

NP 3102 MT 3~ Adaptive 461

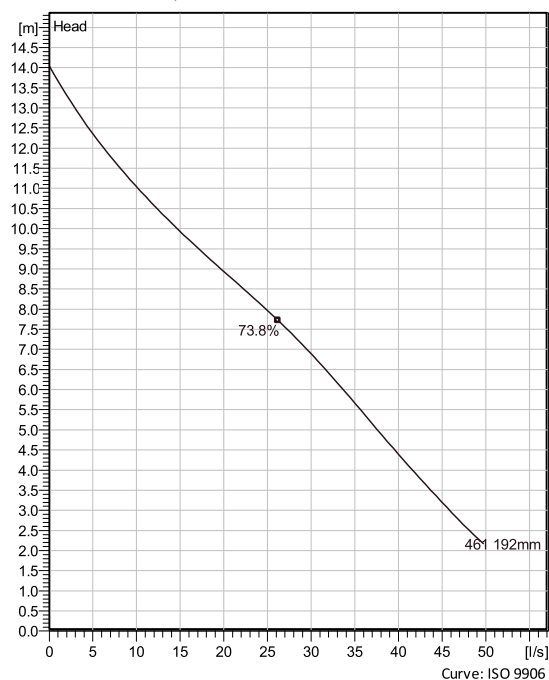
Patented self cleaning semi-open channel impeller, ideal for pumping in most waste water applications. Modular based design with high adaptation grade.



Technical specification



Curves according to: Water, pure Water, pure [100%], 4 °C, 999.9 kg/m³, 1.5692 mm²/s



Nominal (mean) data shown. Under- and over-performance from this data should be expected due to standard manufacturing tolerances.
Please consult your local Flygt representative for performance guarantees.

Configuration

Motor number N3102.760 18-11-4AL-W 3.1KW	Installation type P - Semi permanent, Wet
Impeller diameter 192 mm	Discharge diameter 100 mm

Configuration

Pump information

Impeller diameter 192 mm
Discharge diameter 100 mm
Inlet diameter 100 mm
Maximum operating speed 1455 rpm
Number of blades 2

Material

Impeller Stainless steel
Stator housing material Grey cast iron

Max. fluid temperature
40 °C

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Created by Dave Ridgway
Created on 7/6/2023 **Last update** 7/6/2023

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Technical specification



Motor - General

Motor number N3102.760 18-11-4AL-W 3.1KW	Phases 3~	Rated speed 1455 rpm	Rated power 3.1 kW
Approval No	Number of poles 4	Rated current 6.6 A	Stator variant 62
Frequency 50 Hz	Rated voltage 400 V	Insulation class H	Type of Duty S1
Version code 760			

Motor - Technical

Power factor - 1/1 Load 0.79	Motor efficiency - 1/1 Load 85.4 %	Total moment of inertia 0.0283 kg m ²	Starts per hour max. 30
Power factor - 3/4 Load 0.72	Motor efficiency - 3/4 Load 86.0 %	Starting current, direct starting 38 A	
Power factor - 1/2 Load 0.60	Motor efficiency - 1/2 Load 84.8 %	Starting current, star-delta 12.7 A	

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Performance curve

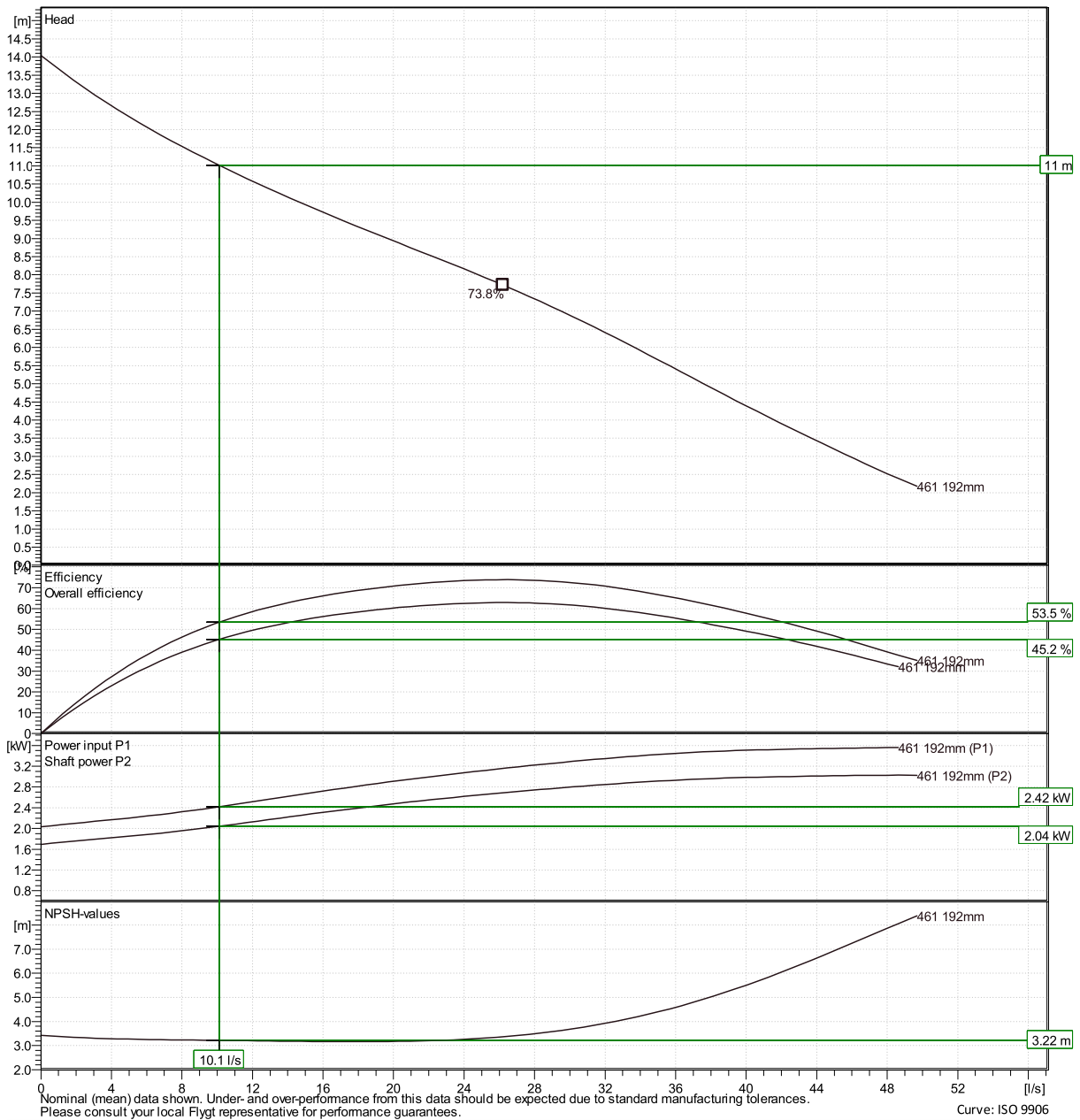


Duty point

Flow
10.1 l/s

Head
11 m

Curves according to: Water, pure Water, pure [100%], 4 °C, 999.9 kg/m³, 1.5692 mm²/s



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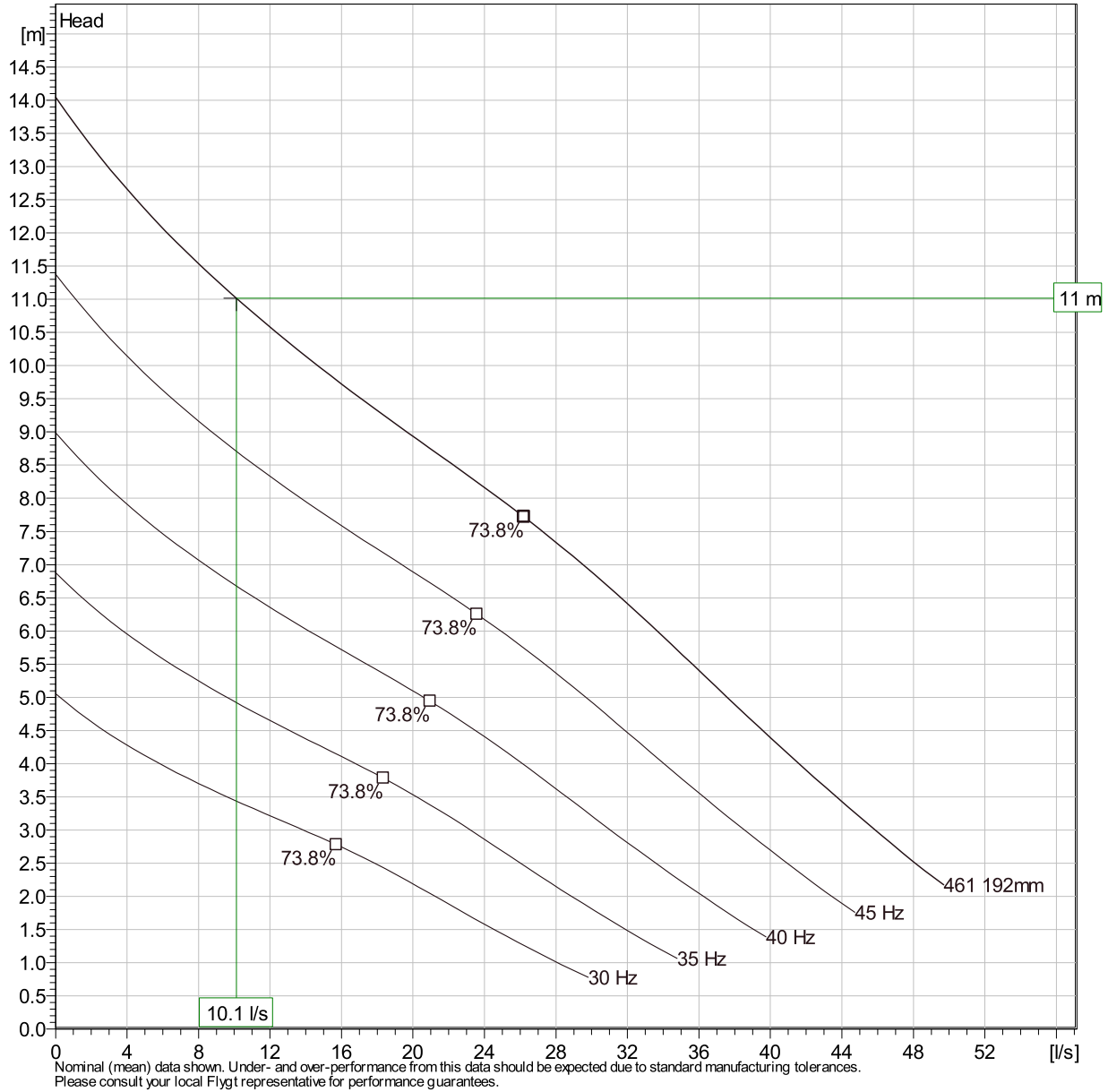
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Duty Analysis



Curves according to: Water, pure [100%] ; 4°C; 999.9kg/m³; 1.5692mm²/s



Operating characteristics

Pumps / Systems	Flow l/s	Head m	Shaft power kW	Flow l/s	Head m	Shaft power kW	Hydr.eff.	Spec. Energy kWh/m³	NPSHre m
1	10.1	11	2.04	10.1	11	2.04	53.5 %	0.0664	3.22

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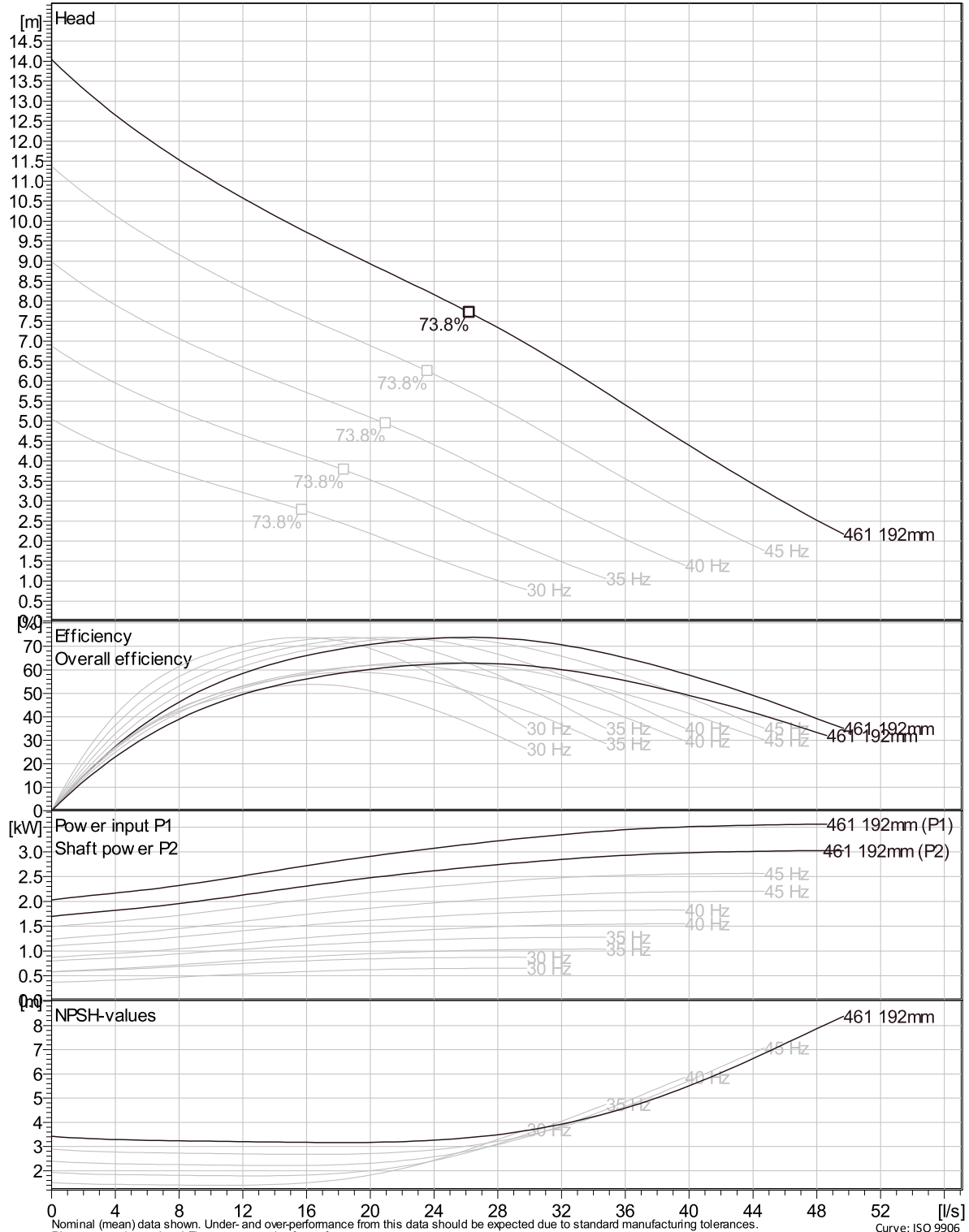
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VFD Curve



Curves according to: Water, pure, 4 °C, 999.9 kg/m³, 1.5692 mm²/s



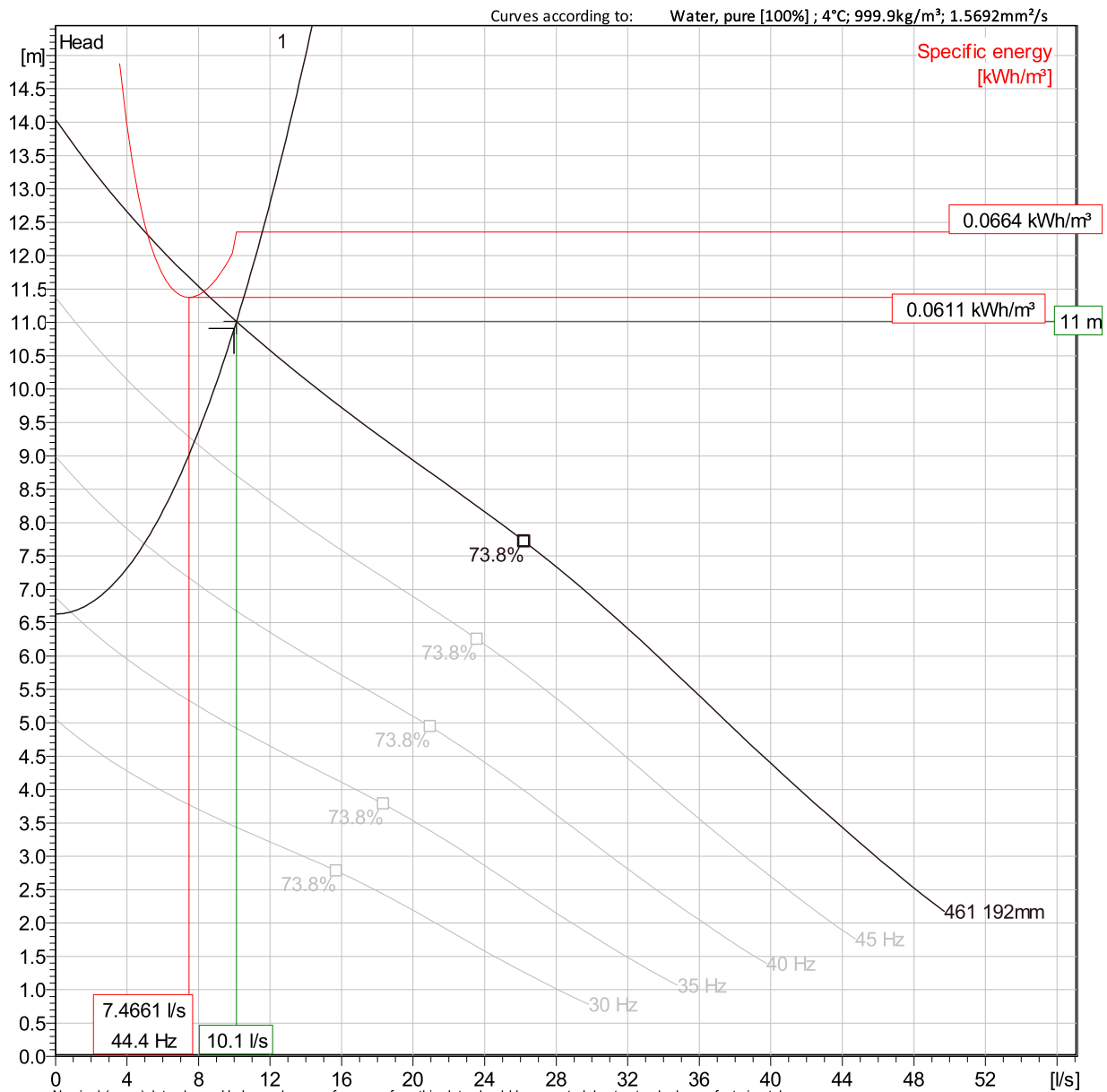
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VFD Analysis



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Operating Characteristics

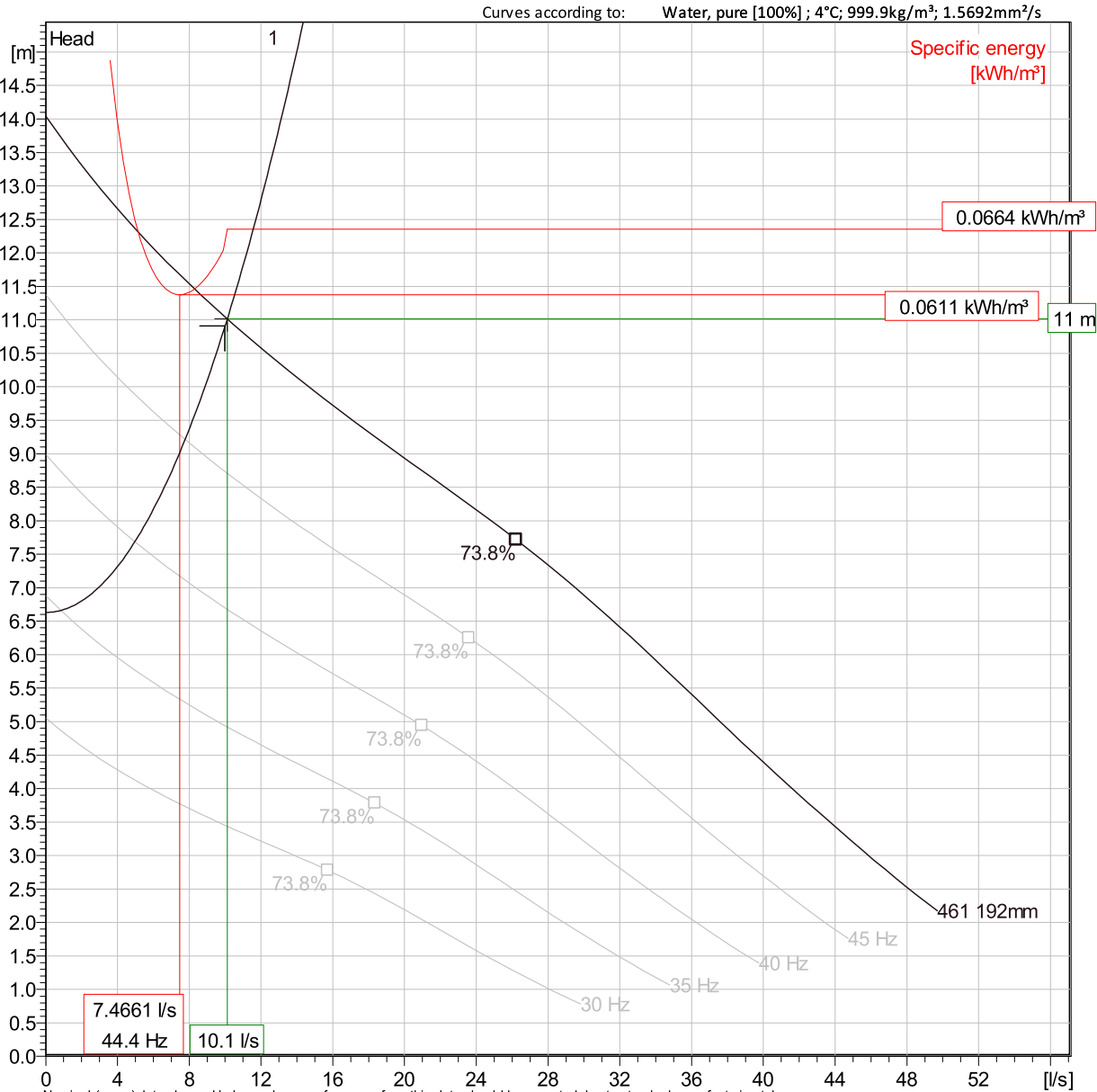
Pumps / Systems	Frequency	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr. eff.	Specific energy	NPSHre
		l/s	m	kW	l/s	m	kW		kWh/m³	m
1	50 Hz	10.1	11	2.04	10.1	11	2.04	53.5 %	0.0664	3.22
1	45 Hz	7.77	9.21	1.44	7.77	9.21	1.44	48.6 %	0.0612	2.73
1	40 Hz	4.97	7.69	0.968	4.97	7.69	0.968	38.7 %	0.0672	2.28
1	35 Hz	0.845	6.66	0.596	0.845	6.66	0.596	9.25 %	0.267	1.9

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VFD Analysis



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Operating Characteristics

Pumps / Systems	Frequency	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr. eff.	Specific energy	NPSHre
		l/s	m	kW	l/s	m	kW		kWh/m³	m
1	30 Hz									

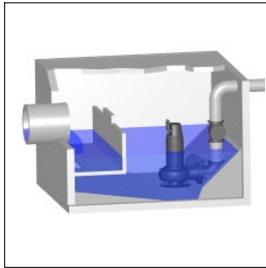
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Dimensional drawing



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Friction loss calculation

Pumped fluid Water, pure	Static head 6.63	Layout Wet well installation
Flow 10 l/s	Number of pumps 1	Calculation model Colebrook-White
Viscosity 1.569 mm ² /s	Nature of system Single head pump	

Type	Ø (mm)	? or L	Qty.	v (m/s)	k (mm)	ΔH (m)
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Ø = Diameter v = Velocity k = Pipe roughness ΔH = Head loss

Common discharge side pipe - Metal / Ductile iron cement lining PN 16 / DN 100 (118x4x4 mm) / K factor for Wastewater acc. DWA-A110

Pipe length	102	6 m	1	1.224	0.25	0.1192
Discharge Connection	102	0.3	1	1.224		0.0229
Elbows	102	0.3	1	1.224		0.0229
Non-return valves	102	0.9	1	1.224		0.0687
T-piece	102	0.4	1	1.224		0.03053
Valve	102	0.3	1	1.224		0.0229
Total friction head						0.2872

Common discharge side pipe - GB / HPPE (PE100) SDR11 / DN 110 (110) / K factor for Wastewater acc. DWA-A110

Pipe length	89.1	100 m	1	1.604	0.25	3.995
Total friction head						3.995
Friction loss head						4.282 m
Total static head						6.63 m
Total head						10.91 m

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