OSWAL

Horizontal Multistage Centrifugal Pumps

Pressure Boosting

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Pressure Boosting Series
OCHP

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Pressure Boosting Series Selection Table

OCHP - 2

MODEL	K.W.	H.P.	Stage	Suction & Delivery	Tank Capacity	Draw Down Capacity in Litre	Max.Capacity in Litre per hour	No.of outlets (Tapes) Appoximate	Min & Max. Pressure setting in kg/cm²	Discharge							
										M^3/H	0	0.8	1.6	**2.5**	3	3.5	4
										LPM	0	13	27	**42**	50	58	67
OCHP- 2	0.55	0.75	4	25 x 25	36	15	2000	3	1.7 - 3.0		36	34	30	**25**	20	17	12
OCHP- 2	0.75	1	5	25 x 25	60	20	3000	6	2.1- 3.2		45	43	38	**32**	25	21	15
OCHP- 2	0.93	1.25	6	25 x 25	36	15	1600	3	3.0- 5.1		54	51	45	**38**	30	25	18
OCHP- 2	0.93	1.25	6	25 x 25	60	20	3000	6	2.5 - 3.8		54	51	45	**38**	30	25	18

OCHP - 5

MODEL	K.W.	H.P.	Stage	Suction & Delivery	Tank Capacity	Draw Down Capacity In Litre	Max.Capacity in Litre per hour	No.of outlets (Tapes) Appoximate	Min & Max. Pressure setting in kg/cm²	Discharge							
										M^3/H	0	2	4	**6**	7	8	9
										LPM	0	33	66	**100**	117	133	150
OCHP-5	0.75	1	3	25 x 25	24	9	1000	2	1.6 - 2.5		27	23	20	**16**	13	10	6
OCHP-5	0.93	1.25	4	25 x 25	60	20	2500	4	1.8 - 3.1		36	31	26	**21**	18	13	8
OCHP-5	1.1	1.5	5	25 x 25	80	29	4000	8	2.2 - 3.9		45	39	33	**27**	22	16	10
OCHP-5	1.1	1.5	5	25 x 25	100	35	6000	12	2.2 - 3.9		45	39	33	**27**	22	16	10
OCHP-5	1.5	2	6	25 x 25	36	15	2000	4	3.2 - 5.0		54	46	40	**32**	26	19	12
OCHP-5	1.5	2	6	25 x 25	100	35	5000	8	2.6 - 4.0		54	46	40	**32**	26	19	12

Note : 1.Pressure Specification are applicable only if the suction lift is zero

WATER CONSUMPTION CHART

FLOW OF WATER APPROXIMATE

Ordinary tap	9 LPM
Sink Tap	9 LPM
Shower	9 LPM
Wash Basin	9 LPM

PRESSURE UNITS AND CONVERSIONS

PSI	Pound per square inch
Kgf/cm^2	Kilogram force per square centimeters
1 bar	1.02 kgf / cm^2
14.5 PSI	33.52 feet of water

WATER CONSUMPTION

Fill Bath / Bath Tub	135 Liters
Lawn Sprinkier	15 LPM
Flushing Toilet	4-10 Liters
100 Chickens	22 Liters / Day
Sheep	5-10 Liters / Day
Cattle	44-88 Liters / Day
Milking Cows	125-175 Liters / Day

SPECIFICATIONS

Power range	0.22 kW 1.1 kW (0.3 HP 1.5 HP)
Speed	2880RPM
Versions	Single phase, 200-240V 50 Hz, A.C. Supply, (CSR) Incorporated with Thermal Overload Protector.
Type of duty	S1 (Continuous)
Degree of Protection	IP54
Class of insulation	E

PUMP OPERATING LIMITS

Maximum suction lift	6 m
Maximum flow rate	2.5 lps / 9 m^3/h
Maximum total head	50 m
Maximum operating pressure range	5.0 bar
Maximum liquid temperature	33°C
Maximum ambient temperature	40°C
Maximum starts per hour	50 Times

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Pressure Boosting Series Accessories

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ACCESSORIES FOR PRESSURE BOOSTING SYSTEM

Pressure Tank

Pressure tank is one another reliable product from the house of **OSWAL** having over 1 decades of expertise in pump industry. **OSWAL** pressure tanks are ingeniously designed with perfection for delivering optimal performance. The butyl/natural rubber membrane provided in all the models ensures finer and trouble free performance. These tanks are used for pressure boosting applications to fetch self-sustained supply of pressurized water in the pipeline evermore especially in houses, apartments & hotels.

Pressure tank eliminates the need of overhead tanks & float switch. The electro mechanical control, switches ON & OFF the pump automatically whenever pressure reaches the minimum & maximum level of preset pressure. The smaller capacity tanks are vertical in shape, which can be fixed direclly to the outlet of the pump, whereas bigger capacity tanks are horizontal */ vertical* in shape with legs and the pumps can be fitted over the platform provided on the top. A 5 way connector, electro mechanical control, hose connector & pressure gauge are the· common accessories used along with the pressure tanks. The pressure can be preset. The pressure will be developed In *the* membrane based on the maximum operating head (in bars) of the pump .

Sr. No.	Model	Capacity L	Packing Size (MM)	Gross Nett Weight (Kg)	Connector Size (Inch)
1.	OTV 100	100 L	460 x 460 x 800	15/13	1”
2.	OTH 100	100 L	480 x 455 x 680	15/13	1”
3.	OTV 80	80 L	460 x 460 x 760	14/12	1”
4.	OTH 80	80 L	480 x 455 x 600	14/12	1”
5.	OTV 60	60 L	460 x 460 x 650	12/10.50	1”
6.	OTH 60	60 L	480 x 455 x 490	12/10.50	1”
7.	OTV 50	50 L	360 x 360 x 650	7.5/6	1”
8.	OTH 50	50 L	355 x 390 x 560	7.5/6	1”
9.	OTV 36	36 L	360 x 390 x 450	7/6	1”
10.	OTH 36	36 L	360 x 360 x 550	6.5/5.5	1”
11.	OTV 24	24 L	280 x 280 x 450	5/3.8	1”
12.	OTH 24	24 L	300 x 280 x 450	5.5/4.5	1”
13.	OTV 40	40 L	360 x 360 x 580	7.5/6.5	1”
14.	OTH 40	40 L	360 x 390 x 480	8/7	1”

O : **OSWAL**
T : Tank
V : Vertical(V)/ Horizontal(H)
24 : Tank Capacity in Litre

Advantages

> Sets free from operating the pump every time
> Eliminates need of overhead tank &float switch
> High quqlity food grade rubber membrane for hygenic water supply
> Ensure uninterrupted water supply with adequate pressure always
> Saves water, electricity & time
> Designed for easy instllation

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ACCESSORIES FOR PRESSURE BOOSTING SYSTEM

Electronic Pressure Control

OSWAL Electronic Pressure Control Switch is yet another quality & reliable product from the house of **OSWAL** which is carefully designed to regulate the water pressure in the domestic water supply system. It switches ON the pump automatically whenever there is a pressure drop in the pipeline and maintains preset level of pressure in the pipe line. It also switches off the pump automatically whenever pumping is not required and there by makes the entire pumping system effective and efficient. The preset pressure level drops as and when the water is drawn. Likewise once the pipeline is closed it completely switches OFF the pump automatically after few seconds. The inbuilt check valve & logic circuit system protect the pump from back flow of water & dry running which enhance the life span of the pump. Certain models of vertical type pressure controls are inbui!t with adiustable pressure gauge wherein the pressure can be set manually based on the requirement.

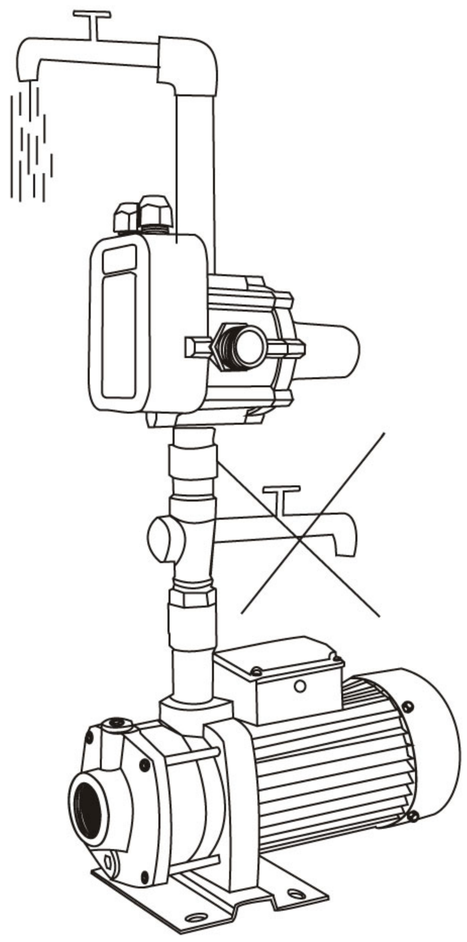
Application

It can be used for all kinds of small domestic pumps installed in apartments, houses, villas, gardens etc ..

Special Features

Sets free from operating the .pump every time
Ensures uninterrupted water supply with adequate pressure
Saves electricity & time
Protects pump from dry running & back flow of water
Different models to select. CPV models are supplied with inbuilt pressure gauge

Ambient Temperature	Maximum + 60°C
Liquid Temperature	Maximum + 60°C
Cut In Pressure	OPH 15, OPV15: 1..5 bar OPH 22: 2.2 bar, OPV 3A (1.5 to 3.0 bar)
System Pressure	Maximum 10 bar
Supply Voltage	220 / 240 V
Frequency	50 / 60 Hz
Maximum Current	10 Amps
Enclosure Class	IP 65



OPV

O : **OSWAL**
P : Pressure
V : Vertical(V)/ Horizontal(H)
2.0 : 2.0 Bar

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ACCESSORIES FOR PRESSURE BOOSTING SYSTEM

Mechanical Pressure Control

This pressure controller is one of the vital accessories to the pressure boosting system which is commonly used along with pressure tanks. This can be fixed directly to the small domestic pumps. This is yet another innovative product that bears **OSWAL** hallmark of excellence.

Working Principle

This is an electro mechanical device that senses the changes in pressure and switches ON & OFF the pump automatically as per the preset minimum & maximum pressure levels. It regulates the pressure in the water supply system and keeps the pressure always within the limits of the preset levels. These controllers are available with both male and female thread connections and have three different preset pressure levels which can be selected based on the requirement of capacity of the pump.

TECHINICAL DETAILS

Lowest Pressure	20 psi
Highest Pressure	80 psi
Pressure settings	20-40 psi; 30-50 psi; 40-60 psi
Volt	230 V A.C.
Max. Current	2.0 HP - 12 Amps
	3.0 HP 17 Amps
Connector threads	Male / Female

Note : 1 bar = 1.02 kgf / cm^2 = 14.5 psi = 33.52 feet of water.

Float Switch

Description

OSWAL Float switch is a state-of-the-art product from the house of **OSWAL** which has earned a unique place in the industry and is recognized both for its standards & quality for over 1 decades. It sets you free from operating the pump. It also helps you to save water electricity and your valuable time.

Applications

Houses, Multi-storeyed apartments, Factories, Hospitals, Hostels, Commercial centers, Hotels and Restaurants, Schools & Colleges and all places with water tanks.

Features

Sets you free from operating your pump every time
Ensures uninterrupted water supply
Never allows your over head tank to spill over or be empty
Eliminates water, power & time wastage
Protects pump from dry run
Absence of rigid or fixed part inside the tanks makes cleaning easy

SPECIFICATIONS

Maximum Current	10 (4) Amps / 16 (4) Amps.
Voltage Range	130 - 240V, AC - 1Ph.
Frequency	50 / 60 Hz
Maximum Working Temperature	55°C
Degree of Protection	IP 68
Maximum Immersion Depth	10 meters
Cable	Rubber Insulated 3 Core round cable
Cable Size	1.0 & 1.5m^2
Cable Length	1.5m & 2.0m
Operation in specific gravities	From 0.9 to 1.3

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MORE STARS MORE ENERGY

ENERGY SAVING GUIDE

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Products

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MULTISTAGE HORIZONTAL BOOSTER PUMPS OCH

OCH Horizontal multistage booster pumps are the products of the expertise gained from over four decades of experience, endurance and workmanship **OSWAL** products are engineered to perfection with utmost care and stringent quality control at all stages to ensure a trouble free service.

DESCRIPTION

OSWAL horizontal multistage centrifugal pumps are axial suction and vertical radial delivery with threaded ports. The impellers, diffusers and shaft of these pumps are made of stainless steel and designed to deliver the best possible hydraulic efficiency. This pump is a non-self priming horizontal centrifugal pump with mechanical shaft seal and sealing is by means of a bellows mechanical seal.

These pumps are powered by at any enclosed fan cooled A.C. induction motor, suitable for continuous duty. Motor stator is made of low watt loss steel laminations assembled under pressure and rigidly locked in the frame. Dynamically balanced rotor ensures vibration free and noise free operations. Shaft is made of quality stainless steel. All single-phase pumps are incorporated with thermal over load protector. These pumps require an adequate starter/motor protector control panel.

Applications

- Industrial and domestic water pressure boosting and distribution
- Small farms
- Pumping of clean liquids in industry
- Car washing
- Hotels & Multistory Buildings

Salient Features

- Fitted with motor protector
- SS304 Impellers and stage casings
- Designed for wide voltage fluctuations
- Aluminum body for better the heat dissipation
- Higher working pressure
- Sturdy and compact

Pumped Liquids

- Thin, clean, non-aggressive and non-explosive liquids without solid particles or fibers

IMPORTANT NOTES

Pump should not be operated dry. Install dry run prevent to protect the pumpset from dry running. Use appropriated size, good quality cable and starter / protection devices. Use low fiction good quality pipes. The pipe diameters must never be smaller than the pump connections. Install pump according to our recommended Head range. Reduce number of ends, elbows, T-bends as much as possible in the pipe line. Pump should be run for few minutes at least once in 2 days to prevent from seizing. Use frictionless quality foot valve for Horizontal Multistage Centrifugal Pumps. Avoid fatal electrical shock injury by disconnection power before working on or around the pumping system. Only technically qualified personnel must perform the works complying with local electricity rules and regulations. To reduce the risk of electrical shock operation, an appropriate earthing is mandatory. The performance data and curves are at rated voltage and only indicative. Pipe sizes mentioned in inches are nominal pipe sizes and are nearest conversion of mm. All pumps are only suitable for pumping clear, cold, fresh, non-aggressive, non-explosive water without abrasives, solid particles or fibers.

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MULTISTAGE HORIZONTAL BOOSTER PUMPS OCH

CHARACTERISTICS OF PUMPED LIQUIDS

a	Temperature	45°C (max.)
b	Permissible amount of sand	28 gm / m^3 (max.)
c	Chlorine ion density	500 ppm (max.)
d	Allowable solids	3000 ppm (max.)
e	Specific gravity	1.004 (max.)
f	Hardness (Drinking Water)	300 (max.)
g	Viscosity	1.75 x $10^6 m^2$ / Sec. (max.)
h	Turbidity	50 ppm silica scale (max.)
i	pH	6.5 to 8.5

MATERIALS OF CONSTRUCTION

Part Name	Type S
Pumps Casing	Cast Iron
Pump Bracket	Cast Iron
Impeller	SS-304
Diffuser	SS-304
Motor Frame	Aluminum
Shaft	SS-410
Mechanical Seal	Carbon & Ceramic
Base Plate	Mild Steel

PERFORMANCE CURVE CONDITIONS

The conditions below apply to the curves shown on the following pages.

Curve tolerance are according to ISO 9906, Annex-A.

The performance are taken at rated voltage & rated frequency.

Actual discharge depends on availability of water in well / ta, height of water column form the suction pipe end.

The measurements were made with airless water at 20°C. When pumping liquids with a higher density than of water, motor with correspondingly higher outputs must be used.

Pipe fiction losses have not been included in the performance curves & performance tables.

The pipe connection threads are given as per BSP standard.

The given performance are for specific materials of constructions.

The main scales of the Performance curves are meter and m^3/h which have been given for head and flow respectively.

Performance Table 50Hz

OCH-1

MODEL	K.W.	H.P.	Stage	Discharge							
				M^3/H	0	0.4	0.8	**1**	**1.2**	1.6	2
				LPM	0	7	13	**17**	**20**	27	33
OCH-1	0.37	0.5	3	(HEAD (METERS)	28	27	26	**24**	**23**	20	16
OCH-1	0.45	0.6	4		37	36	34	**32**	**30**	27	21
OCH-1	0.55	0.75	5		46	45	42	**40**	**37**	33	27
OCH-1	0..75	1	6		55	54	50	**48**	**45**	39	32

OCH - 2

MODEL	K.W.	H.P.	Stage	Discharge							
				M^3/H	0	0.8	1.6	**2.5**	3	3.5	4
				LPM	0	13	27	**42**	50	58	67
OCH-2	0.37	0.5	2	(HEAD (METERS)	19	18	16	**14**	11	9	7
OCH-2	0.45	0.6	3		28	27	24	**20**	16	14	10
OCH-2	0.55	0.75	4		37	35	31	**26**	21	18	13
OCH-2	0.75	1	5		46	44	39	**33**	26	22	16
OCH-2	0.93	1.25	6		55	52	46	**39**	31	26	19

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Performance Table 50Hz

OCH-3

MODEL	K.W.	H.P.	Stage	Discharge							
				M^3/H	0	0.8	1.6	2.4	**3**	3.6	4.2
				LPM	0	13	27	40	**50**	60	70
OCH-3	0.55	0.75	3	(HEAD (METERS)	29	28	27	25	**22**	19	15
OCH-3	0.75	1	4		38	37	35	32	**30**	26	20
OCH-3	0.93	1.25	5		47	46	44	40	**37**	32	25
OCH-3	1.1	1.5	6		56	55	52	48	**44**	38	30

OCH - 5

MODEL	K.W.	H.P.	Stage	Discharge							
				M^3/H	0	2	4	**6**	7	8	9
				LPM	0	33	66	**100**	117	133	150
OCH-5	0.45	0.6	2	(HEAD (METERS)	19	16	14	**12**	10	7	5
OCH-5	0.75	1	3		28	24	21	**17**	14	11	7
OCH-5	0.93	1.25	4		37	32	27	**22**	19	14	9
OCH-5	1.1	1.5	5		46	40	34	**28**	23	17	11
OCH-5	1.5	2	6		55	47	41	**33**	27	20	13

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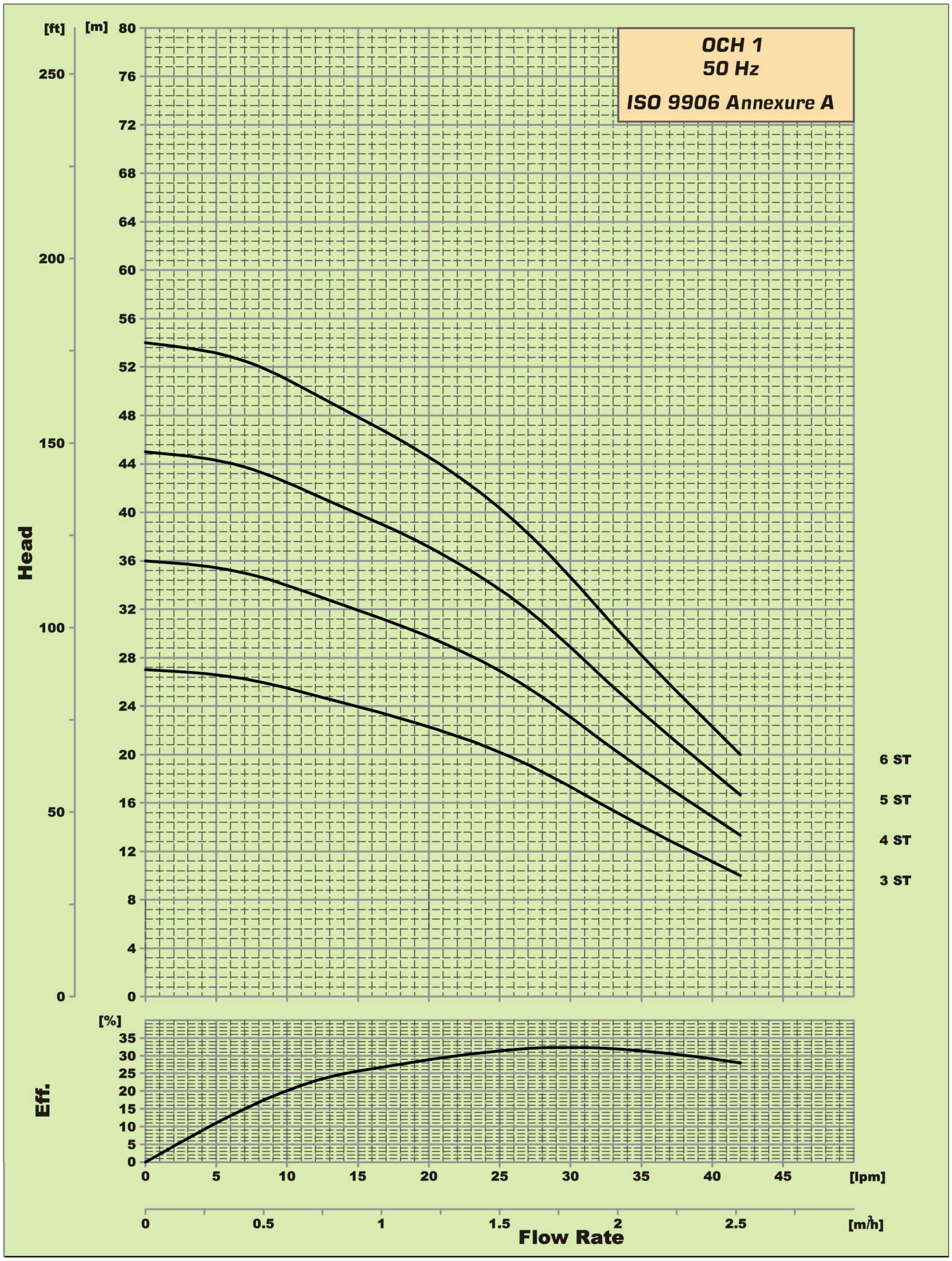
Performance Curve



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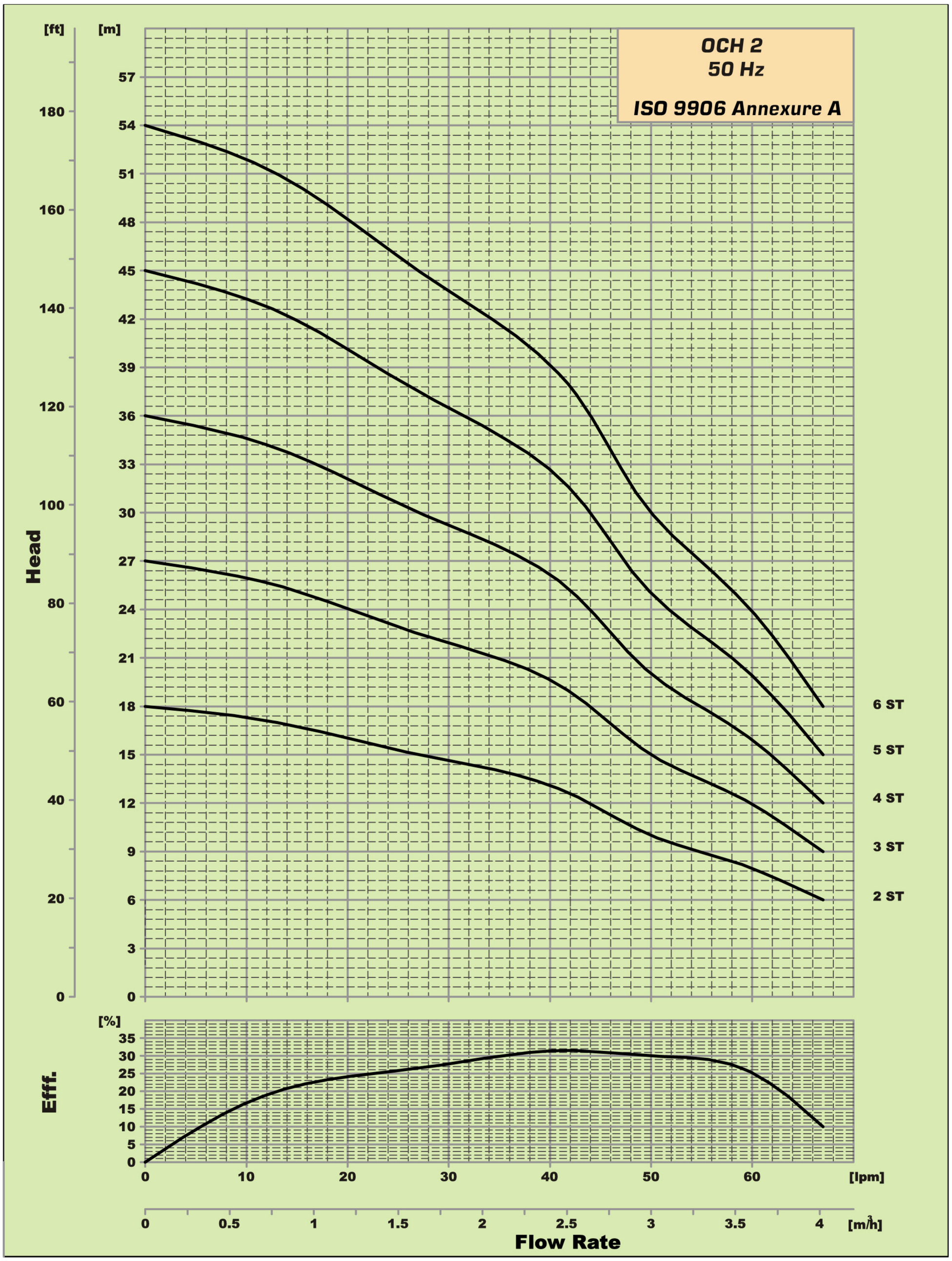
Performance Curve



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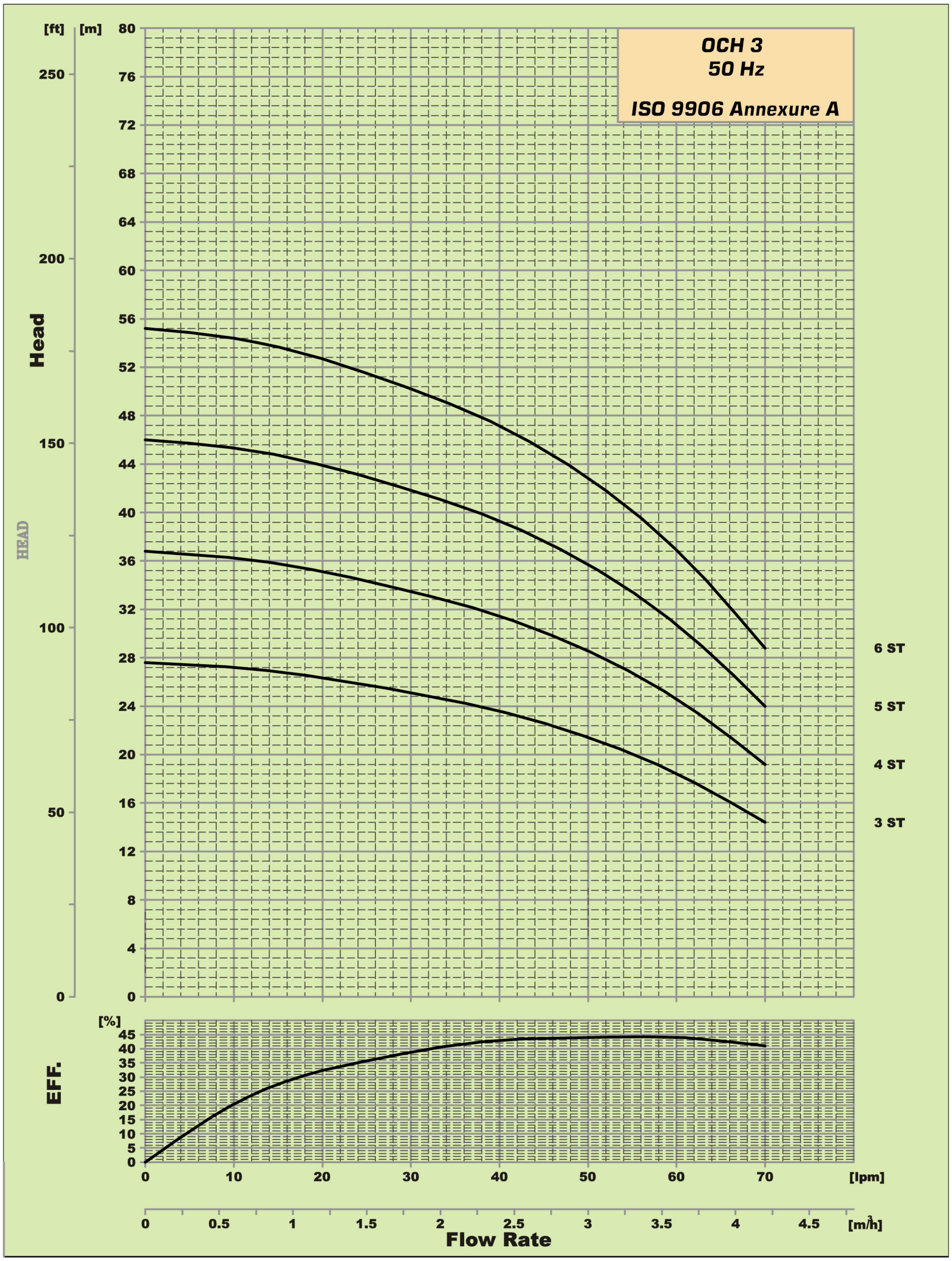
Performance Curve



Performance Curve