

# NP 3102 SH 3~ Adaptive 255

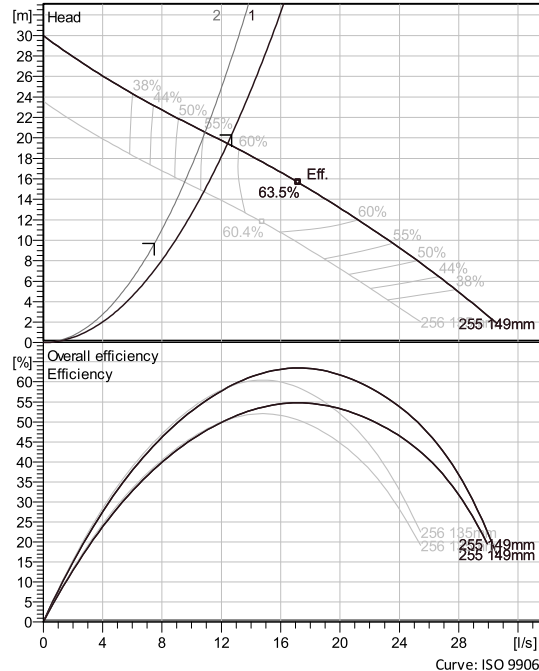
Patented self cleaning semi-open channel impeller, ideal for pumping in most waste water applications. Modular based design with high adaptation grade.



## Technical specification



Curves according to: Water, pure Water, pure [100%], 4 °C, 999.9 kg/m<sup>3</sup>, 1.5692 mm<sup>2</sup>/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

<b>Motor number</b> N3102.160 18-10-2AL-W 4.2KW	<b>Installation type</b> P - Semi permanent, Wet
<b>Impeller diameter</b> 149 mm	<b>Discharge diameter</b> 80 mm

## Pump information

<b>Impeller diameter</b> 149 mm
<b>Discharge diameter</b> 80 mm
<b>Inlet diameter</b> 100 mm
<b>Maximum operating speed</b> 2905 rpm
<b>Number of blades</b> 2
<b>Max. fluid temperature</b> 40 °C

## Material

<b>Impeller</b> Grey cast iron
<b>Stator housing material</b> Grey cast iron

<b>Project</b>	Xylect-20264796	<b>Created by</b>	nicolas galeano
<b>Block</b>		<b>Created on</b>	7/3/2024
		<b>Last update</b>	7/3/2024

# NP 3102 SH 3~ Adaptive 255

## Technical specification



### Motor - General

<b>Motor number</b> N3102.160 18-10-2AL-W 4.2KW	<b>Phases</b> 3~	<b>Rated speed</b> 2905 rpm	<b>Rated power</b> 4.2 kW
<b>Approval</b> No	<b>Number of poles</b> 2	<b>Rated current</b> 7.9 A	<b>Stator variant</b> 62
<b>Frequency</b> 50 Hz	<b>Rated voltage</b> 400 V	<b>Insulation class</b> H	<b>Type of Duty</b> S1
<b>Version code</b> 160			

### Motor - Technical

<b>Power factor - 1/1 Load</b> 0.90	<b>Motor efficiency - 1/1 Load</b> 85.9 %	<b>Total moment of inertia</b> 0.0142 kg m <sup>2</sup>	<b>Starts per hour max.</b> 30
<b>Power factor - 3/4 Load</b> 0.86	<b>Motor efficiency - 3/4 Load</b> 86.4 %	<b>Starting current, direct starting</b> 68 A	
<b>Power factor - 1/2 Load</b> 0.78	<b>Motor efficiency - 1/2 Load</b> 85.4 %	<b>Starting current, star-delta</b> 22.7 A	

**Project** Xylect-20264796  
**Block**

**Created by** nicolas galeano  
**Created on** 7/3/2024 **Last update** 7/3/2024

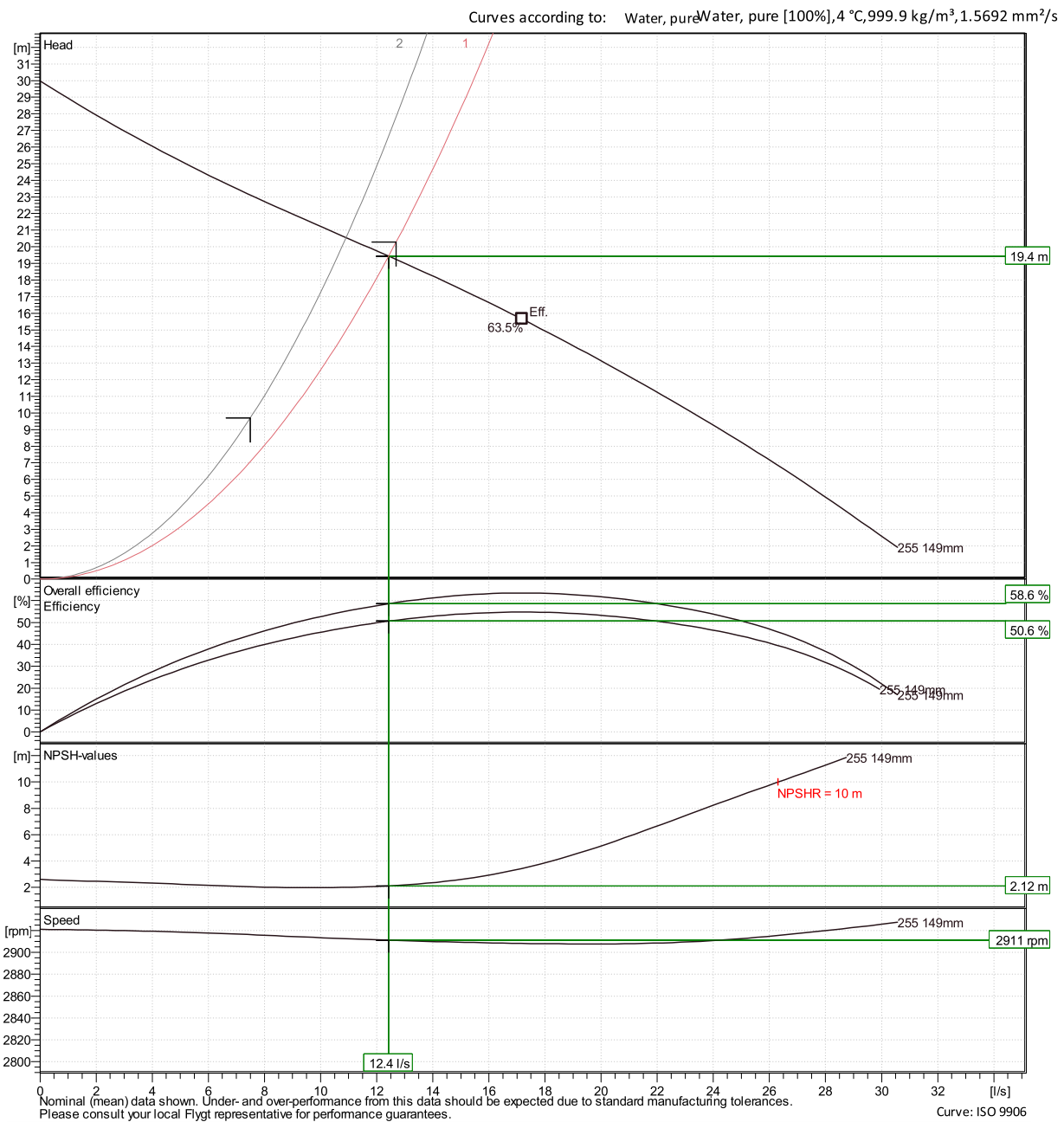
# NP 3102 SH 3~ Adaptive 255

## Performance curve



### Duty point

**Flow** 12.4 l/s  
**Head** 19.4 m



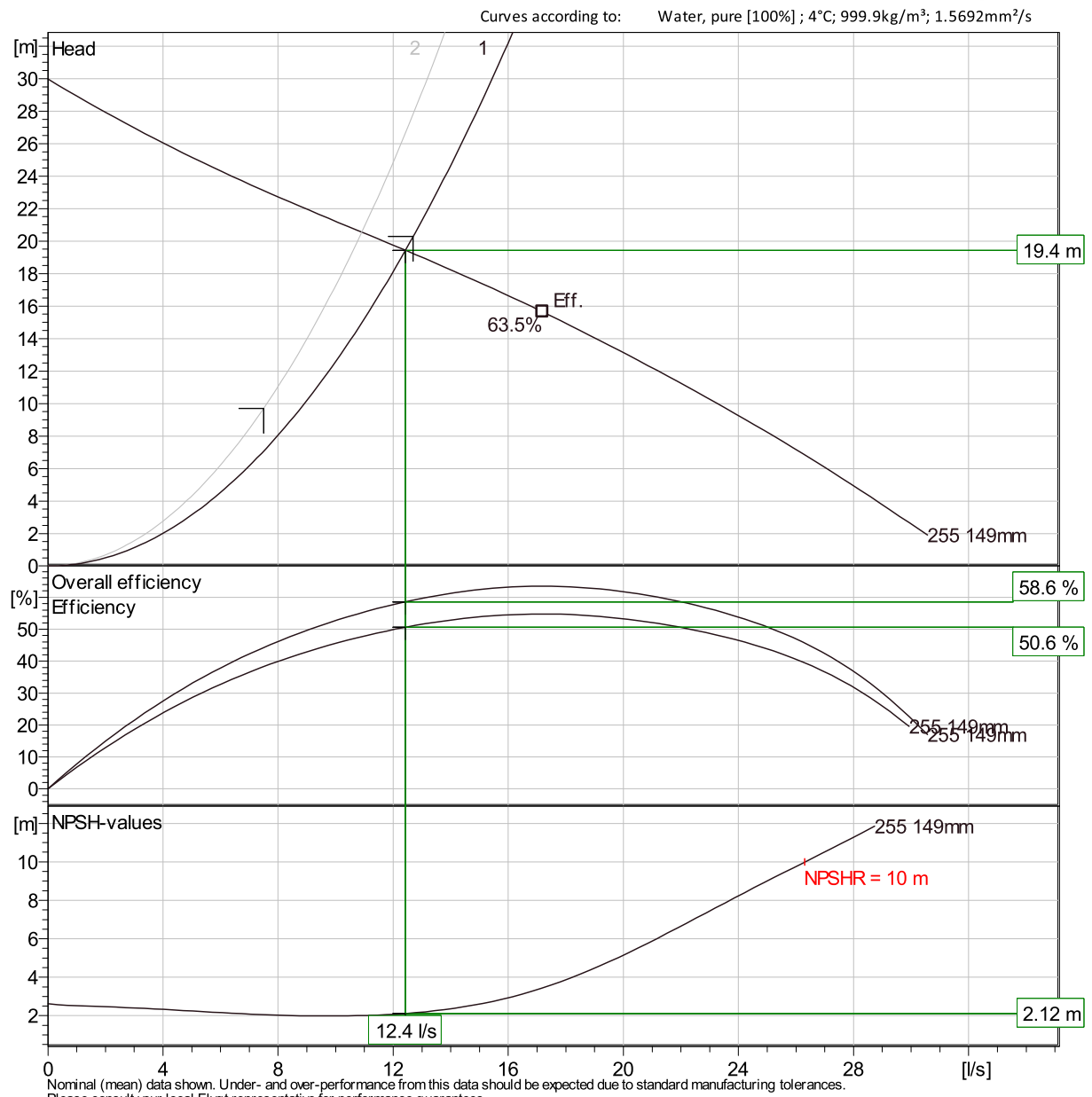
Xylect-20264796

nicolas galeano

Created on 7/3/2024 Last update 7/3/2024

# NP 3102 SH 3~ Adaptive 255

## Duty Analysis



### Operating characteristics

Pumps / Systems	Flow	Head	Shaft power	Flow	Head	Shaft power	Hydr. eff.	Spec. Energy	NPSHre
	l/s	m	kW	l/s	m	kW		kWh/m <sup>3</sup>	m
2	10.9	20.6	3.99	10.9	20.6	3.99	55.2 %	0.117	2.01
1	12.4	19.4	4.04	12.4	19.4	4.04	58.6 %	0.105	2.12

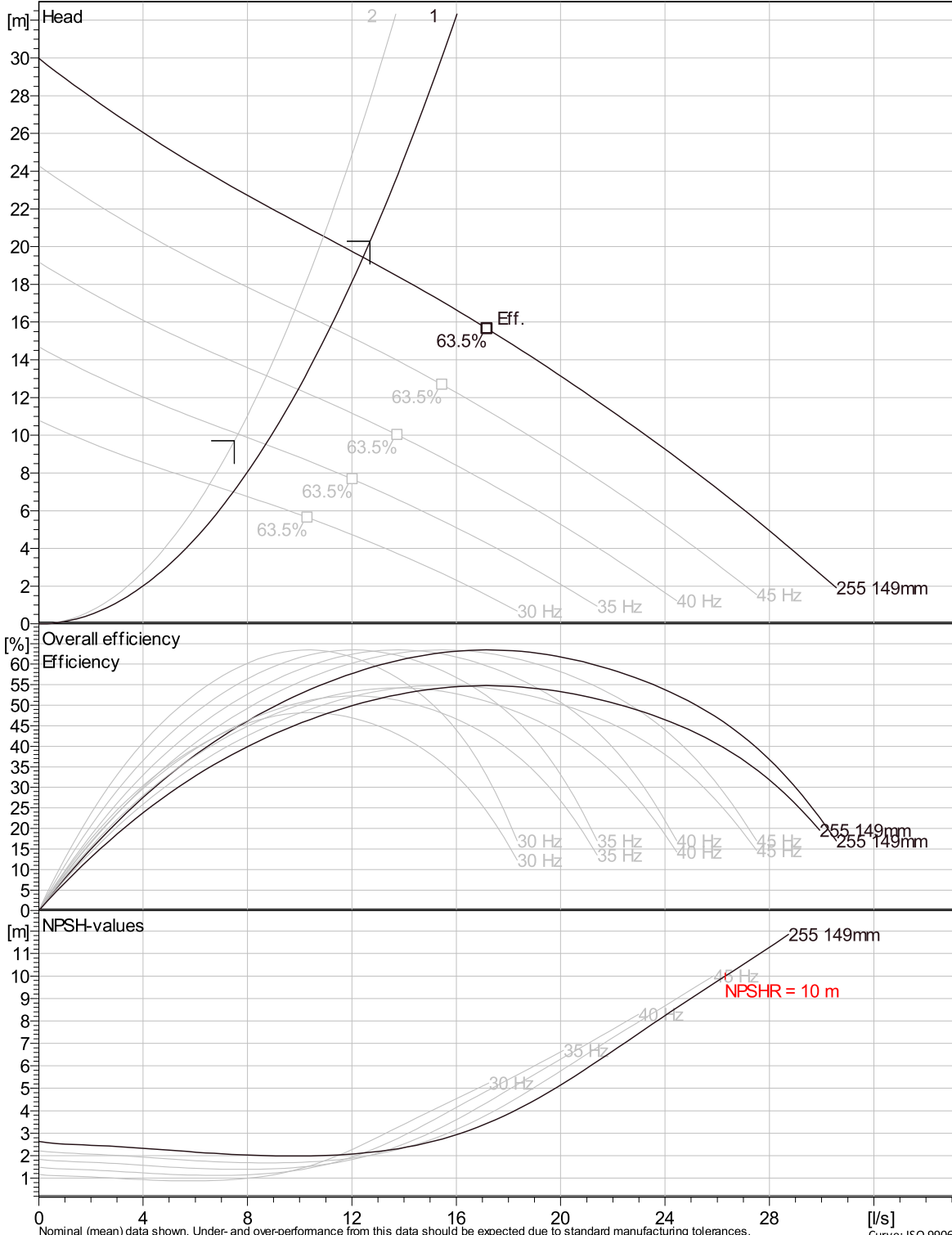
Project		Created by	nicolas galeano
Block	Xylect-20264796	Created on	7/3/2024
		Last update	7/3/2024

# NP 3102 SH 3~ Adaptive 255

## VFD Curve



Curves according to: Water, pure, 4 °C, 999.9 kg/m<sup>3</sup>, 1.5692 mm<sup>2</sup>/s



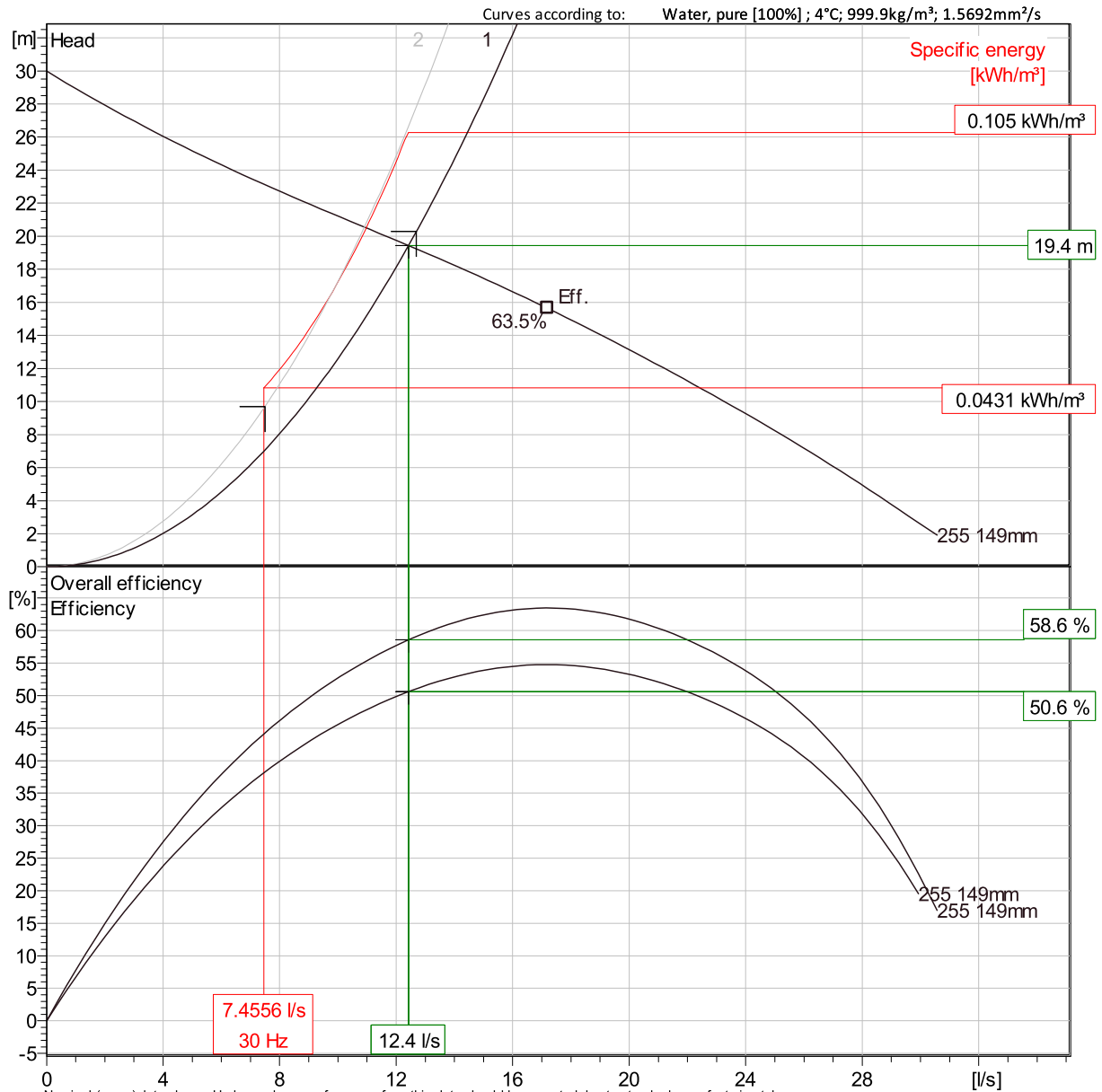
Nominal (mean) data shown. Under- and over-performance from this data should be expected due to standard manufacturing tolerances. Please consult your local Flygt representative for performance guarantees. Curve: ISO 9906

Project Xylect-20264796  
Block

Created by nicolas galeano  
Created on 7/3/2024 Last update 7/3/2024

# NP 3102 SH 3~ Adaptive 255

## VFD Analysis



### 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/m <sup>3</sup>	m
2	50 Hz	10.9	20.6	3.99	10.9	20.6	3.99	55.2 %	0.117	2.01
2	45 Hz	9.82	16.6	2.91	9.82	16.6	2.91	55.2 %	0.0952	1.7
2	40 Hz	8.73	13.2	2.04	8.73	13.2	2.04	55.2 %	0.0763	1.4
2	35 Hz	7.64	10.1	1.37	7.64	10.1	1.37	55.2 %	0.0608	1.13

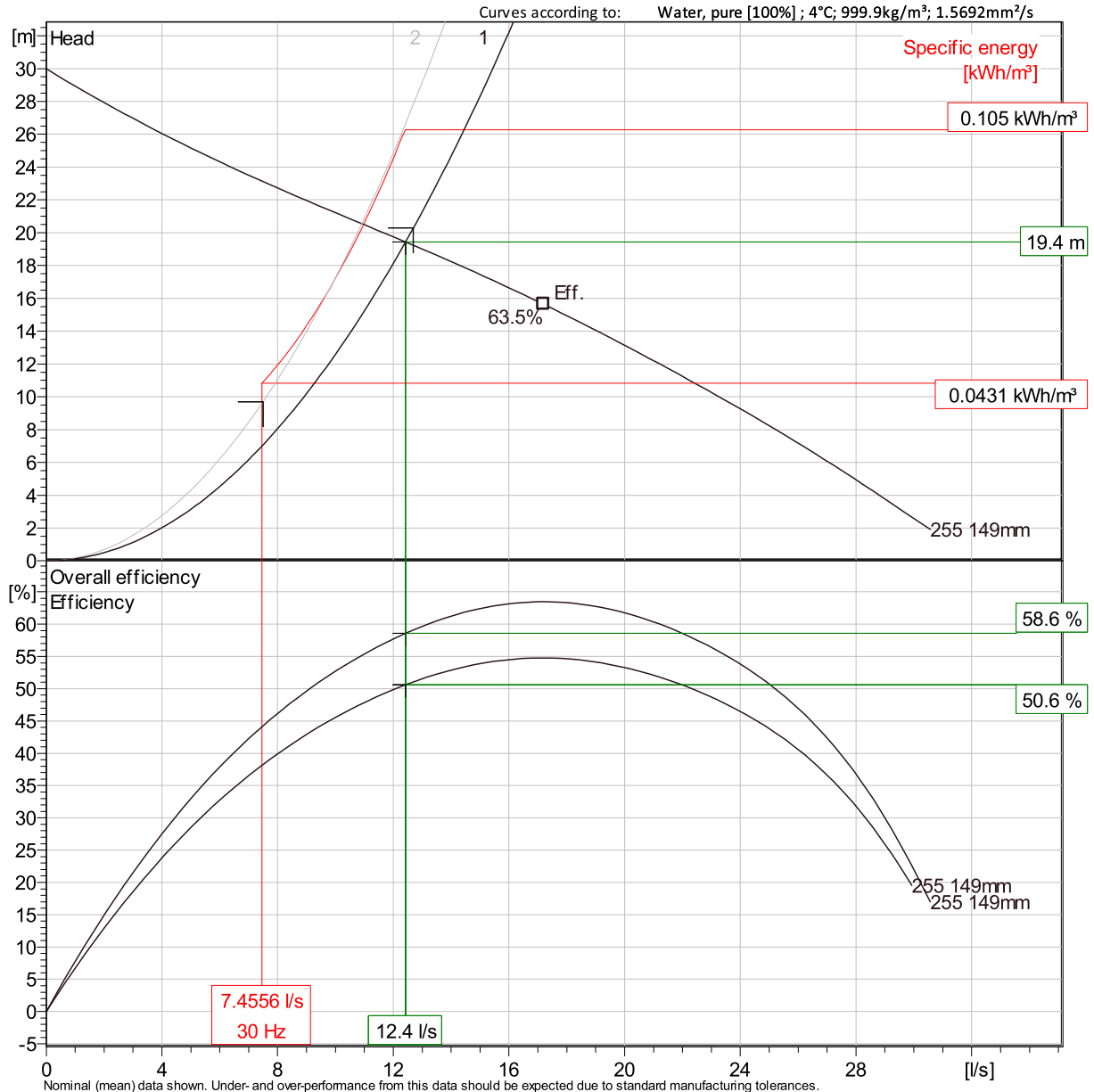
Project Xylect-20264796  
Block

Created by nicolas galeano  
Created on 7/3/2024

Last update 7/3/2024

# NP 3102 SH 3~ Adaptive 255

## VFD Analysis



### 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/m <sup>3</sup>	m
2	30 Hz	6.55	7.4	0.861	6.55	7.4	0.861	55.2 %	0.0486	0.886
1	50 Hz	12.4	19.4	4.04	12.4	19.4	4.04	58.6 %	0.105	2.12
1	45 Hz	11.2	15.7	2.95	11.2	15.7	2.95	58.6 %	0.0847	1.79
1	40 Hz	9.94	12.4	2.07	9.94	12.4	2.07	58.6 %	0.0678	1.48

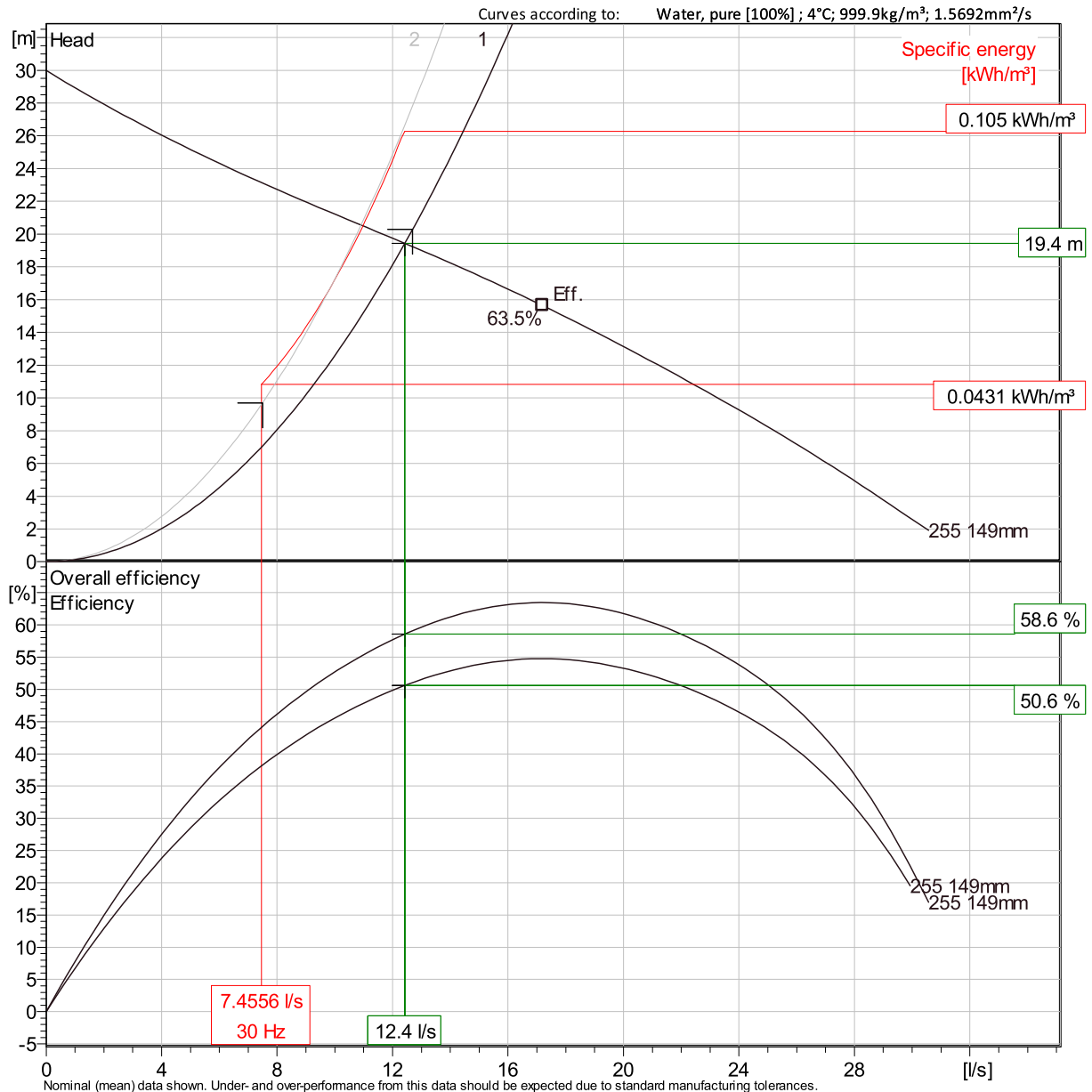
Project Xylect-20264796  
Block

Created by nicolas galeano  
Created on 7/3/2024

Last update 7/3/2024

# NP 3102 SH 3~ Adaptive 255

## VFD Analysis



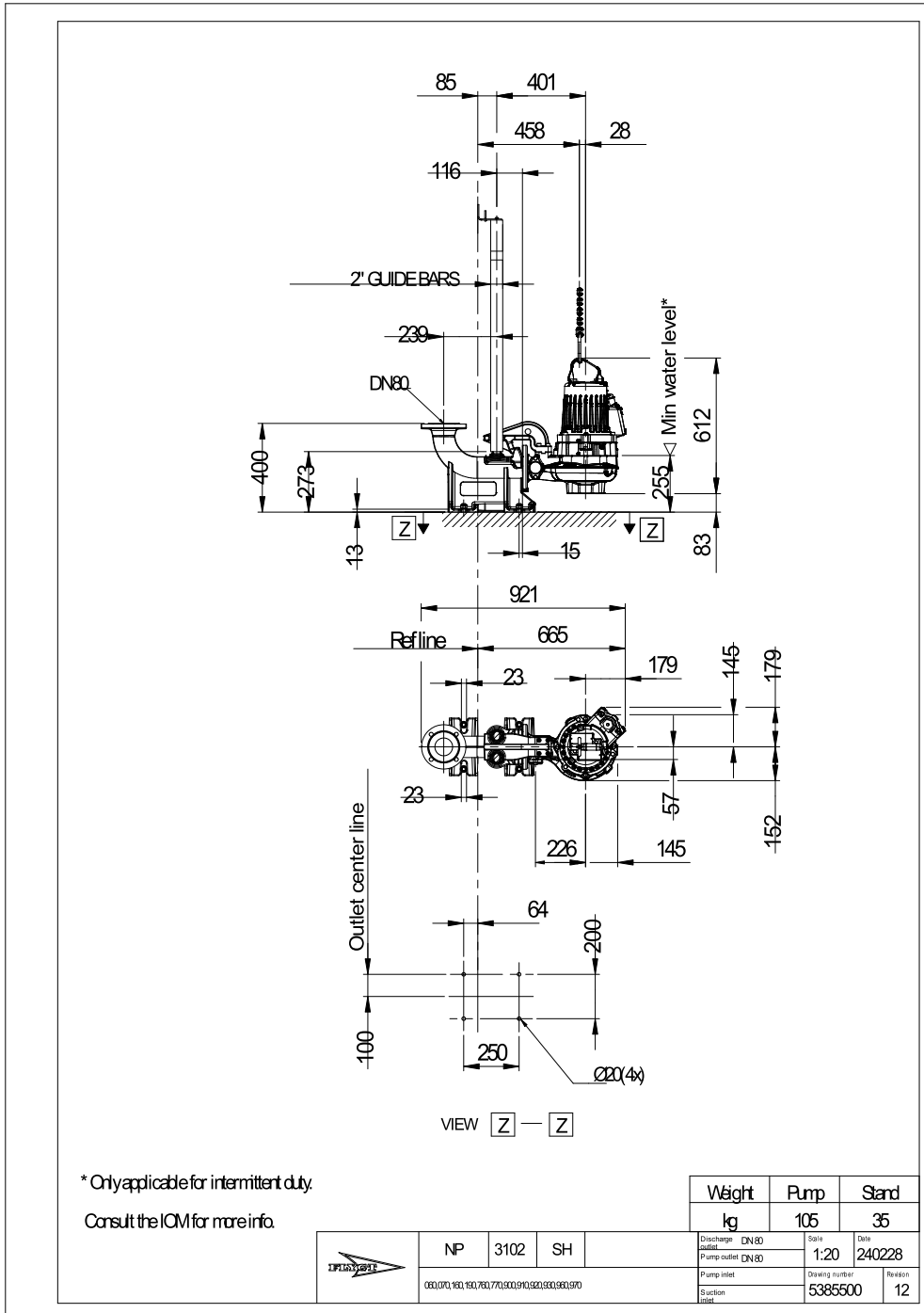
### Operating Characteristics

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/m <sup>3</sup>	m
1	35 Hz	8.7	9.52	1.39	8.7	9.52	1.39	58.6 %	0.054	1.2
1	30 Hz	7.46	7	0.873	7.46	7	0.873	58.6 %	0.0431	0.934

<b>Project</b>	Xylect-20264796	<b>Created by</b>	nicolas galeano
<b>Block</b>		<b>Created on</b>	7/3/2024
		<b>Last update</b>	7/3/2024

# NP 3102 SH 3~ Adaptive 255

Dimensional drawing



Project	Xylect-20264796	Created by	nicolas galeano
Block		Created on	7/3/2024
		Last update	7/3/2024