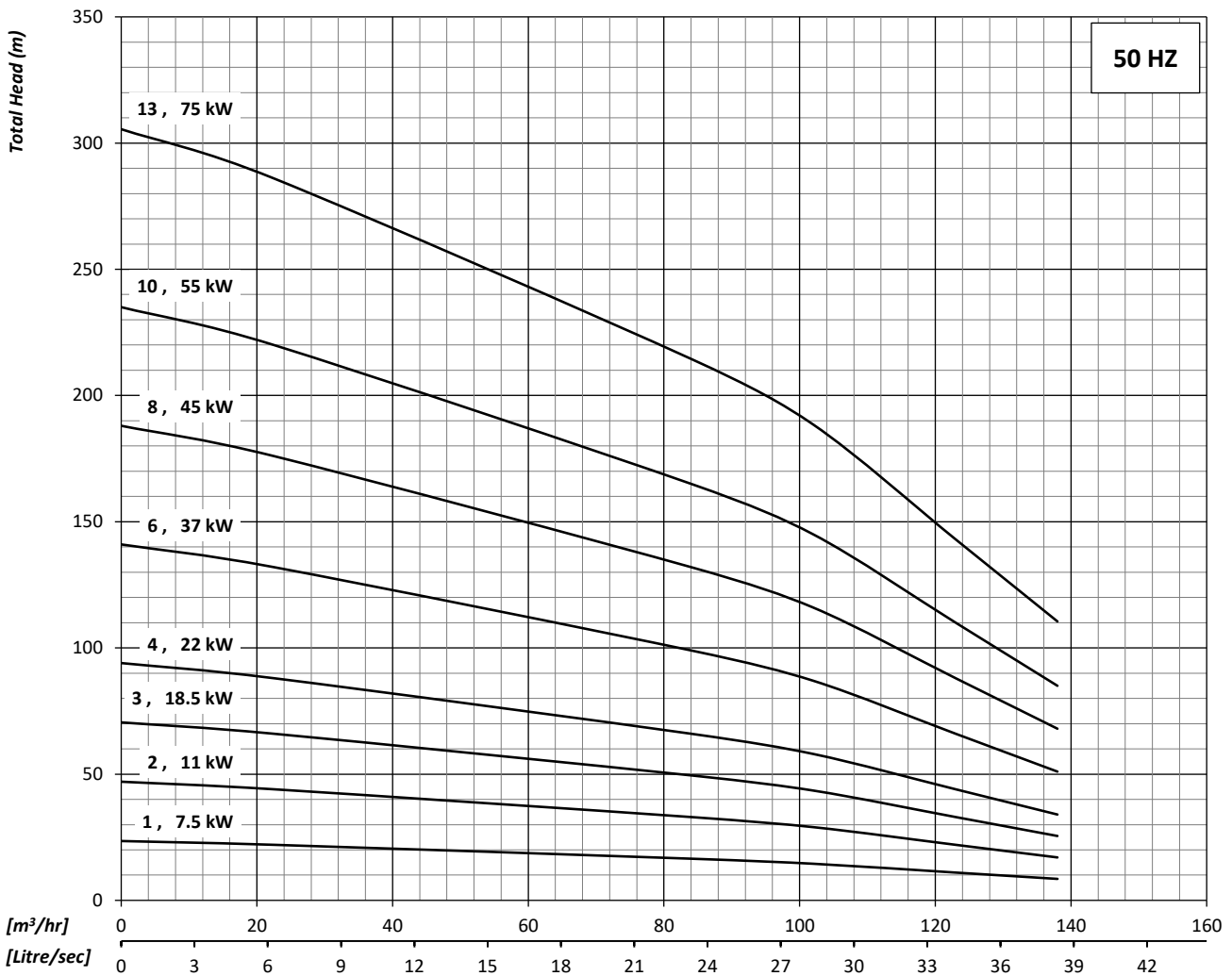
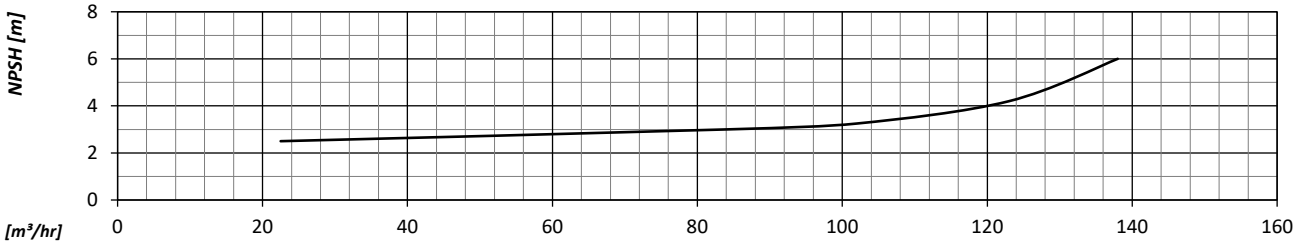
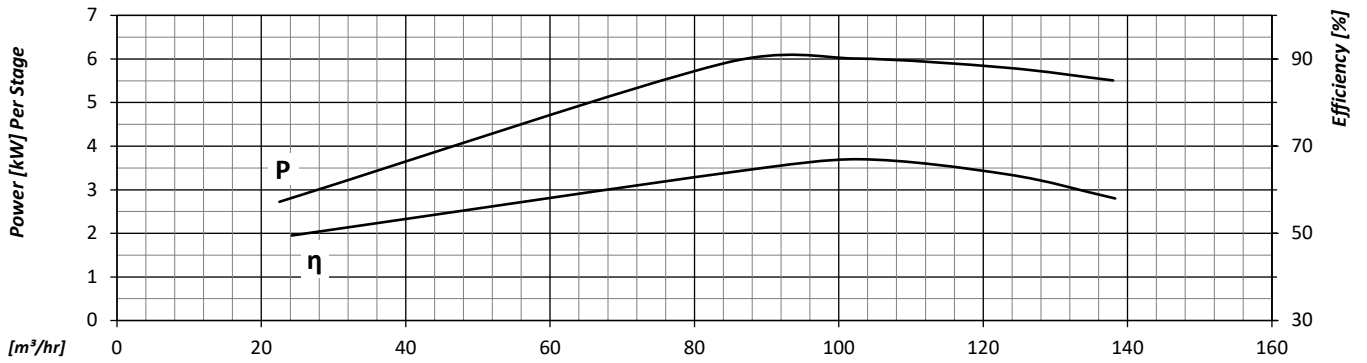


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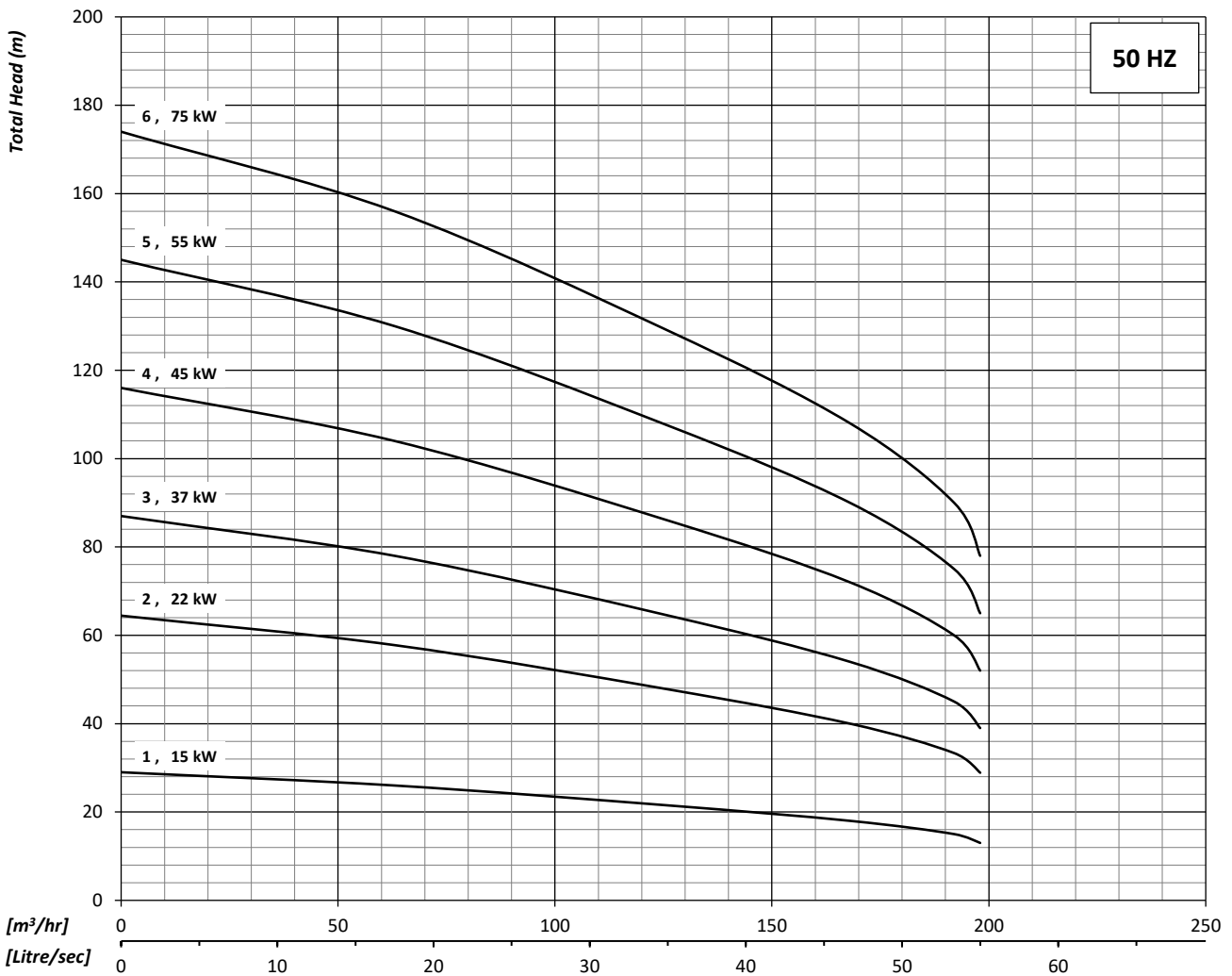
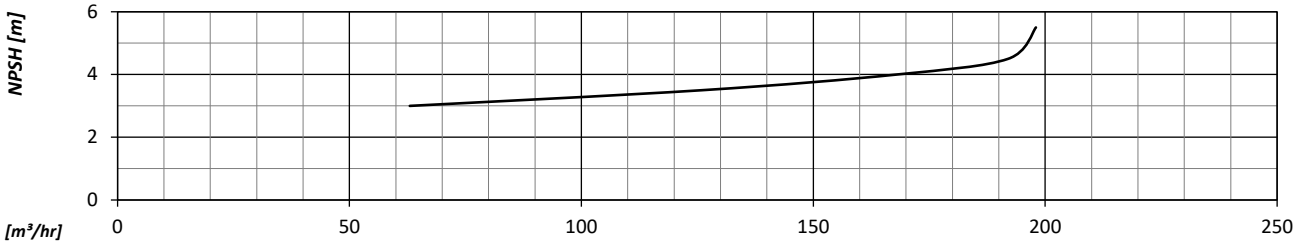
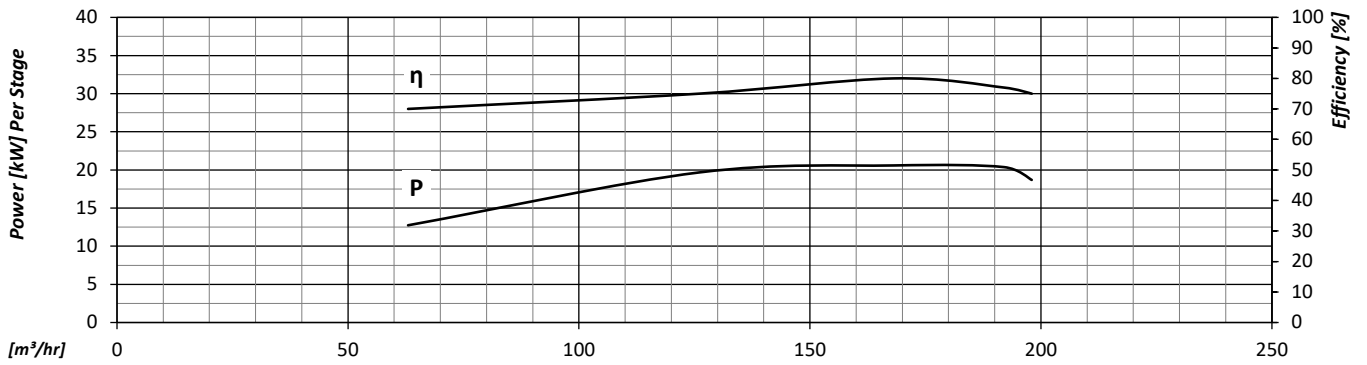


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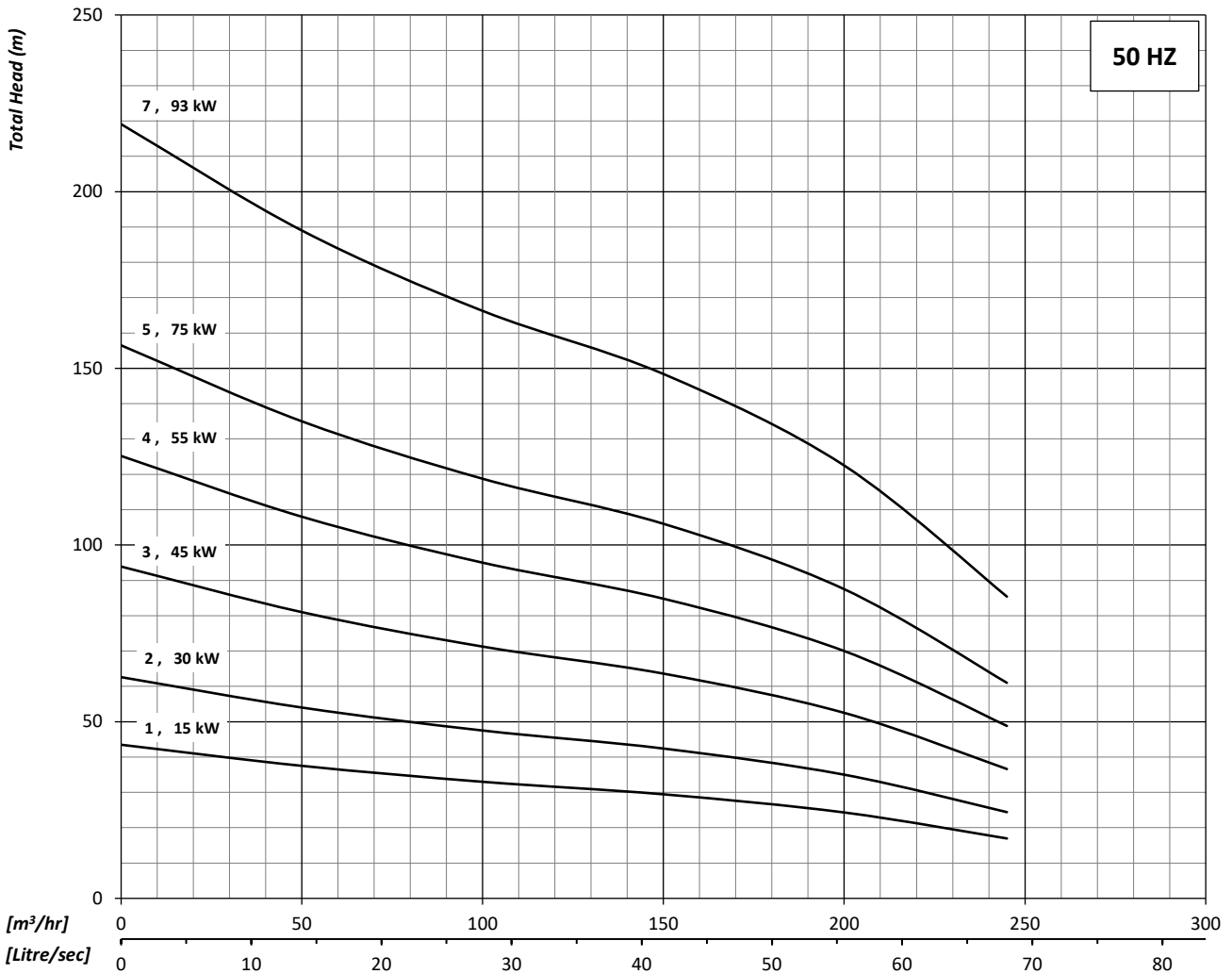
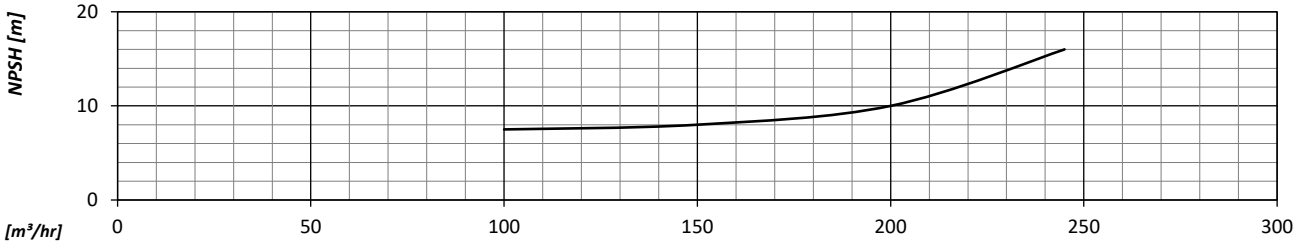
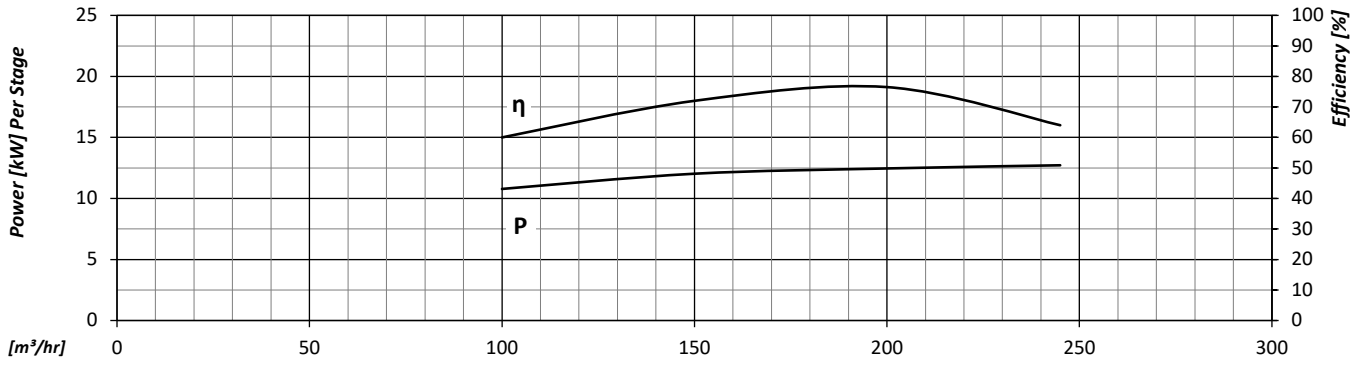


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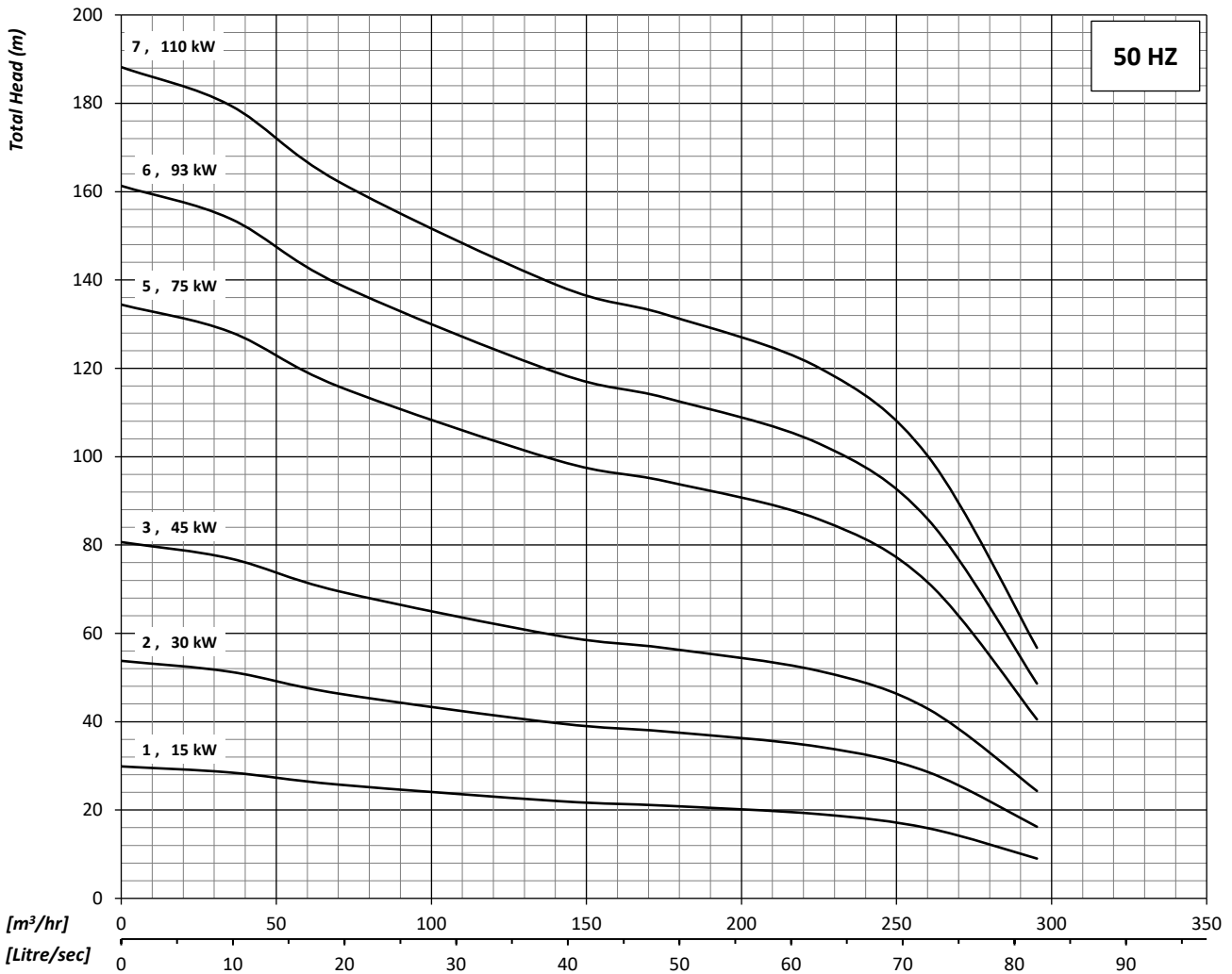
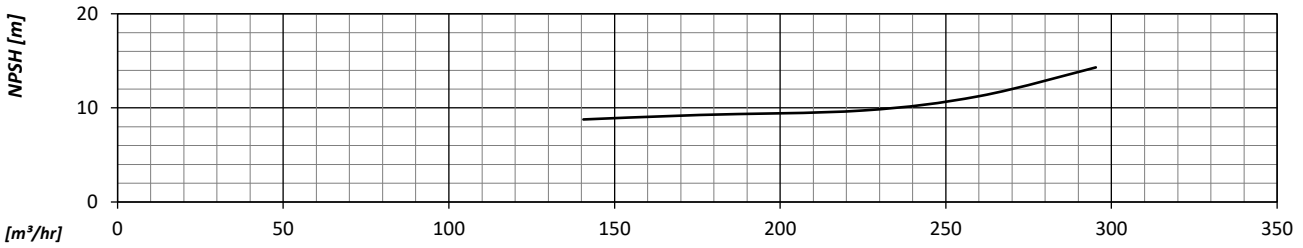
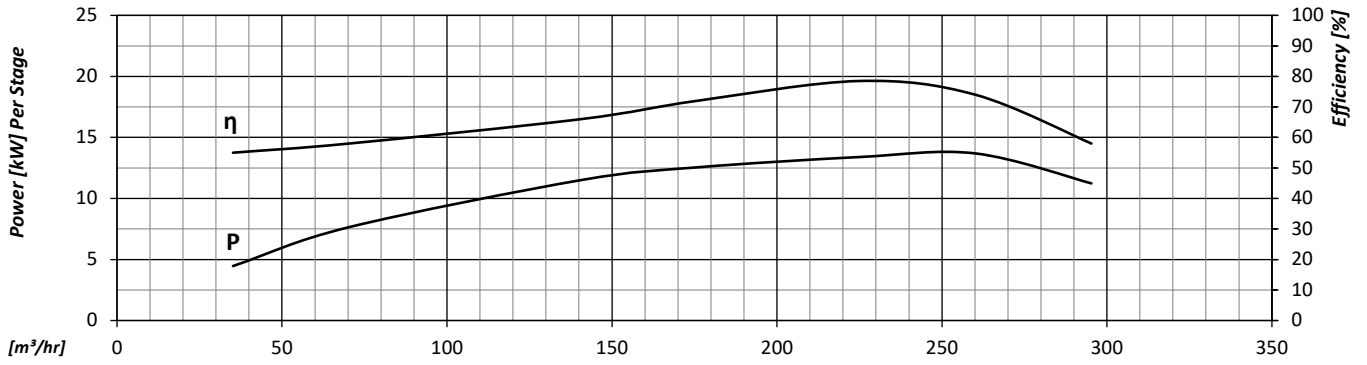


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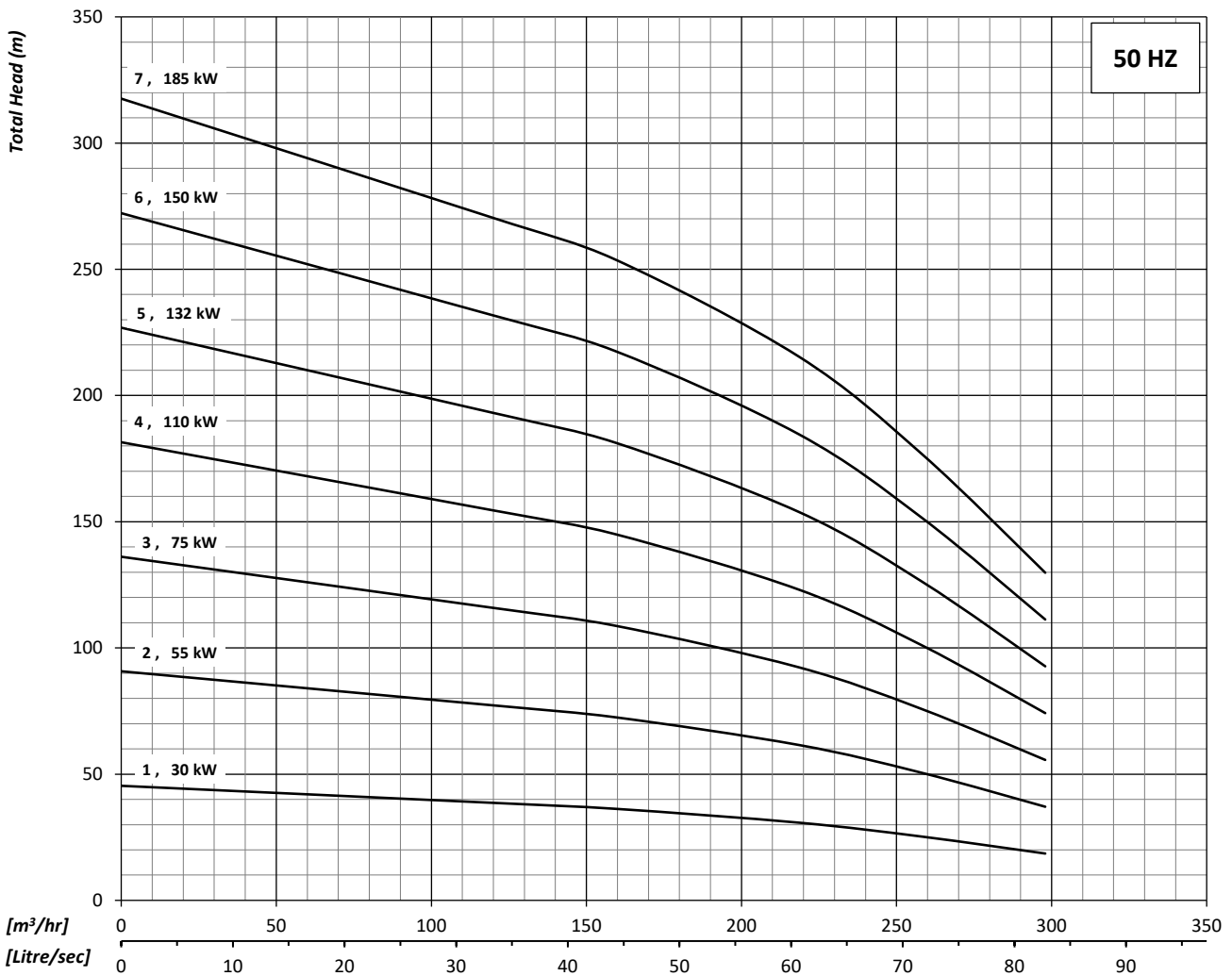
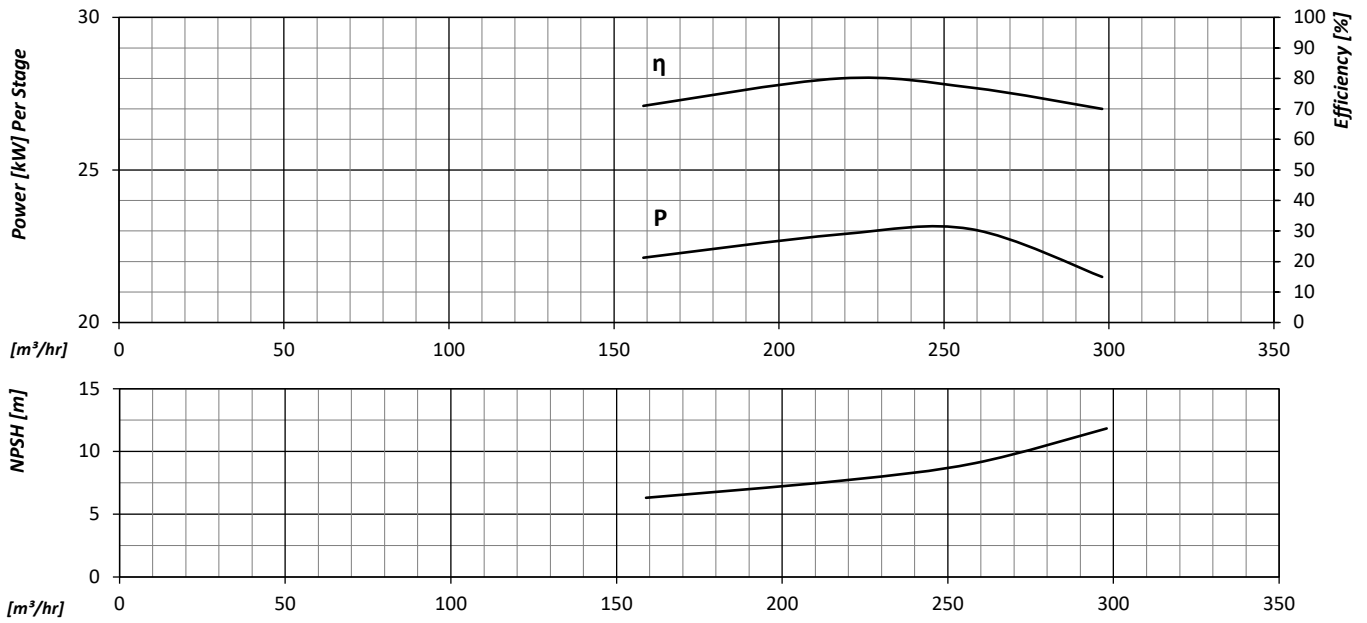


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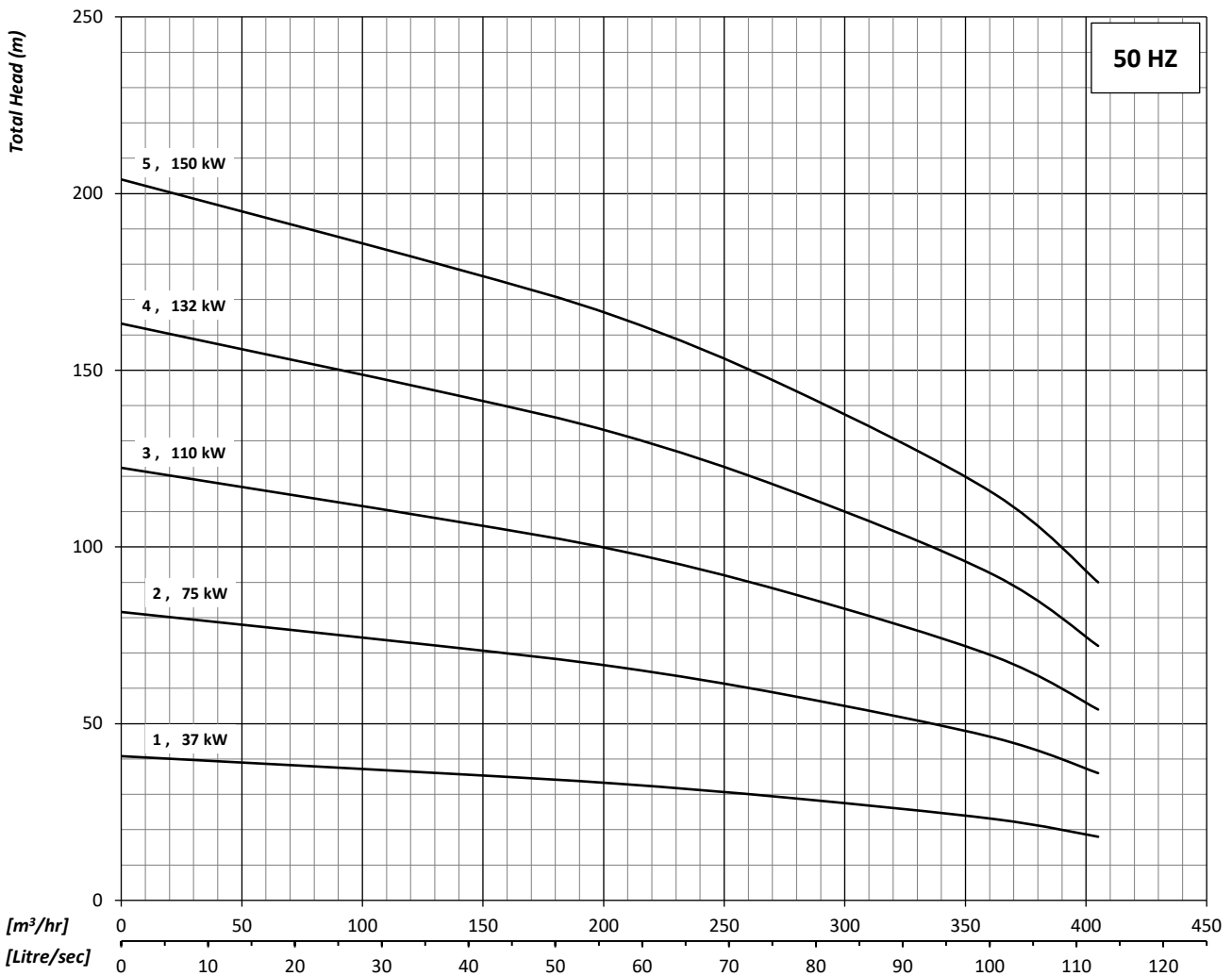
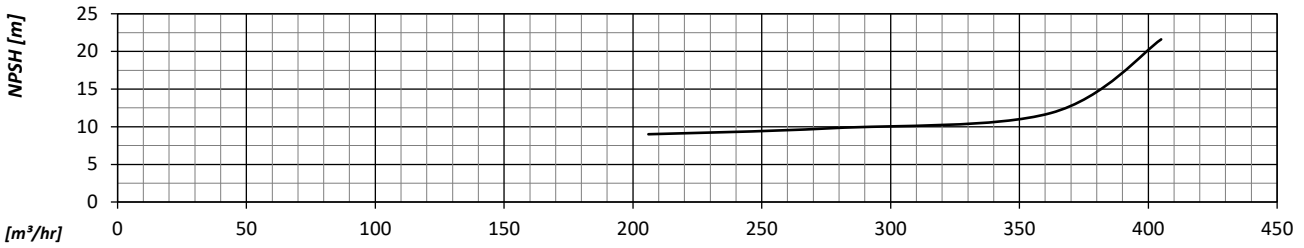
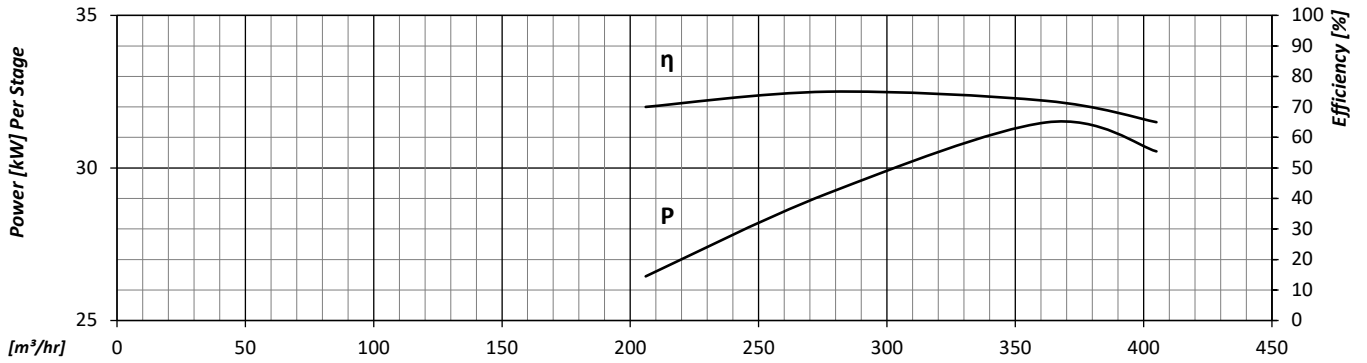


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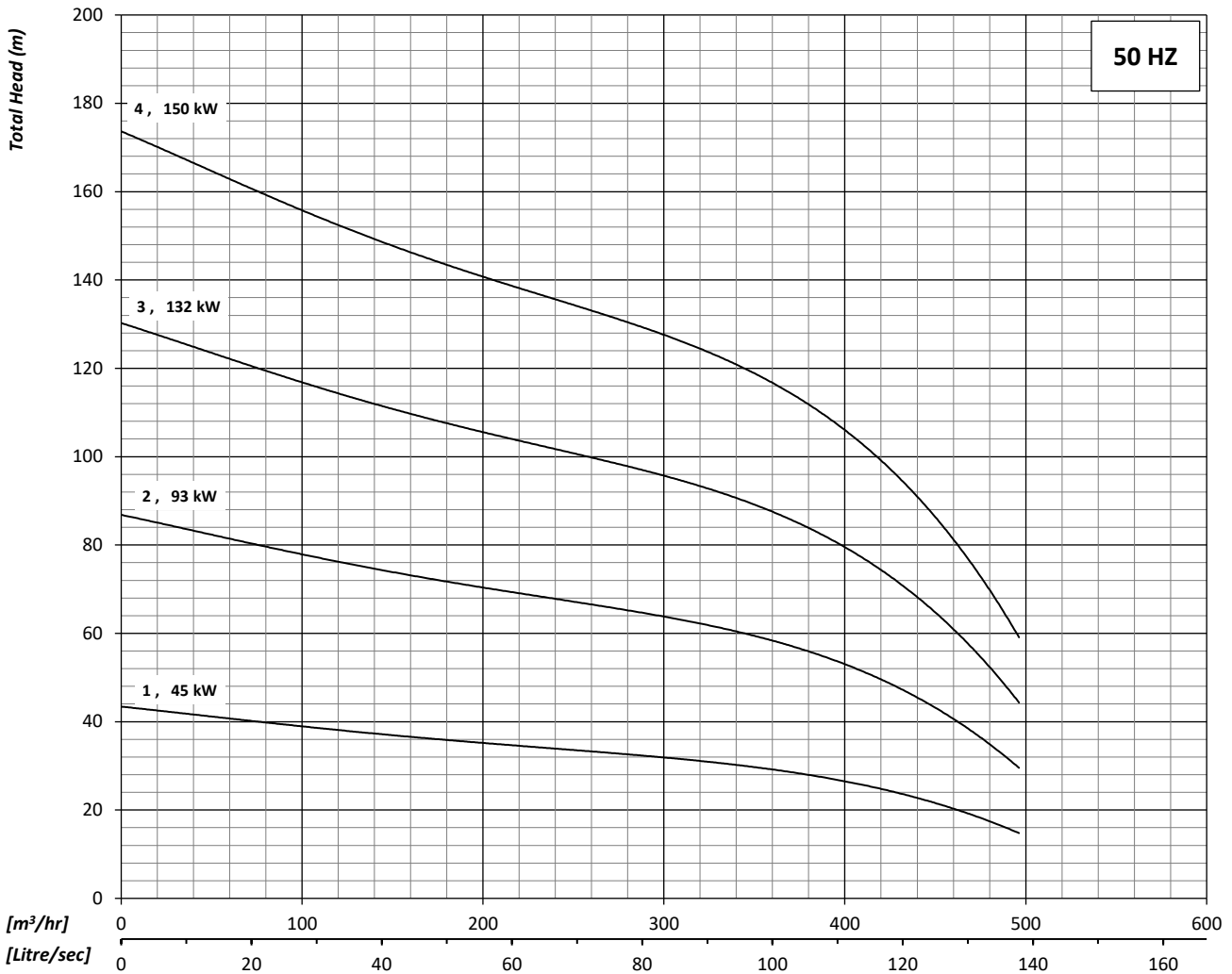
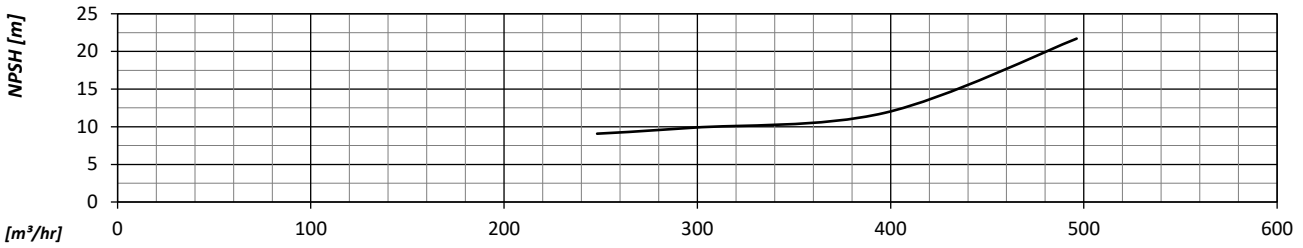
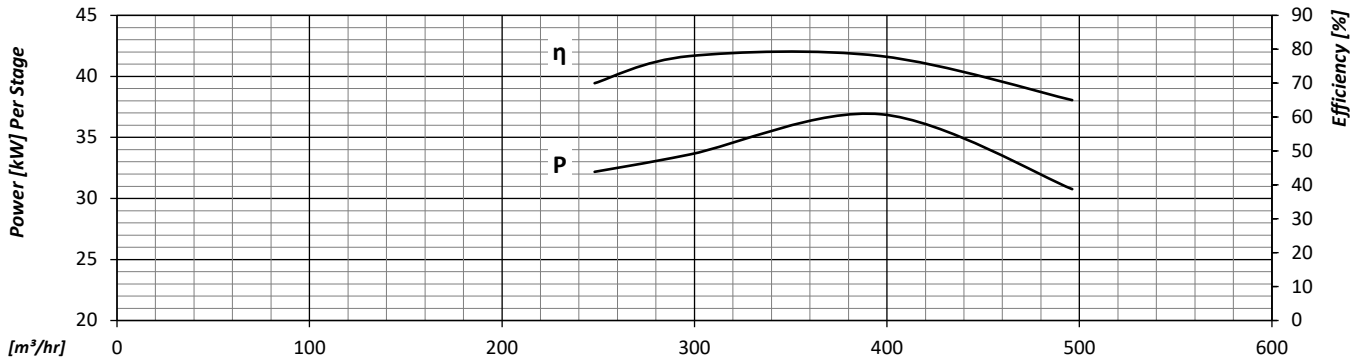


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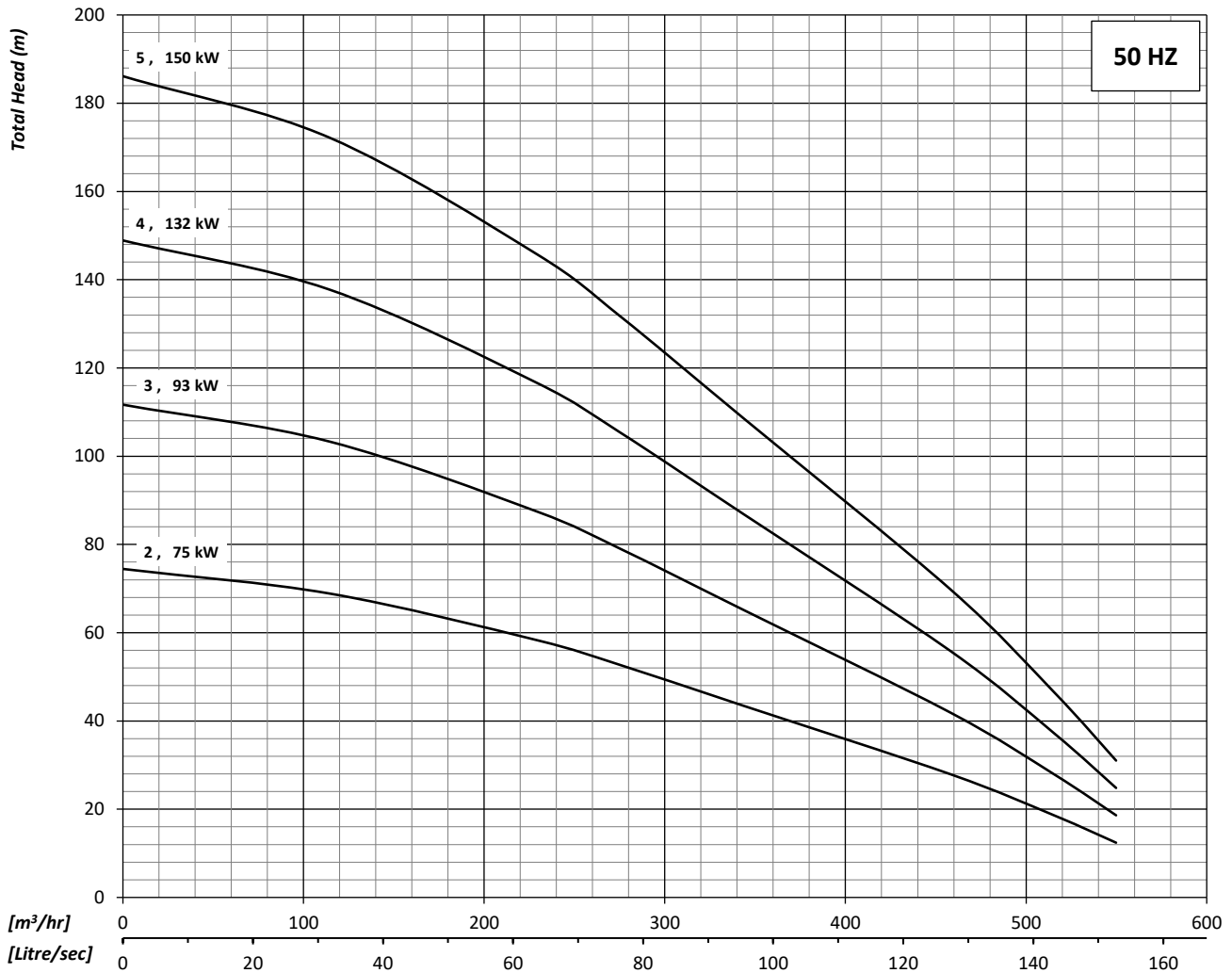
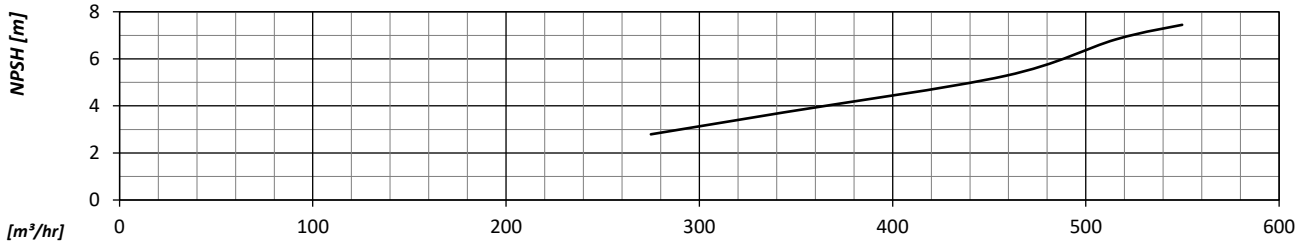
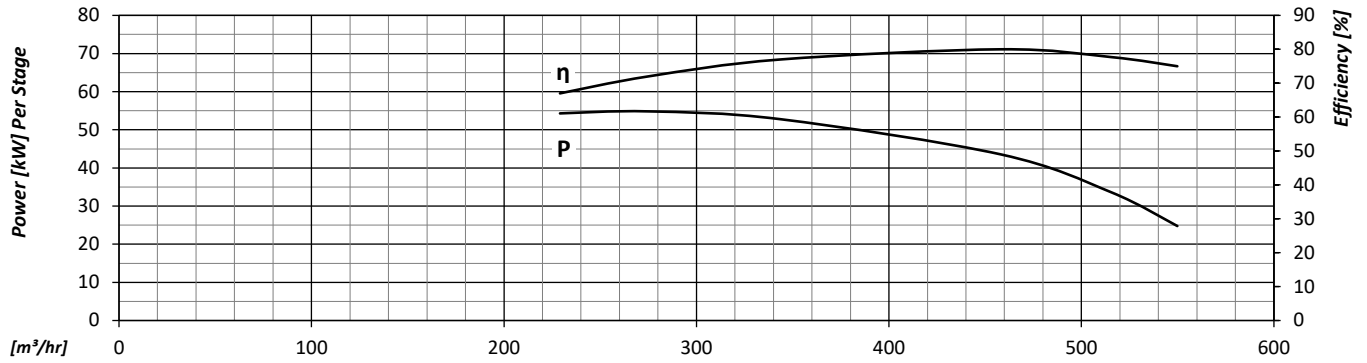


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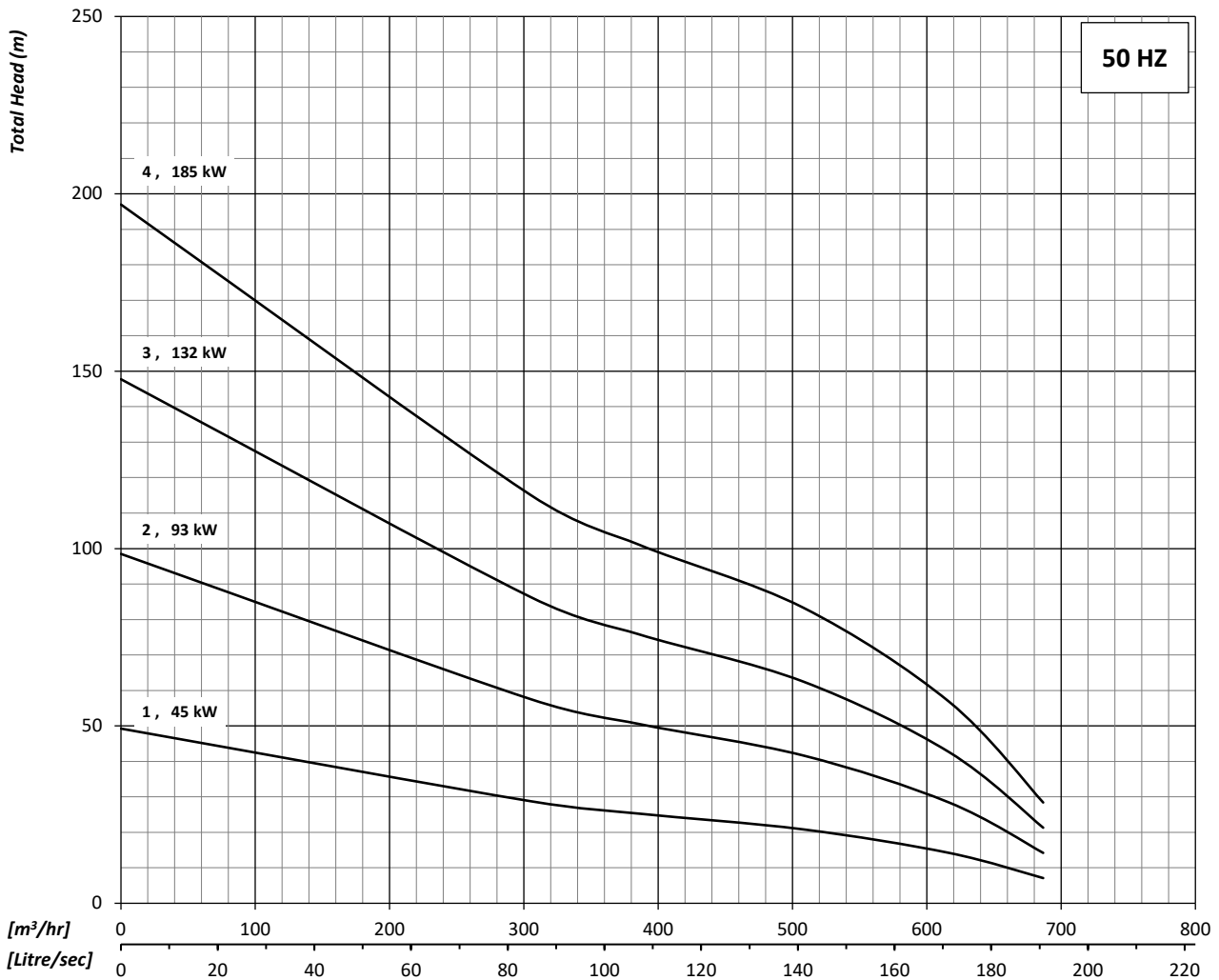
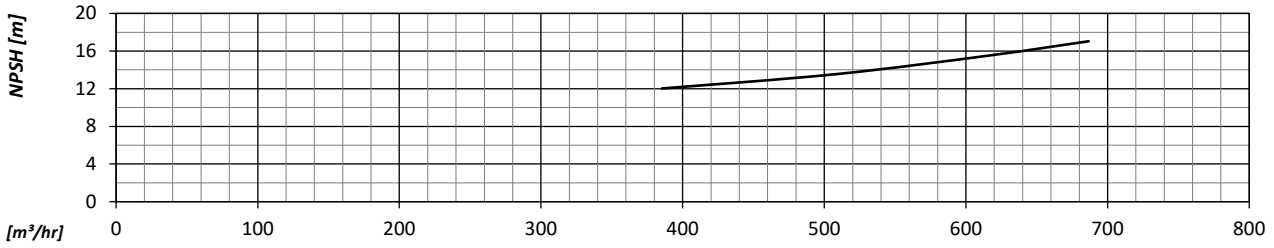
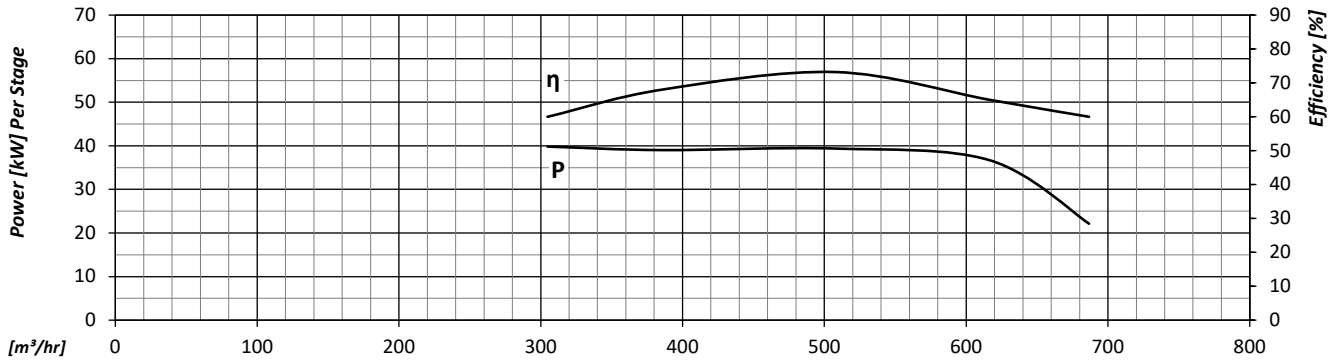
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10"

TS-10550 2900 rpm

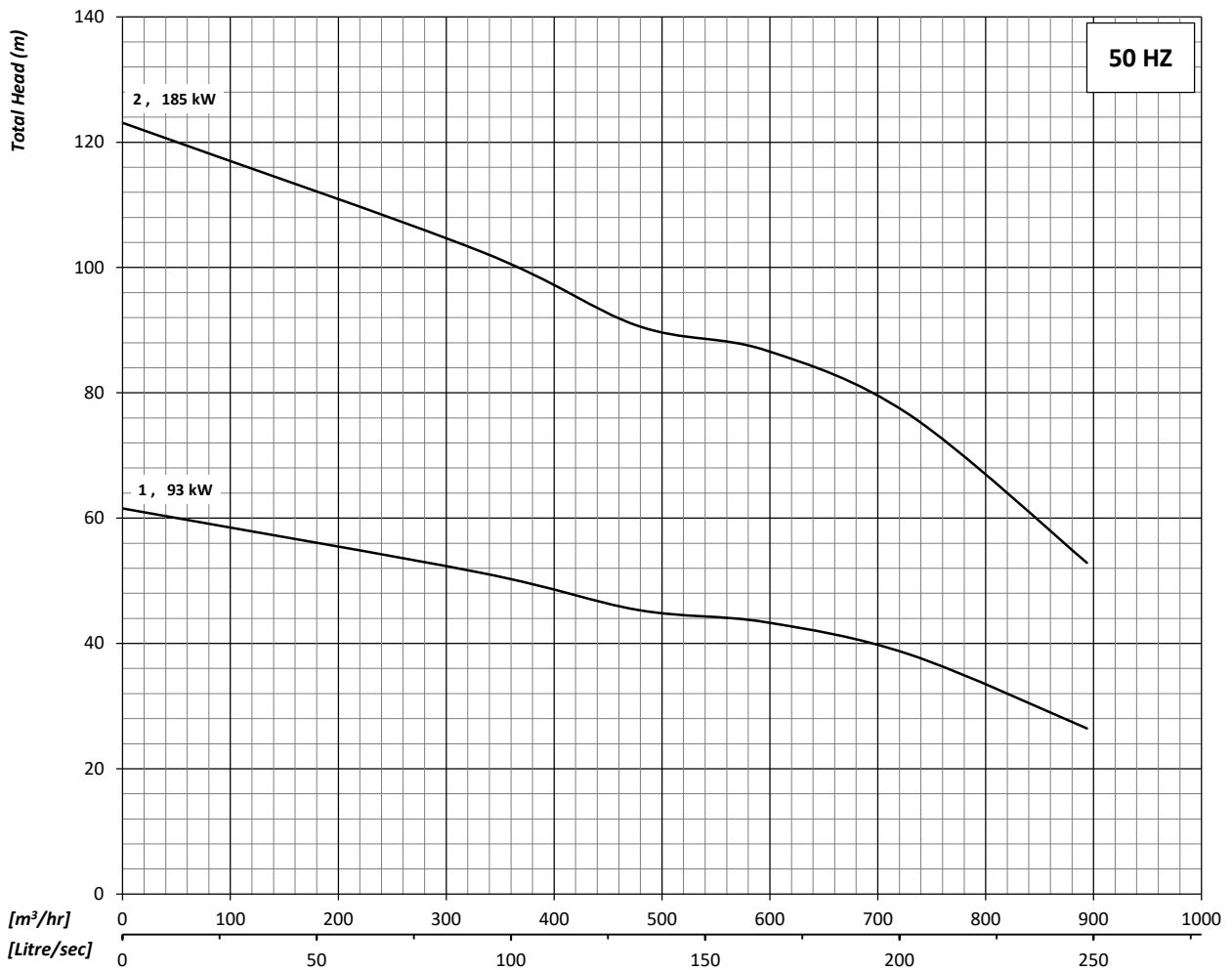
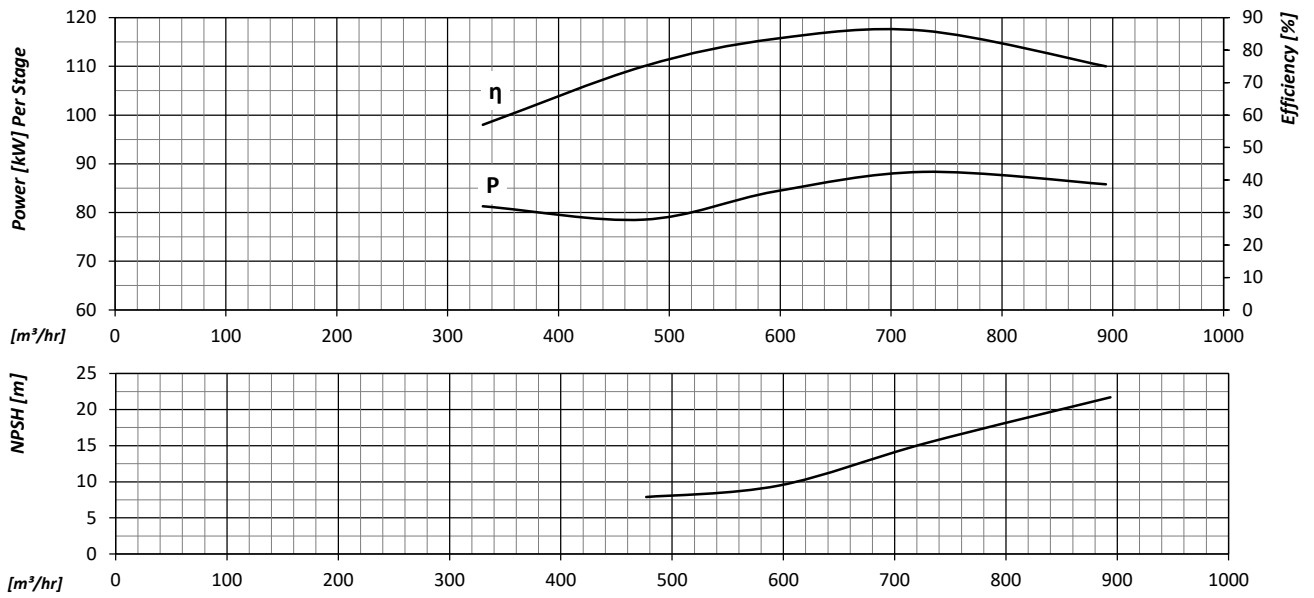


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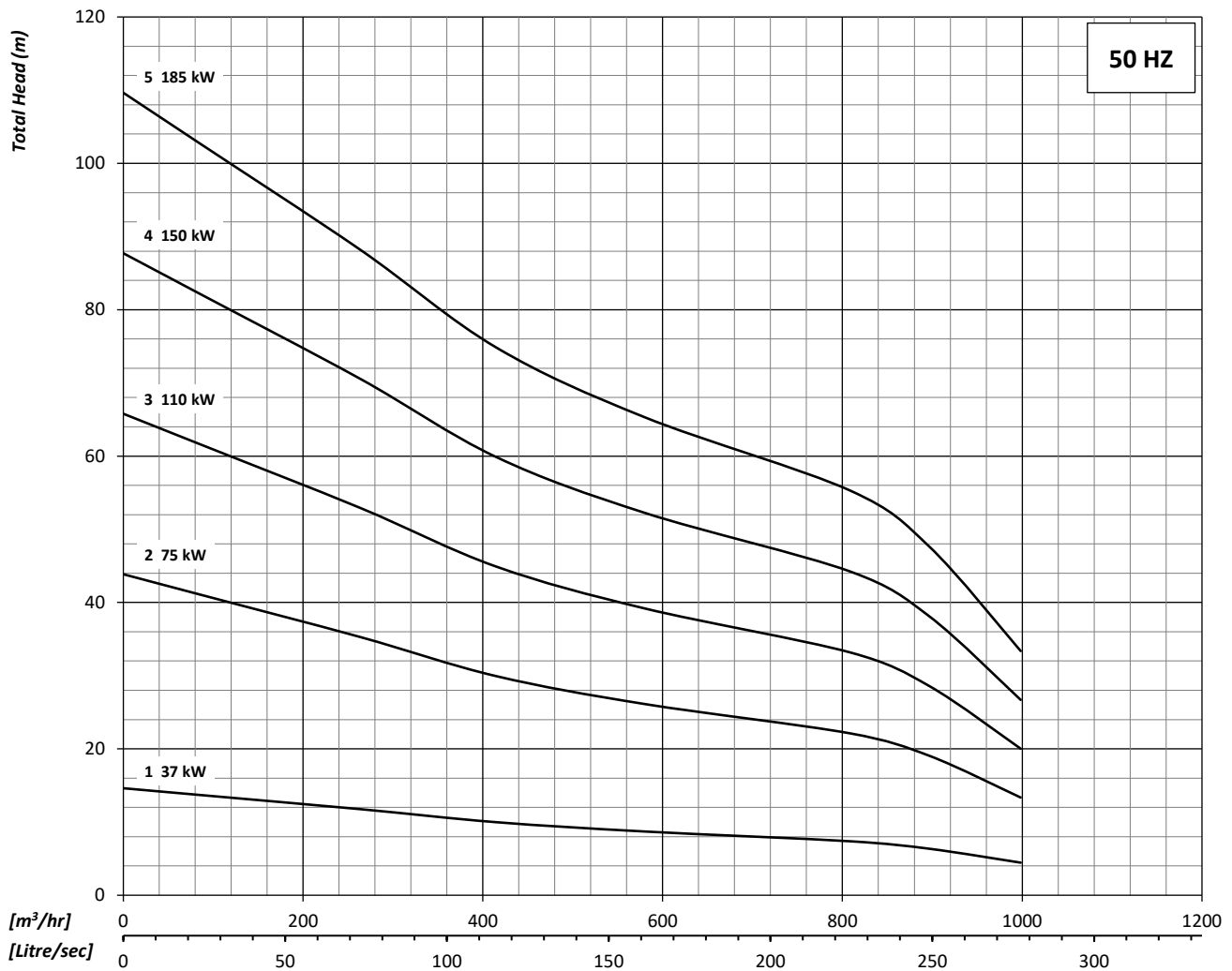
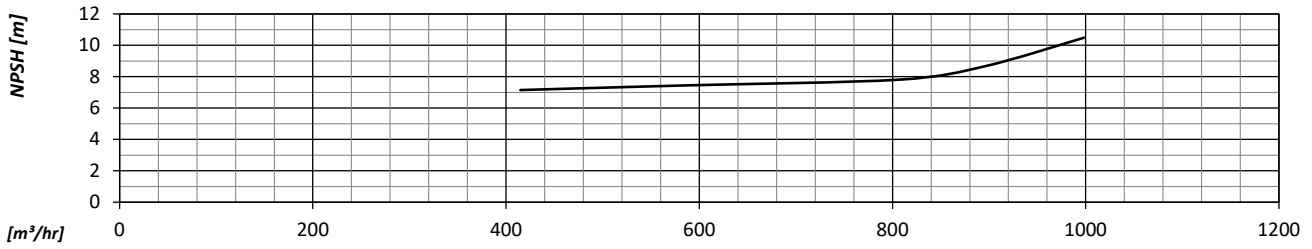
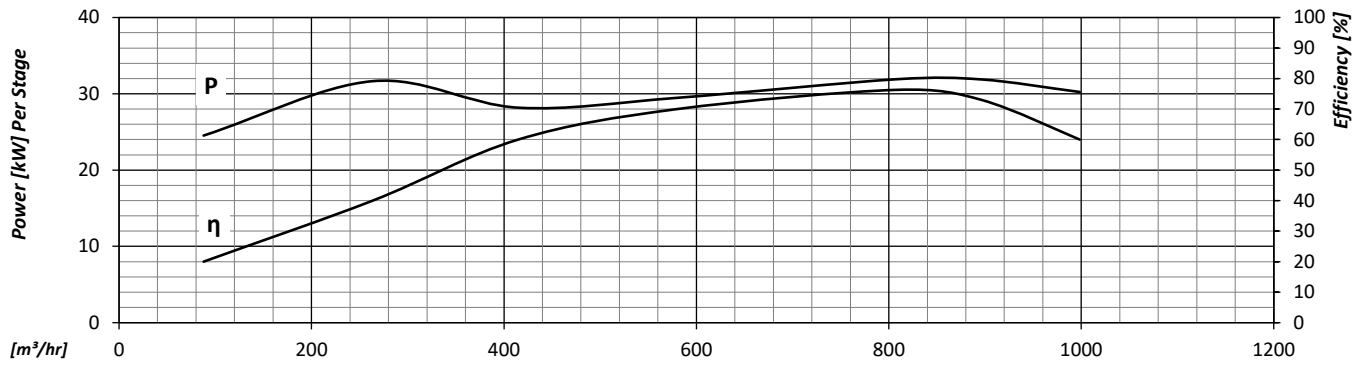
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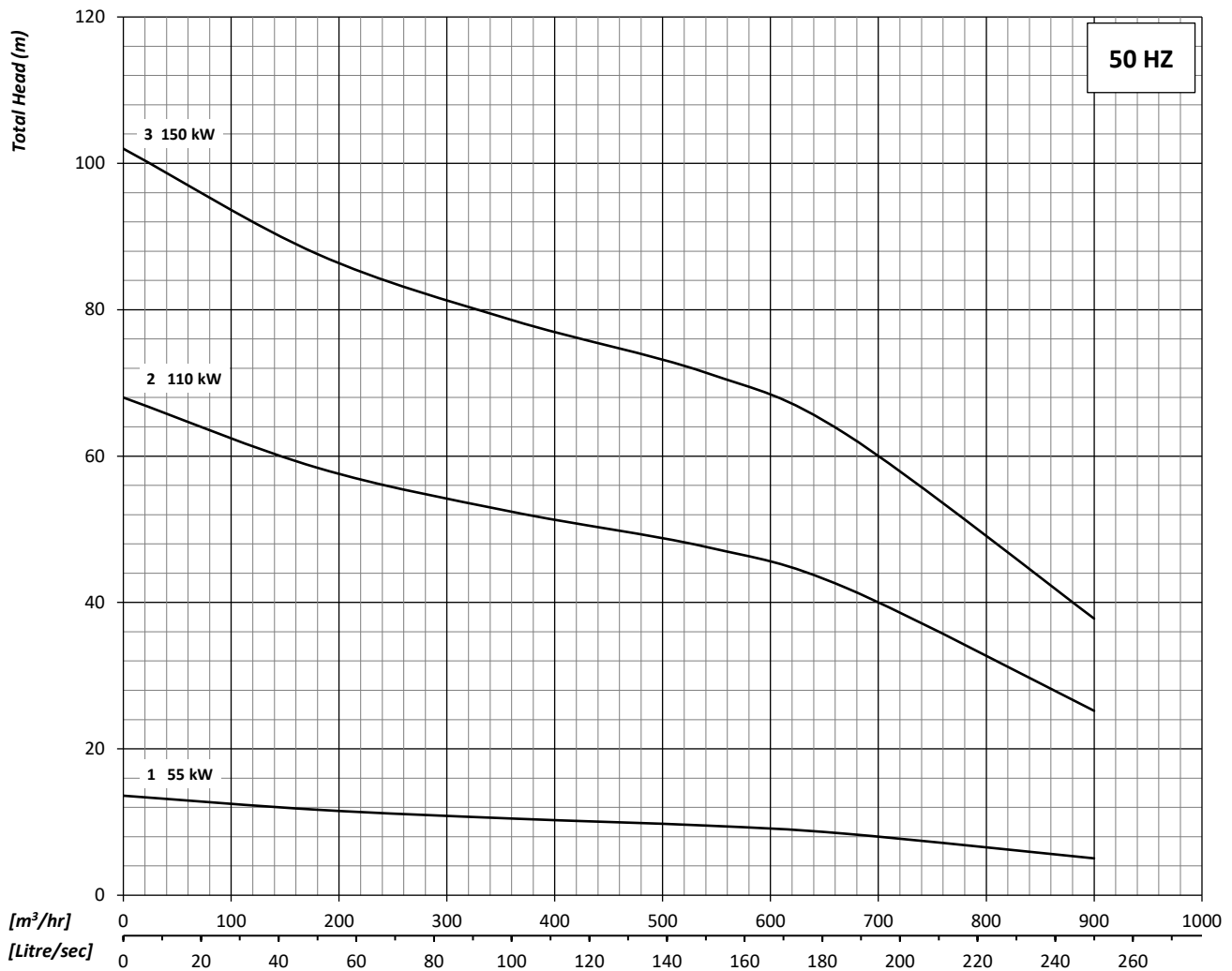
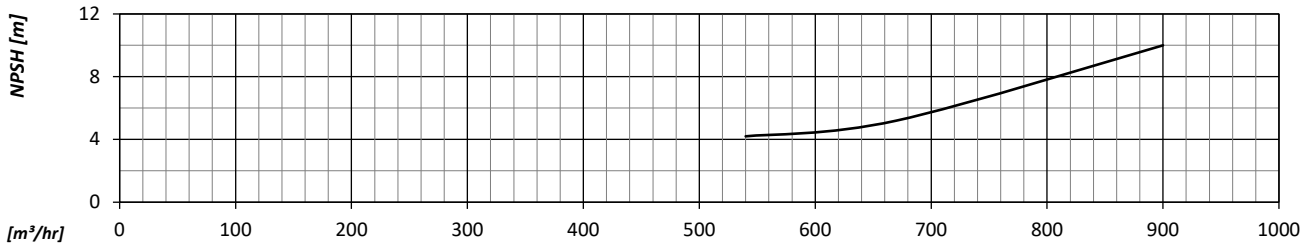
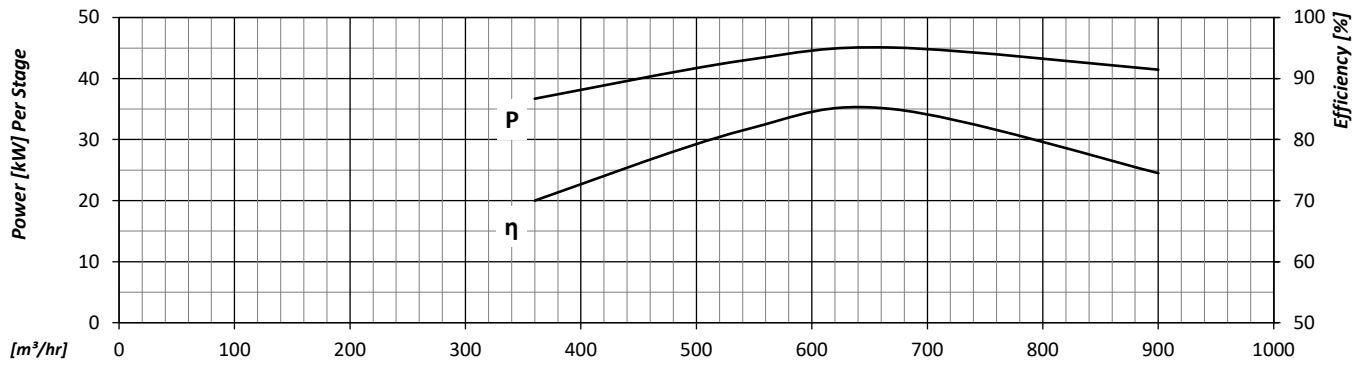


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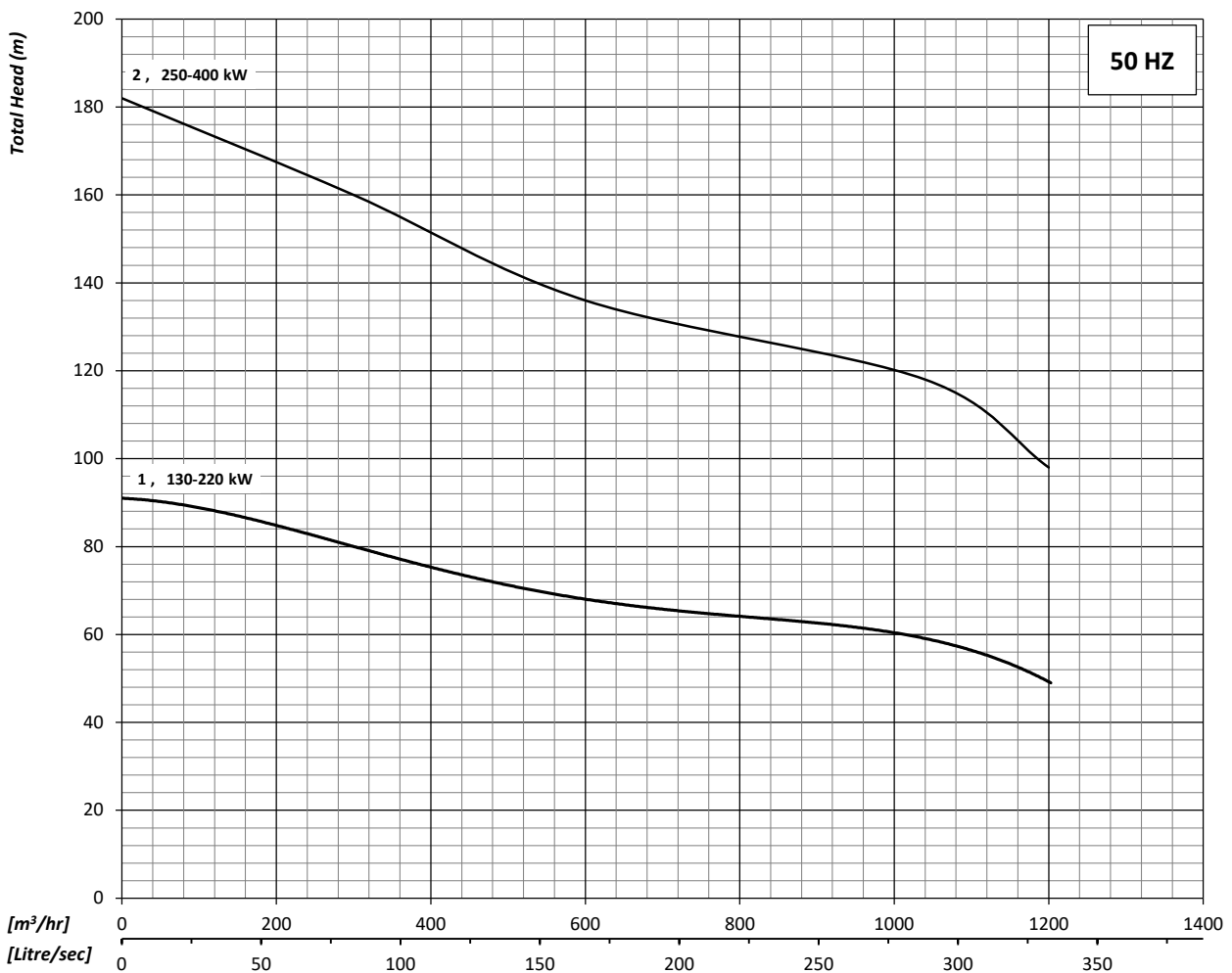
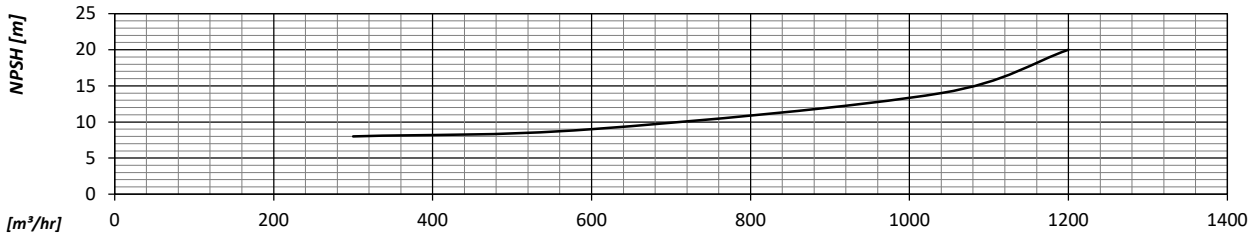
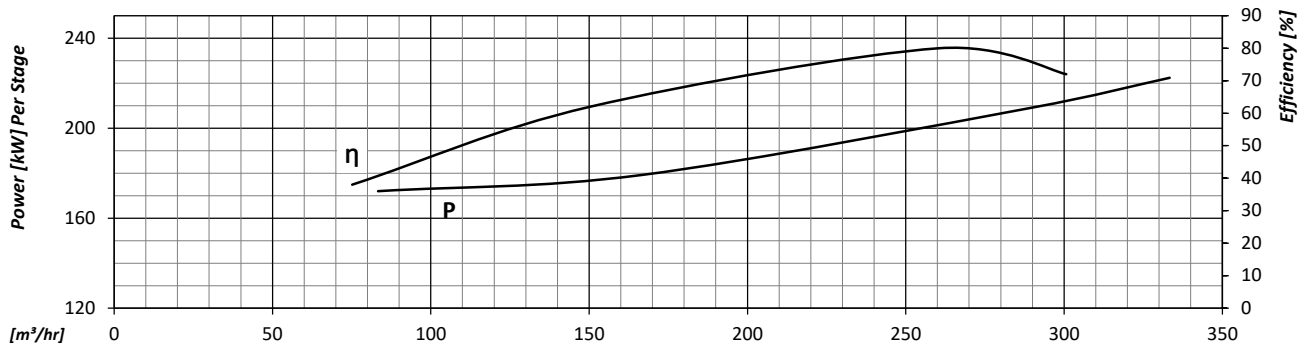


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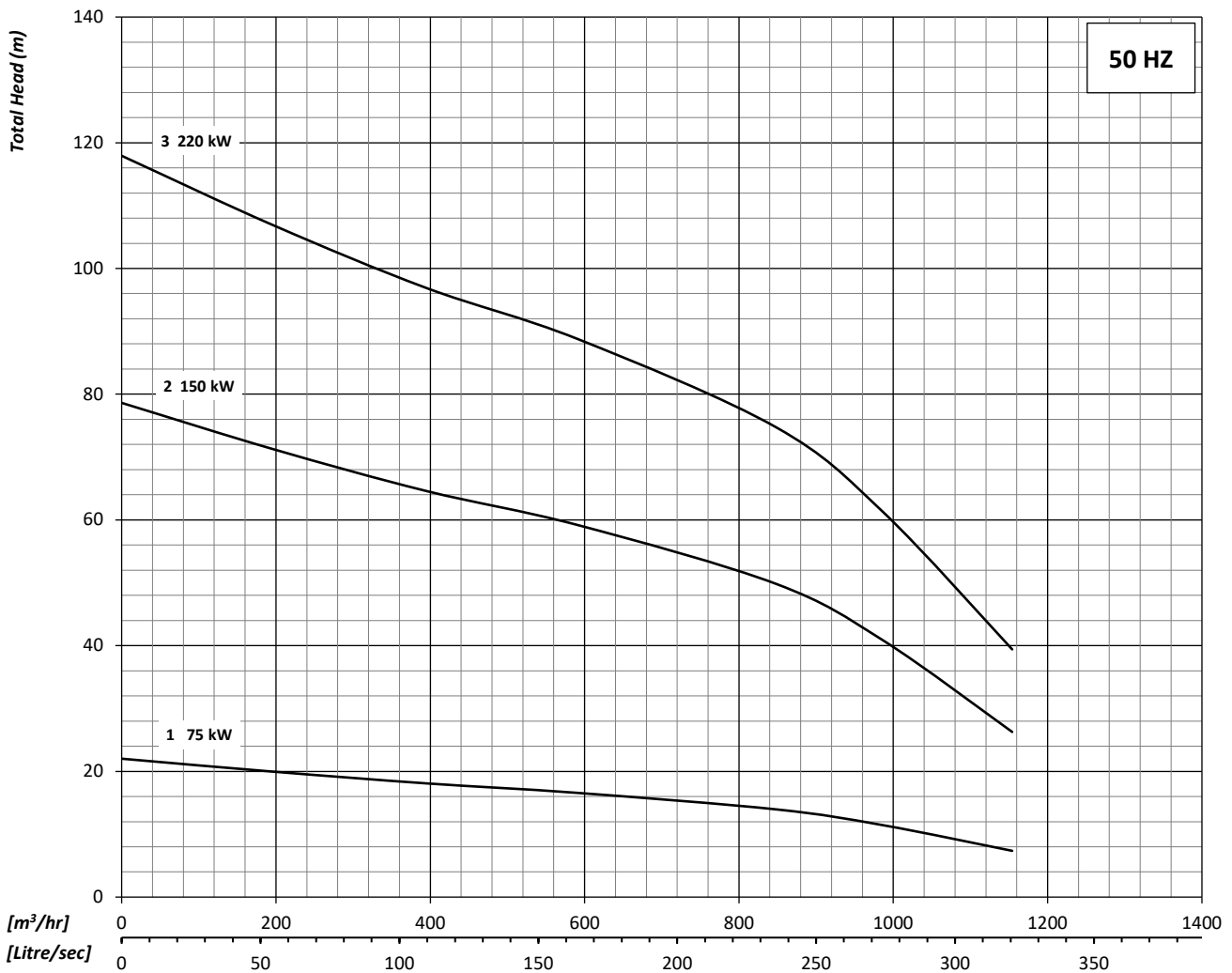
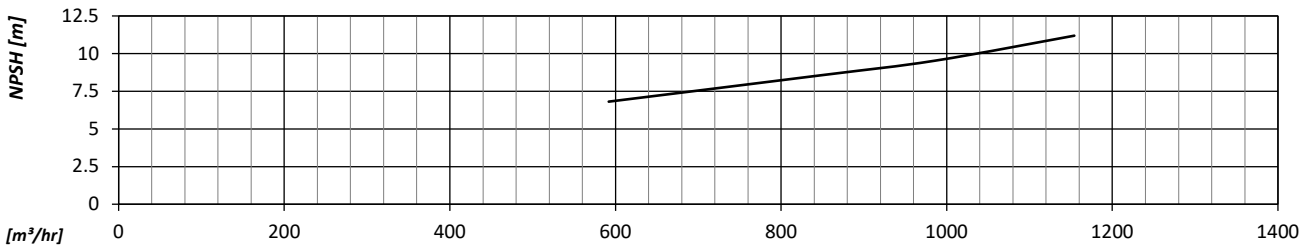
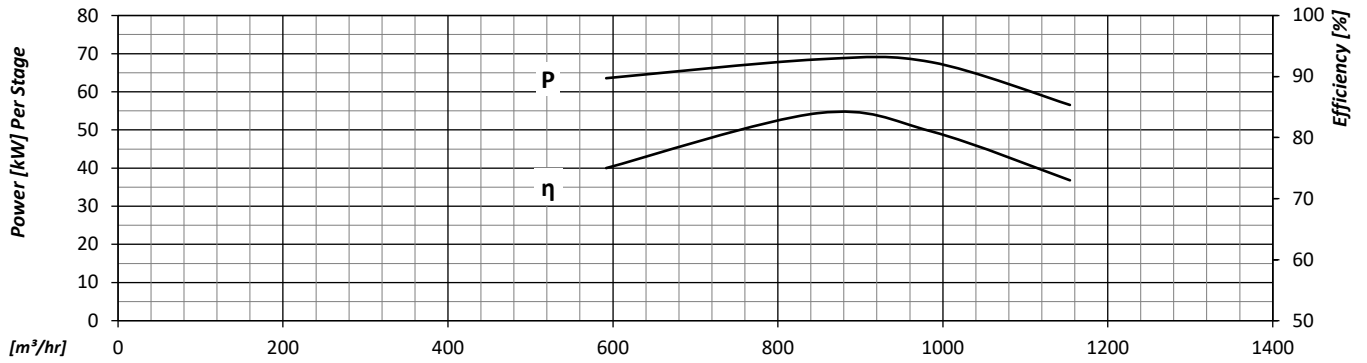
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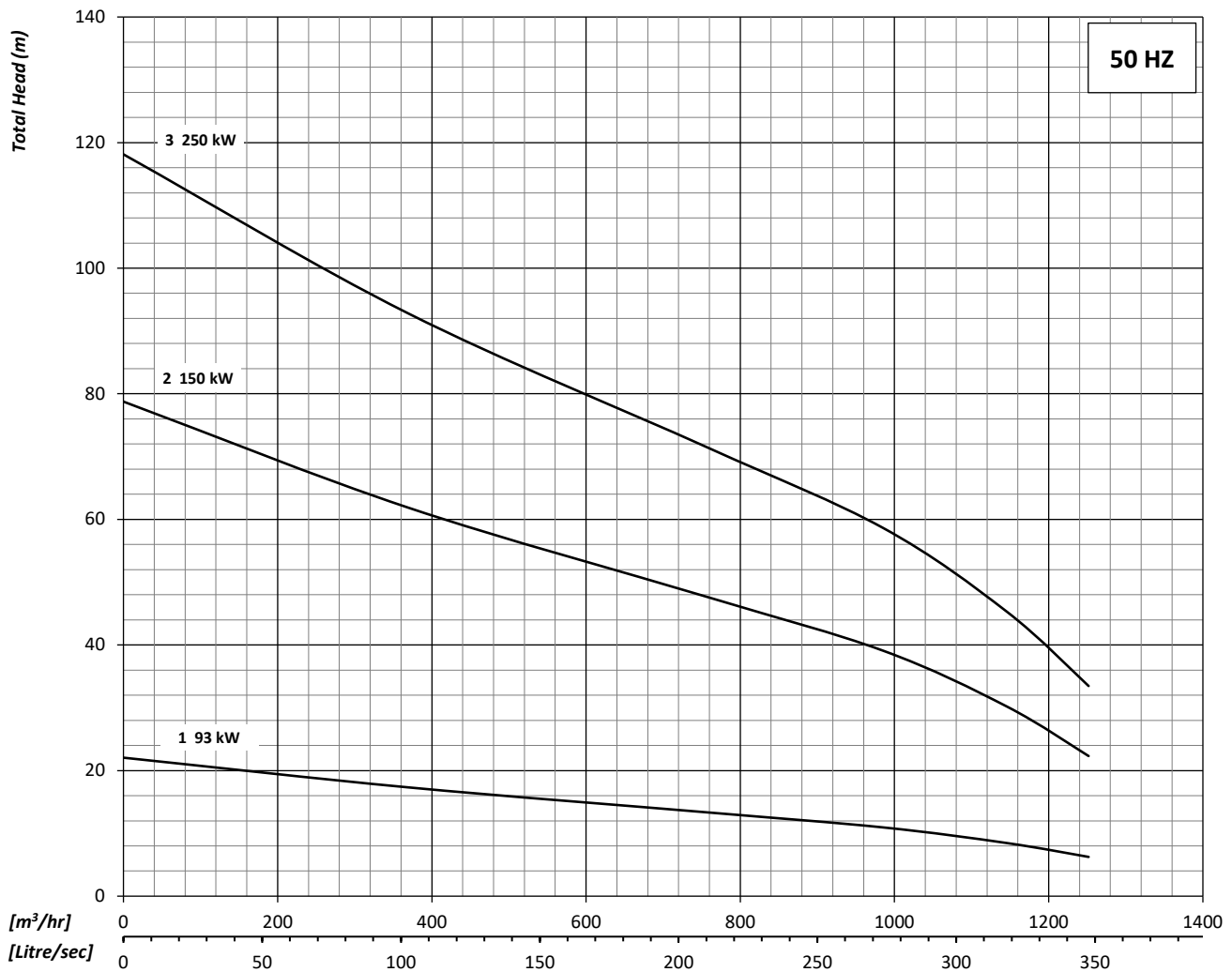
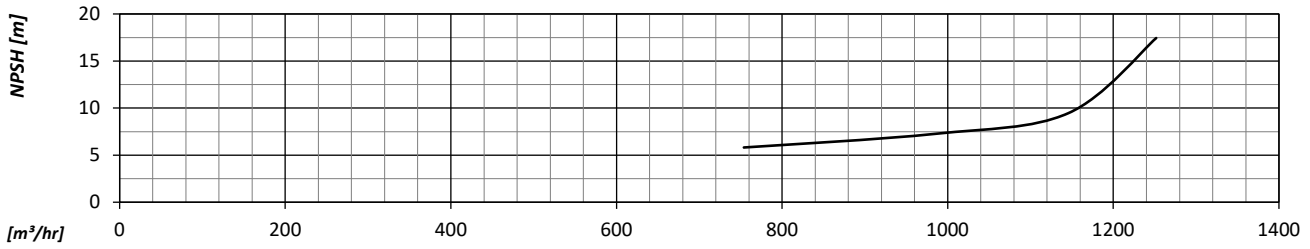
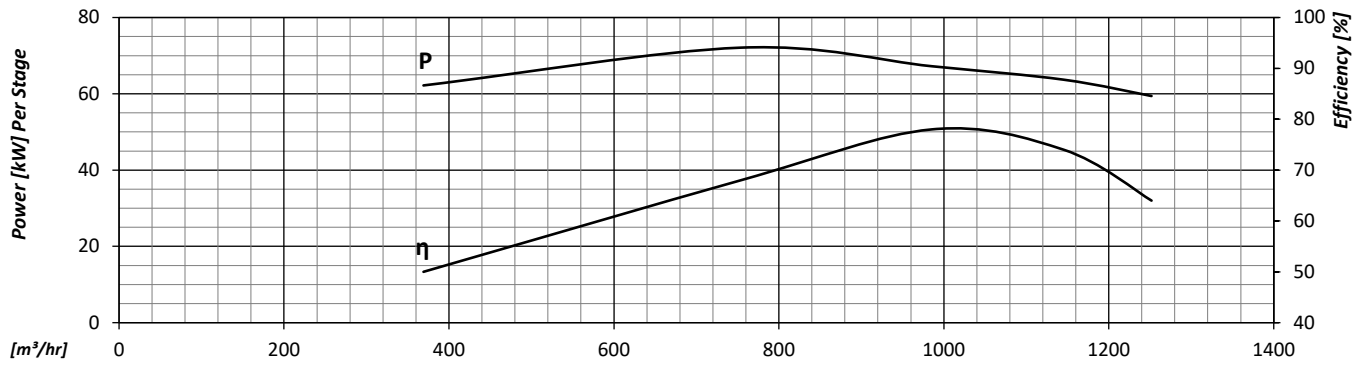


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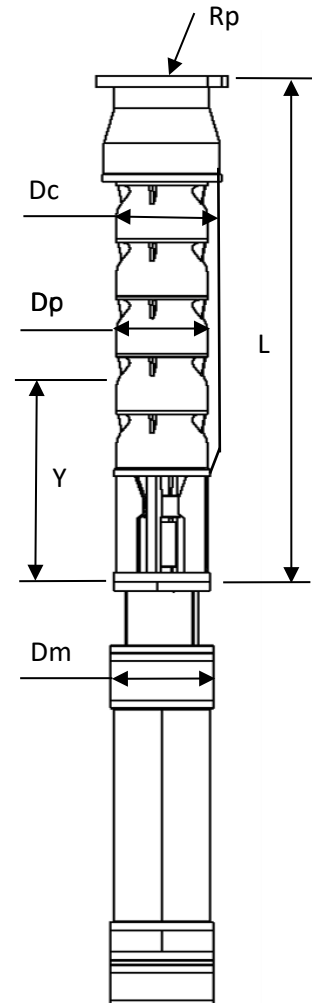
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TS Submersible turbine pump - 5"

Model	Power kW	L mm	Dp mm	Dc mm	Dm in	Rp BSP	Y metres
TS 540/5	5.5	858	125	135	6"	3"	1.2
TS 540/7	7.5	1038					
TS 540/9	9.3	1218					
TS 540/11	11	1318					
TS 540/14	15	1668					
TS 540/18	18.5	1988					
TS 540/21	22	2258					
TS 540/25	26	2578					
TS 540/29	30	2938					



Notes

Maximum solid/particle size is 50 gr³/m

Y = Minimum submergence

Incorrect submergence can lead to cavitation and damage to the turbine, impellers and seals and void warranty

Refer to motor brochure for submersible motor weights and dimensions

Dc = diameter with cable guard

TS Submersible turbine pump - 6"

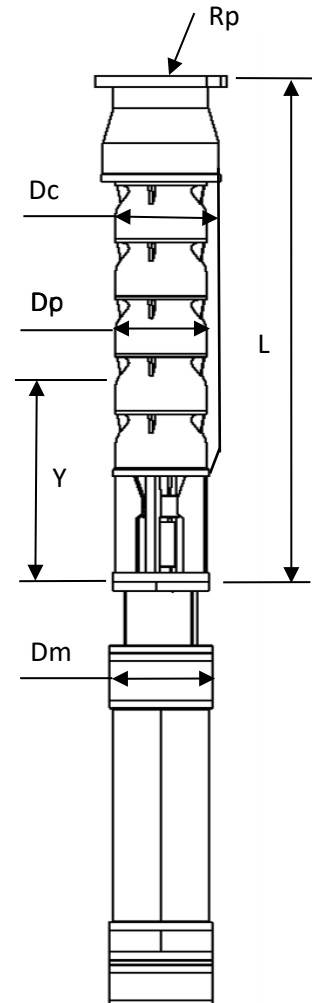
Model	Power kW	L mm	Dp mm	Dc mm	Dm in	Rp BSP	Y metres
TS 617/7	5.5	635	168	168	6"	3"	1.2
TS 617/10	7.5	770					
TS 617/12	9.3	860					
TS 617/14	11	950					
TS 617/19	15	1175					
TS 617/24	18.5	1480					
TS 617/29	22	1705					

TS 640/5	5.5	878	140	145	6"	3"	1.2
TS 640/6	7.5	978					
TS 640/8	9.3	1178					
TS 640/10	11	1378					
TS 640/14	15	1678					
TS 640/15	18.5	1878					
TS 640/20	22	2378					

TS 660/2	5.5	583	140	145	6"	3"	1.2
TS 660/3	7.5	688					
TS 660/4	9.3	793					
TS 660/5	11	898					
TS 660/6	15	1003					
TS 660/7	15	1108					
TS 660/8	18.5	1312					
TS 660/10	22	1423					
TS 660/12	26	1633					
TS 660/14	30	1843					

TS 685/2	5.5	673	140	148	6"	4"	1.2
TS 685/3	9.3	853					
TS 685/4	11	1033					
TS 685/5	15	1213					
TS 685/7	18.5	1573					
TS 685/8	22	1753					
TS 685/10	26	2113					
TS 685/11	30	2293					
TS 685/14	37	2833					
TS 685/17	45	3373					

TS 685 is supplied without a check valve



Notes

Maximum solid/particle size is 50 gr³m

Y = Minimum submergence

Incorrect submergence can lead to cavitation and damage to the turbine, impellers and seals and void warranty

Refer to motor brochure for submersible motor weights and dimensions

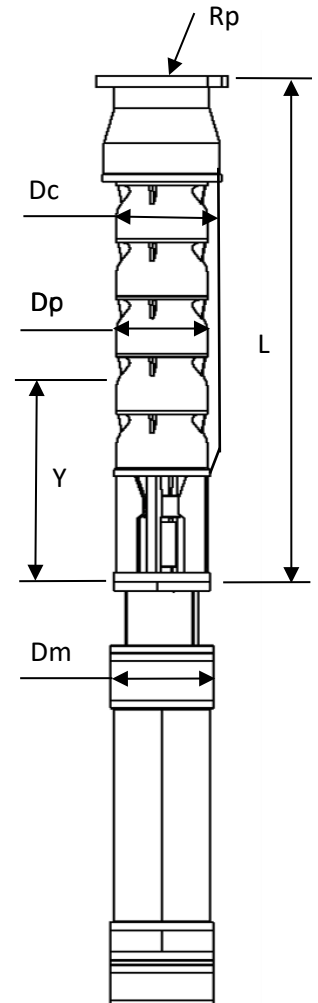
Dc = diameter with cable guard

TS Submersible turbine pump - 7"

Model	Power kW	L mm	Dp mm	Dc mm	Dm in	Rp BSP	Y metres
TS 760/1	5.5	535	170	180	6"	4"	2
TS 760/2	7.5	685					
TS 760/3	11	835					
TS 760/4	15	985					
TS 760/5	22	1135					
TS 760/	26	1285					
TS 760/7	30	1435					
TS 760/9	37	1585					
TS 760/11	45	1885					

TS 772/2	7.5	803	182	191	6"	4"	2
TS 772/3	15	933					
TS 772/4	18.5	1063					
TS 772/5	22	1193					
TS 772/6	26	1323					
TS 772/8	30	1583					
TS 772/9	37	1713					
TS 772/11	45	1973					

TS 7100/1	9.3	523	180	190	6"	4" or 6"	2
TS 7100/2	18.5	656					
TS 7100/3	26	784					
TS 7100/4	37	922					
TS 7100/5	45	1055					



Notes

Maximum solid/particle size is 50 gr³m

Y = Minimum submergence

Incorrect submergence can lead to cavitation and damage to the turbine, impellers and seals and void warranty

Refer to motor brochure for submersible motor weights and dimensions

Dc = diameter with cable guard

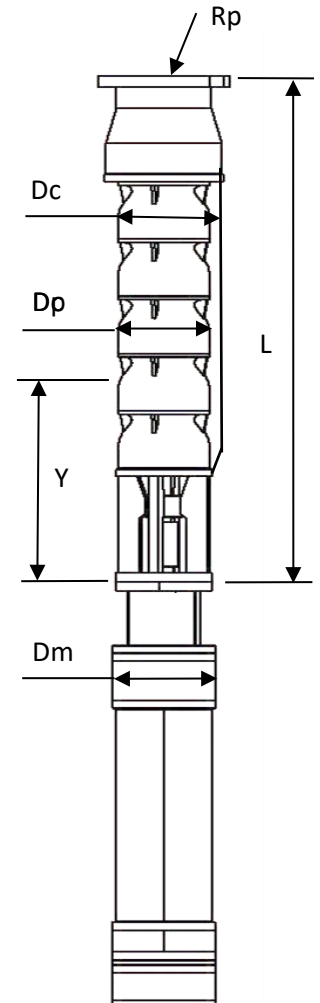
TS Submersible turbine pump - 8"

Model	Power kW	L mm	Dp mm	Dc mm	Dm in	Rp BSP	Y metres
TS 890/1	7.5	670	186	196	6"	4"	2.5
TS 890/2	11	793					
TS 890/3	18.5	916					
TS 890/4	22	1039					
TS 890/6	37	1285					
TS 890/8	45	1531					
TS 890/10	55	1777			8"		
TS 890/13	75	2146					

TS 8150/1	15	672	190	200	6"	4"	2.5
TS 8150/2	22	812					
TS 8150/3	37	952					
TS 8150/4	45	1092					
TS 8150/5	55	1232			8"		
TS 8150/6	75	1372					

TS 8200/1	15	545	190	200	6"	6"	2.5
TS 8200/2	30	697					
TS 8200/3	45	844					
TS 8200/4	55	1001					
TS 8200/5	75	1153			8"		
TS 8200/6	93	1305					

TS 8230/1	15	593	190	200	6"	6"	2.5
TS 8230/2	30	793					
TS 8230/3	45	993					
TS 8230/5	75	1393					
TS 8230/6	93	1593			8"		
TS 8230/7	110	1793					



Notes

Maximum solid/particle size is 50 gr³m

Y = Minimum submergence

Incorrect submergence can lead to cavitation and damage to the turbine, impellers and seals and void warranty

Refer to motor brochure for submersible motor weights and dimensions

Dc = diameter with cable guard

TS Submersible turbine pump - 10" and 12"

Model	Power kW	L mm	Dp mm	Dc mm	Dm in	Rp BSP/FI	Y metres
TS 10250/1	30	725	240	255	6"	6"	3.5
TS 10250/2	55	900					
TS 10250/3	75	1075					
TS 10250/4	110	1250					
TS 10250/5	132	1425					
TS 10250/6	150	1600					
TS 10250/7	185	1775					

TS 10280/1	37	725	240	255	6"	6"	3.5
TS 10280/2	75	900					
TS 10280/3	110	1075					
TS 10280/4	132	250					
TS 10280/5	150	1425					

TS 10350/1	45	725	240	255	6"	8" FI	3.5
TS 10350/2	93	900					
TS 10350/3	132	1075					
TS 10350/4	150	1250					

TS 10440/2	75	970	240	255	8"	8" FI	3.5
TS 10440/3	93	1210					
TS 10440/4	132	1450					
TS 10440/5	150	1640					

TS 10550/1	45	712	250	258	6"	8" FI	3.5
TS 10550/2	93	934					
TS 10550/3	132	1156					
TS 10550/4	185	1378					

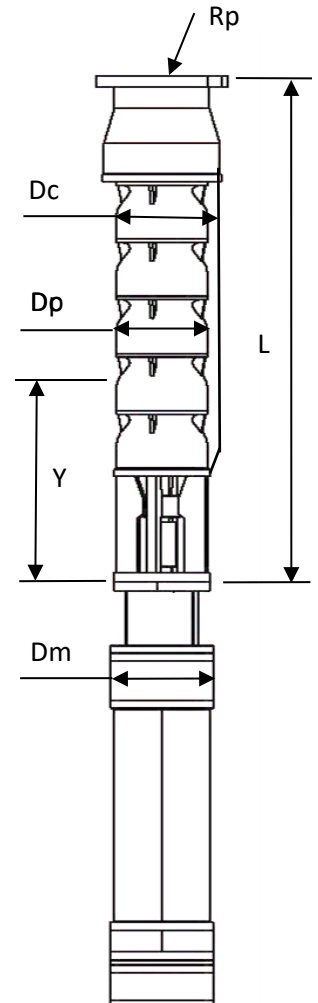
TS 10550 is supplied without a check valve

TS 12650/1	93	1000	292	312	8"	8"-10" FI	5
TS 12650/2	185	1304					

TS 12650

Without Check Valve Rp = 8" or 10" Flanged

With Check Valve Rp = 8" Flanged



Notes

Maximum solid/particle size is 50 gr³/m

Y = Minimum submergence

Incorrect submergence can lead to cavitation and damage to the turbine, impellers and seals and void warranty

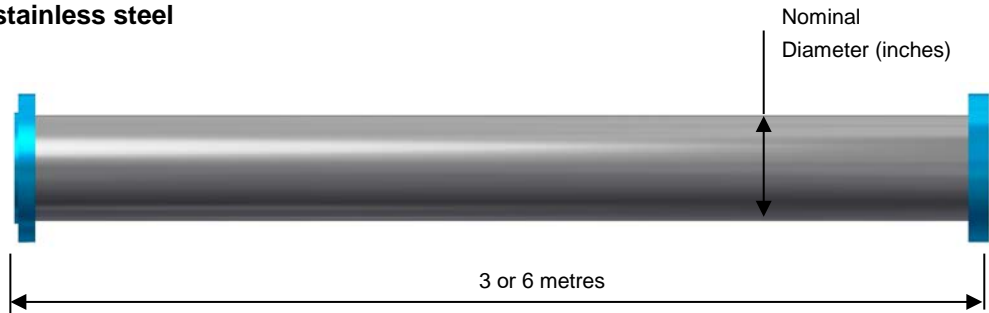
Refer to motor brochure for submersible motor weights and dimensions

Dc = diameter with cable guard

Submersible Column

Flanged Column

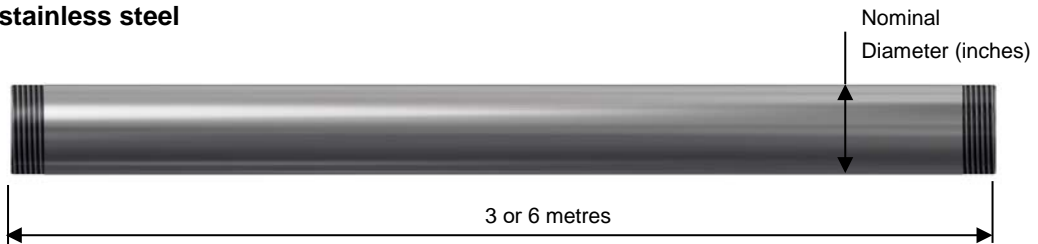
Carbon Steel
304 stainless steel



		Nominal diameter - inches								
Carbon Steel	Sch 40	4"	5"	6"	8"	10"	12"	14"	16"	18"
Stainless Steel	Sch 10	4"	5"	6"	8"	10"	12"	14"	16"	18"
Flange OD (mm)		160	190	235	270	336	412	440	580	640
Standard length		3 or 6 metres								

Threaded Column

Carbon Steel
304 stainless steel



		Nominal diameter - inches						Collar material
Carbon Steel	Sch 40	4"	5"	6"	8"	10"	12"	Carbon Steel
Stainless Steel	Sch 40	4"	5"	6"	8"	10"	12"	Bronze
Collar OD (mm)		126	155	180	250	295	360	
Thread		8 TPI						
Standard length		3 or 6 metres						

Carbon steel external surfaces are painted in bituminous black paint for corrosion resistance

Threaded columns use industry standard thread pitch, right hand. Left hand available as an option

Submersible column has a notch in the flange to allow for the drop cable

TPI = Threads per Inch



Conversion charts

Multiplier	Unit	VOLUME FLOW RATE - CAPACITY									
1	m ³ /h	5	10	20	30	40	50	60	70	80	90
24	m ³ /day	120	240	480	720	960	1,200	1,440	1,680	1,920	2,160
0.277778	L/S	1.4	2.8	5.6	8.3	11.1	13.9	16.7	19.4	22.2	25.0
16.6667	LPM	83	167	333	500	667	833	1,000	1,167	1,333	1,500
3.66615	IGPM	18	37	73	110	147	183	220	257	293	330
4.40287	USGPM	22	44	88	132	176	220	264	308	352	396
0.001	ML/hr	0.005	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.024	ML/day	0.12	0.24	0.48	0.72	0.96	1.2	1.44	1.68	1.92	2.16

Multiplier	Unit	VOLUME FLOW RATE - CAPACITY									
1	m ³ /h	100	200	300	400	500	600	700	800	900	1,000
24	m ³ /day	2,400	4,800	7,200	9,600	12,000	14,400	16,800	19,200	21,600	24,000
0.277778	L/S	27.8	55.6	83.3	111.1	138.9	166.7	194.4	222.2	250.0	277.8
16.6667	LPM	1,667	3,333	5,000	6,667	8,333	10,000	11,667	13,333	15,000	16,667
3.66615	IGPM	367	733	1,100	1,466	1,833	2,200	2,566	2,933	3,300	3,666
4.40287	USGPM	440	881	1,321	1,761	2,201	2,642	3,082	3,522	3,963	4,403
0.001	ML/hr	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
0.024	ML/day	2.4	4.8	7.2	9.6	12	14.4	16.8	19.2	21.6	24

Multiplier	Unit	VOLUME FLOW RATE - CAPACITY									
1	m ³ /h	1,100	1,200	1,400	1,600	1,800	2,000	2,500	3,000	3,500	4,000
24	m ³ /day	26,400	28,800	33,600	38,400	43,200	48,000	60,000	72,000	84,000	96,000
0.277778	L/S	306	333	389	444	500	556	694	833	972	1,111
16.6667	LPM	18,333	20,000	23,333	26,667	30,000	33,333	41,667	50,000	58,333	66,667
3.66615	IGPM	4,033	4,399	5,133	5,866	6,599	7,332	9,165	10,998	12,832	14,665
4.40287	USGPM	4,843	5,283	6,164	7,045	7,925	8,806	11,007	13,209	15,410	17,611
0.001	ML/hr	1.1	1.2	1.4	1.6	1.8	2	2.5	3	3.5	4
0.024	ML/day	26.4	28.8	33.6	38.4	43.2	48	60	72	84	96

Multiplier	Unit	PRESSURE									
1	PSI	10	20	30	40	50	75	100	125	150	200
6.89476	kPa	69	138	207	276	345	517	689	862	1,034	1,379
0.0689476	Bar	0.7	1.4	2.1	2.8	3.4	5.2	6.9	8.6	10.3	13.8
7.032496	M head	70	141	211	281	352	527	703	879	1,055	1,406
23.066587	Ft head	231	461	692	923	1,153	1,730	2,307	2,883	3,460	4,613

Multiplier	Unit	PRESSURE									
1	PSI	250	300	350	400	450	550	600	650	700	750
6.89476	kPa	1,724	2,068	2,413	2,758	3,103	3,792	4,137	4,482	4,826	5,171
0.0689476	Bar	17.2	20.7	24.1	27.6	31.0	37.9	41.4	44.8	48.3	51.7
7.032496	M head	1,758	2,110	2,461	2,813	3,165	3,868	4,219	4,571	4,923	5,274
23.066587	Ft head	5,767	6,920	8,073	9,227	10,380	12,687	13,840	14,993	16,147	17,300

All effort has been made for accurate calculations, reconfirm prior to use
 Some values in the charts have been rounded to single or no decimal points



Minimum Submergence

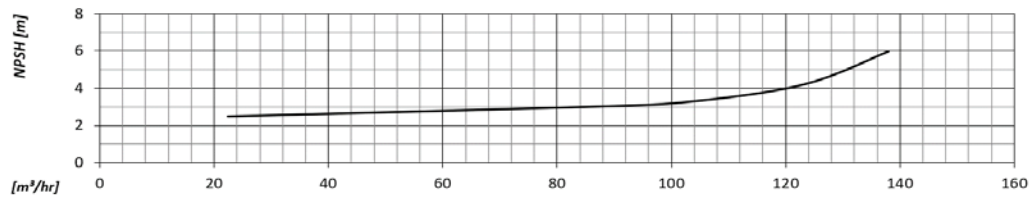
A submersible borehole/well pump must be submerged at all times.

The pump suction intake must be sufficiently submerged to prevent cavitation and avoid the formation of vortices being created on the liquid being pumped.

When a vortex forms, this can cause air to mix with the water being pumped, causing possible cavitation and reduce the pump capacity and can lead to internal damage of the impellers and bowls.

To avoid free surface vortex formation, you would use the minimum submergence figure recommended by the manufacturer in their charts.

An approximate way to determine the submergence value for a submersible turbine pumps can be based from the NPSH curve;



Identify the flow rate you require and go up the graph to the NPSH curve/line.

Examples:

At the nominal flow rate of 80 m³/h the NPSH is 3 metres.

Now use the 3 metres and subtract atmospheric pressure of 9.81 metres.
The result is a negative figure which is not acceptable for a pump intake.

$NPSH(M) - G(M) + 1M = \text{minimum submergence}$

NPSHr = Net Positive Suction Head required. G = head of atmospheric pressure. M = metre

If the value calculated is less than zero metres, for our submersible pumps we would recommend a minimum submergence 'Y' of 1 metre.

If the value calculated is above zero, use that figure and add 1 metre

Example: If the NPSH curve shows 12 metres, subtract 9.81 metres which equals 2.2 metres, so the recommended minimum submergence 'Y' would be 3.2 metres. In our charts we would likely state 'Y' as being 3.5 or even 4 metres.

Note:

Minimum submergence is considered from the bottom of the suction strainer for submersible pumps and from the bottom of the suction bell for vertical line shaft turbine pumps.



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