tecnifan
Tecnología en Ventilación

NTPF EC

Nuevo Ventilador de Alta Eficiencia

New High Efficiency Fan

Nouveau Ventilateur à Haut Rendement

Plug Fan - Motor Directo EC

Plug Fan - EC Direct Drive Motor

Plug Fan - EC Moteur Incorporé

EC TECH tecnifan

Edición 02/2019

HIGH PERFORMANCE SINGLE INLET MOTOR-FAN GROUPS NTPF-A-EC

GENERAL DESCRIPTION:

The **NTPF-A-EC** motor-fan groups consist of a **high-performance** single-inlet fan, for plenum assembly, **PlugFan**, with **Airfoil backward-blades impeller**. They include a directly coupled **EC (Electronically Commutated) external rotor motor**, with integrated electronic controller. The product range covers sizes from 250 mm to 630 mm, with air-flow values up to 25.000 m^3/h and static pressures up to 2.000 Pa.

NTPF-A-EC Plug Fans combine the latest and most advanced technology in **electronically commutated BLDC motors**, with a higher efficiency in comparison to the IE4 class motors and a **high efficiency Plug & Play integrated control electronics**. The **impeller is a high-performance airfoil type, with radial diffusion and optimized flow**. The entire motor-fan group is mounted on a **stiff and solid frame**. The result is **the motor-fan group with the highest efficiency available on the market**, low noise emissions, easy using and handling, being compact equipment that requires little space for installation, low maintenance and low cost of service and operation, as the main advantages.

The high-performance **Airfoil impeller** of the plug fans NTPF-A-EC represents a technological evolution from the rest of the impellers in the market, obtaining an extra energy efficiency to the value provided by using EC motors.

Its main design features are:

- Blades with airfoil profile and aerodynamically optimized airflow channel.
- Radial diffusion technology, based on the transformation of dynamic energy into static, increasing efficiency and reducing the noise level.
- Angular discharge direction, that reduces the installation effect on the fan when being mounted in a plenum, increasing the efficiency of the system.

- Impeller made of aluminum, corrosion resistant, lightweight but robust design suitable for high rotation speeds.
- Static and dynamic balancing of the motor-impeller assembly, obtaining minimum vibrations and reducing loads on the bearings.

The **inlet cone** is made of galvanized steel, with an aerodynamic profile and a tight gap with the impeller resulting in a greater efficiency. Equipped with a pressure device.

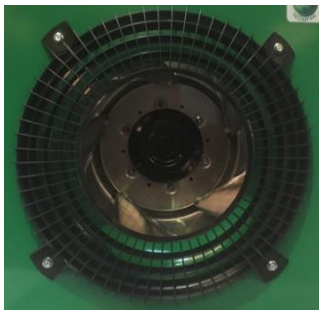
The **EC motor with external rotor design**, which is directly coupled to the impeller, is an electronically commutated permanent magnet synchronous motor BLDC, whose efficiency is significantly higher than the efficiency Class IE4.

Its main characteristics are:

- High energy efficiency with low losses in copper, iron and hysteresis.
- Synchronous motor without slip losses.
- Optimized switching, allowing partial load operation while maintaining performance in ratios up to 1:10.
- The stator design and switching allow a low magnetic noise level, which together with an imperceptible frequency pulse implies very low noise emissions.
- Maintenance-free and insulated bearings, preventing damage by high frequency currents in bearings.

The **control electronics** allow speed regulation from 0 to 100% continuously, by potentiometer or 0-10V / 4-20mA control signal, including all RS485 / ModBus RTU interface for a simple connection that enables the monitoring and control of the set of fans connected to the network. In addition to speed control, the assembly is integrated by all the protections for both the line (EMC filter, PFC filter, etc.) and the motor and electronics (soft start, short-circuit protection, voltage drop protection, thermal protection for motor and electronics, etc.) being a Plug & Play equipment.

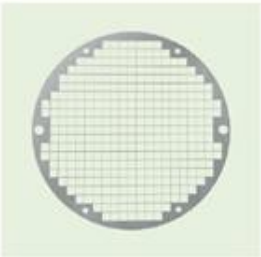
The standing-out accessory is the **FlowGrid guard**, which reduces the perceived sound level, mainly reducing efficiently the low frequencies, as it reorders the air flow in the fan's inlet. The percentage of reduction depends on the complete system in which the fan is installed.



ACCESORIES (OPTIONALS):

Flexible Connection

Antivibration Mounts (Spring Type)



Inlet Guard

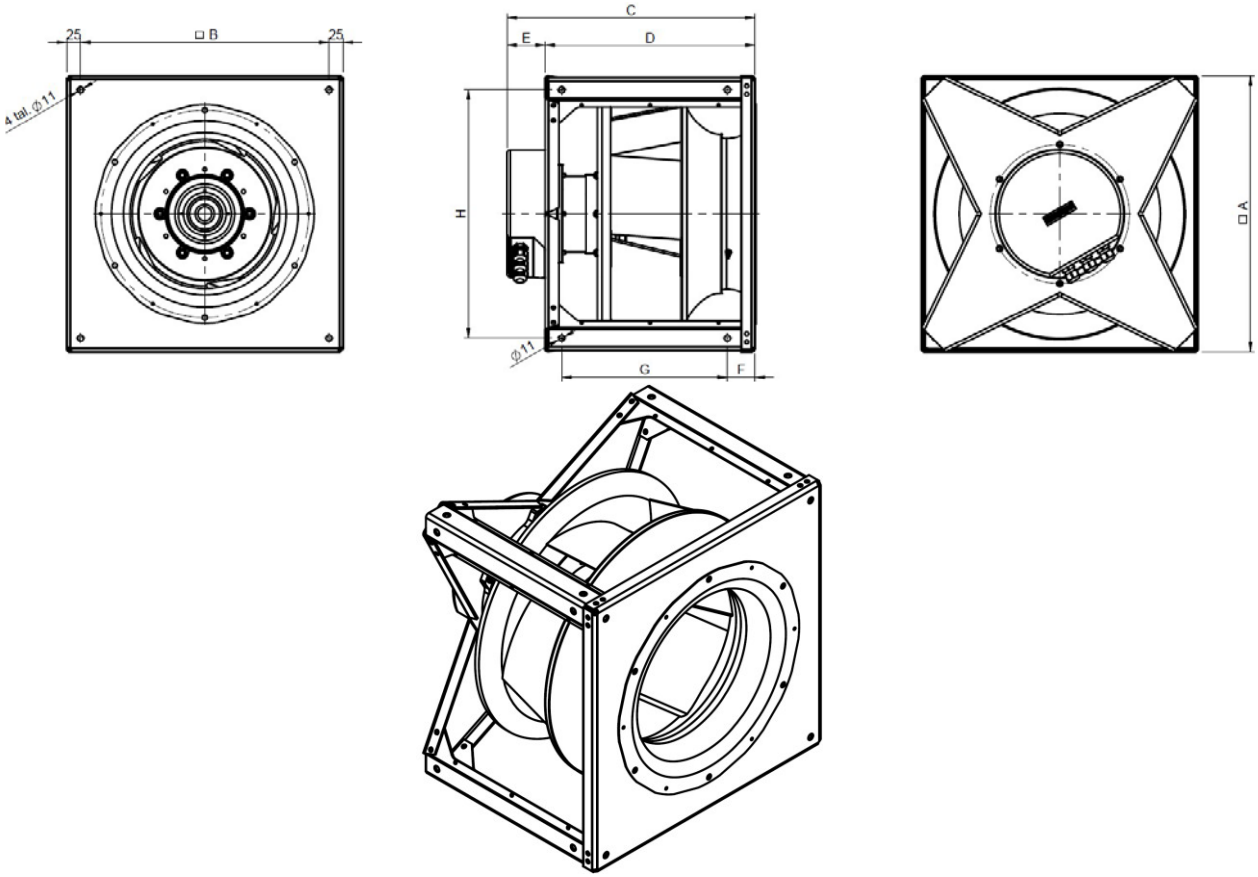
EPOXY Painting

HIGH PERFORMANCE SINGLE INLET MOTOR-FAN GROUPS

NTPF-EC / NTPF-A-EC

DIMENSION DRAWINGS

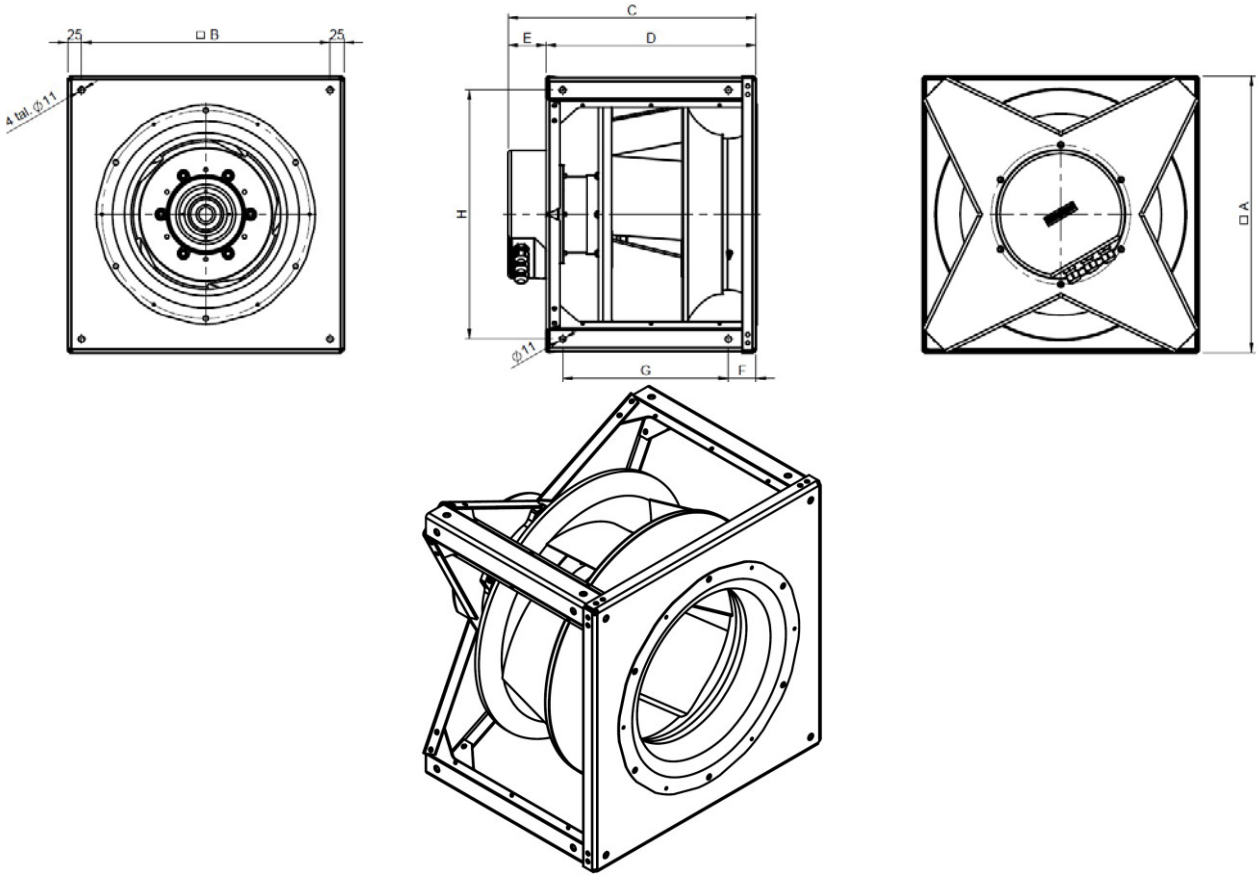
NTPF-EC (Standard Type Impeller)



MODELO	rpm máx.	Pot. Máx. (W)	VAC	□ A	□ B	C±3	D	E	F	G	H
NTPF-250 EC 0,45 M	3000	448	1~ 200-277	400	350	237	191±1	46	40	110	350
NTPF-250 EC 0,75 M	3450	750				259,5	205±1	54,5		125	
NTPF-250 EC 0,79 T	3580	790	3~ 380-480								
NTPF-280 EC 0,41 M	2400	415	1~ 200-277	400	350	270	222±1	48	40	140	350
NTPF-280 EC 0,71 M	2800	715				293,5	239±1	54,5		160	
NTPF-280 EC 1,00 T	3100	1000	3~ 380-480								
NTPF-310 EC 1,00 T	2580	1000	3~ 380-480	500	450	301	263,7±2,5	37,5	40	180	450
NTPF-310 EC 1,27 M	2850	1270	1~ 200-277			316,7		53			
NTPF-310 EC 1,65 T	3140	1650	3~ 380-480			324,7		61			
NTPF-310 EC 3,24 T	4100	3240				336,7		73			
NTPF-355 EC 1,00 T	2140	1000	3~ 380-480	500	450	321,5	267±2,5	54,5	40	185	450
NTPF-355 EC 1,40 M	2450	1400	1~ 200-277			356,5	286,5±2,5	70		205	
NTPF-355 EC 1,70 T	2600	1700	3~ 380-480								
NTPF-355 EC 2,25 T	2800	2250				376,5	306,5±2,5			225	
NTPF-400 EC 1,85 T	2180	1850	3~ 380-480	500	450	402	333±2,5	69	50	235	450
NTPF-400 EC 3,00 T	2550	3000				393	326±2	67		225	
NTPF-400 EC 3,47 T	2680	3470									
NTPF-450 EC 1,61 T	1750	1615	3~ 380-480	630	580	432	363±2,5	69	50	265	580
NTPF-450 EC 2,73 T	2040	2730				422	355±2	67		255	
NTPF-450 EC 5,37 T	2750	5370				472	361,5±2	110,5		260	
NTPF-500 EC 3,51 T	1910	3510	3~ 380-480	630	580	434,5	367,5±2	67	50	265	580
NTPF-500 EC 5,50 T	2200	5500				513	402,5±2	110,5		300	
NTPF-560 EC 3,00 T	1500	3000	3~ 380-480	800	750	486	419±2	67	50	320	750
NTPF-560 EC 4,70 T	1750	4700				569	459±2	110		360	
NTPF-630 EC 2,90 T	1130	2900	3~ 380-480	800	750	491	445	46	50	345	750
NTPF-630 EC 6,75 T	1500	6750				635,5	497,5	138		400	
NTPF-630 EC 11,00 T	1850	11000				694	556			455	

*Approximate Dimensions

NTPF-A-EC (Airfoil Type Impeller)



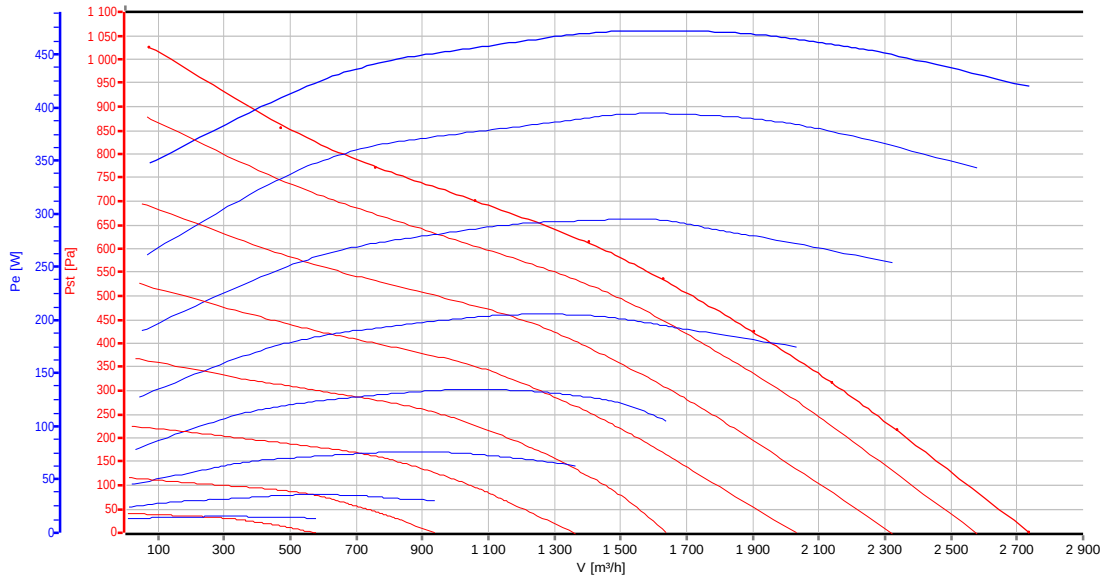
MODELO	rpm máx.	Pot. Máx. (kW)	VAC	□ A	□ B	C	D	E	F	G	H
NTPF-A-250 EC 0,50 M	3080	0,50	1~ 200-277	400	350	237	191±2	46	40	110	350
NTPF-A-250 EC 0,75 M	3450	0,75				253		62			
NTPF-A-250 EC 1,18 T	4000	1,18	3~ 380-480								
NTPF-A-280 EC 0,50 M	2670	0,50	1~ 200-277	400	350	245	198,5±2	46,5	40	120	350
NTPF-A-280 EC 0,75 M	3000	0,75				261		62,5			
NTPF-A-280 EC 1,05 T	3400	1,05	3~ 380-480			276	213,5±2			135	
NTPF-A-310 EC 1,23 T	3010	1,23	3~ 380-480	500	450	395,5	289±2,5	106,5	40	110	450
NTPF-A-310 EC 1,80 T	3410	1,80				354,5	284,5±2,5	70		205	
NTPF-A-310 EC 2,95 T	4000	2,95				354,5	284,5±1				
NTPF-A-355 EC 1,10 T	2400	1,10	3~ 380-480	500	450	393	294,5±2	98,5	40	215	450
NTPF-A-355 EC 1,90 T	2870	1,90				384,5	314,5±2	70		235	
NTPF-A-355 EC 2,68 T	3230	2,68				404,5	334,5±2			255	
NTPF-A-400 EC 2,50 T	2450	2,50	3~ 380-480	500	450	449	380±2	69	50	280	450
NTPF-A-400 EC 3,35 T	2750	3,35				440	374±2	66		274	
NTPF-A-450 EC 1,74 T	1730	1,74	3~ 380-480	630	580	488	418,5±2,5	69,5	50	320	580
NTPF-A-450 EC 2,90 T	2140	2,90				480	413,5±2	66,5		315	
NTPF-A-450 EC 5,25 T	2600	5,25				559	448,5±2	110,5		350	
NTPF-A-500 EC 3,45 T	1910	3,45	3~ 380-480	630	580	511	444,5±2	66,5	50	345	580
NTPF-A-500 EC 5,70 T	2250	5,70				590	479,5±2	110,5		380	
NTPF-A-560 EC 3,30 T	1540	3,30	3~ 380-480	800	750	577	510,5±2	66,5	50	410	750
NTPF-A-560 EC 5,00 T	1760	5,00				661	550,5±2	110,5		450	

*Approximate Dimensions

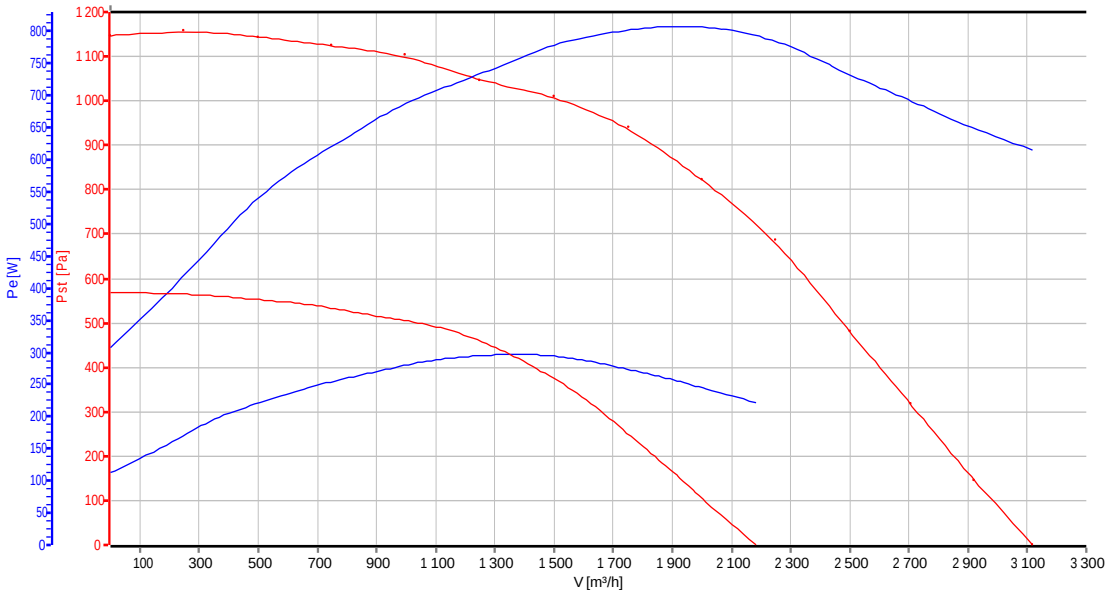
CHARACTERISTIC PERFORMANCE CURVE NTPF-EC

STANDARD TYPE IMPELLER

NTPF-250 EC 0,45 M



NTPF-250 EC 0,75 M



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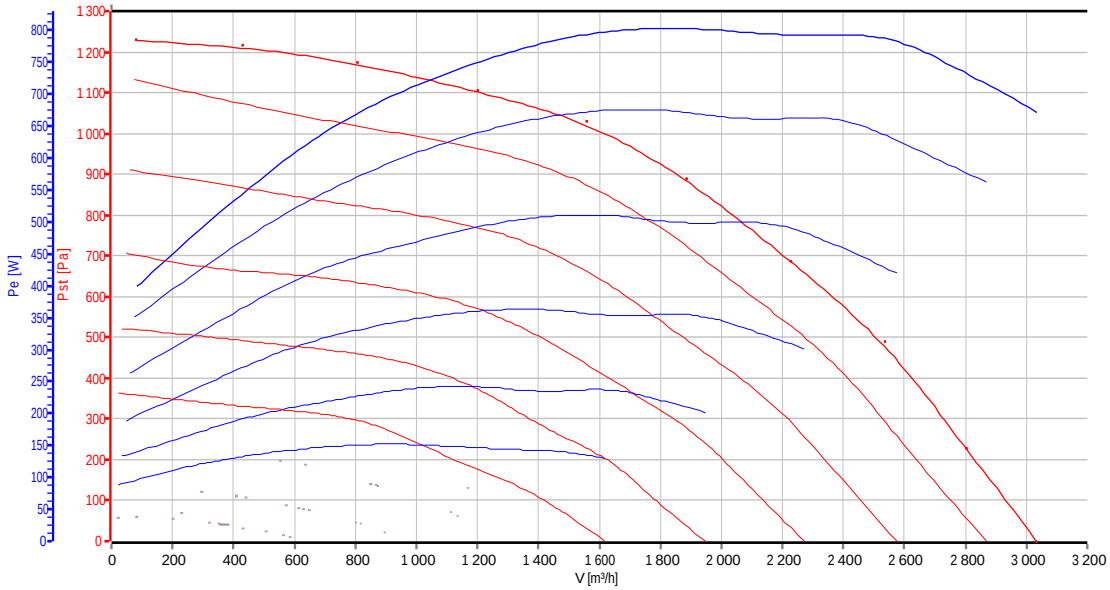
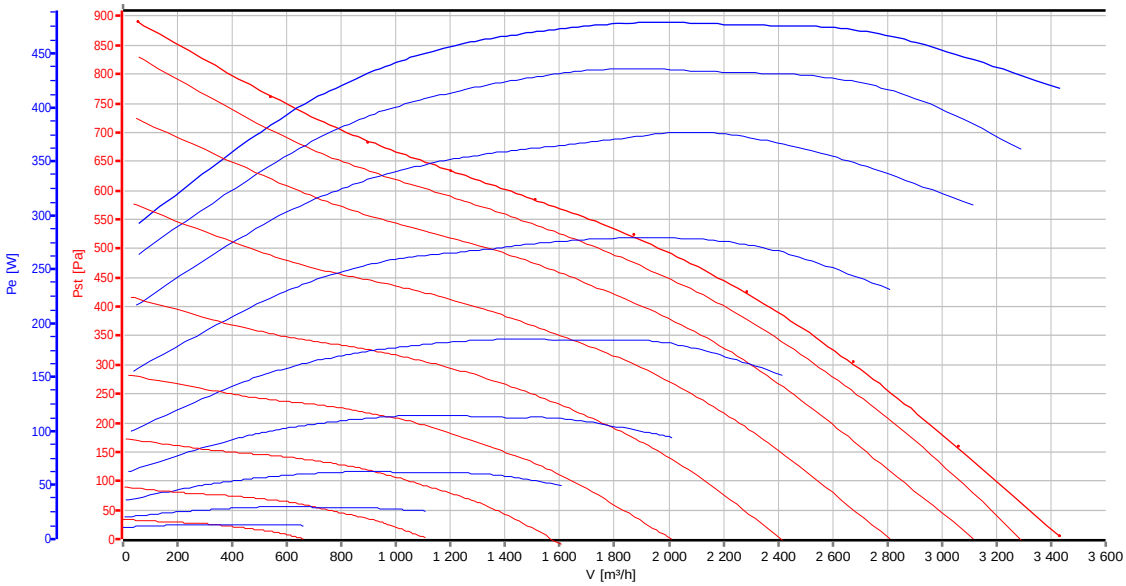
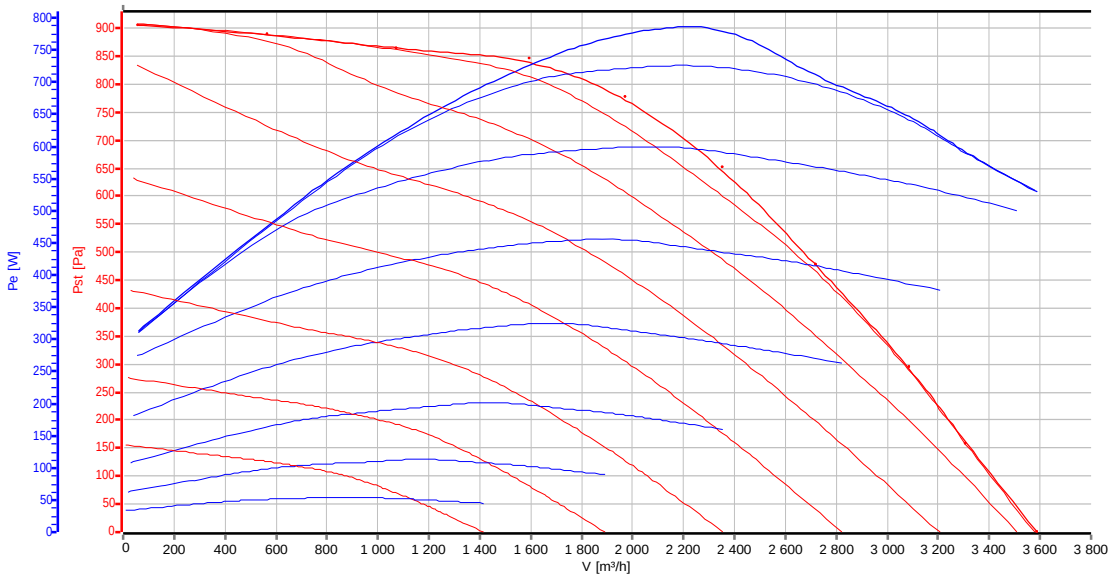
NTPF-250 EC 0,79 T



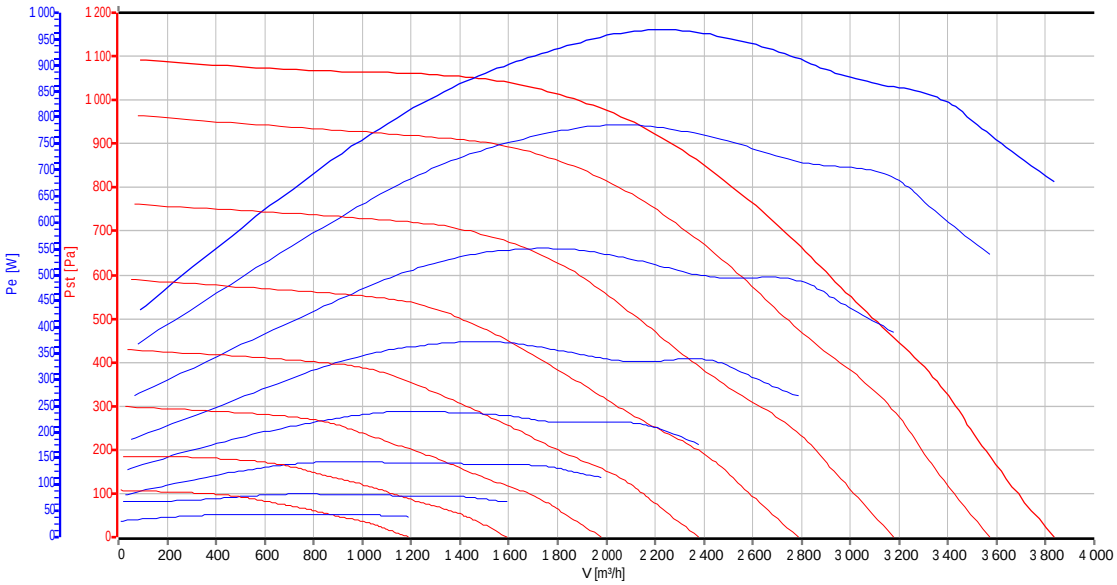
NTPF-280 EC 0,41 M



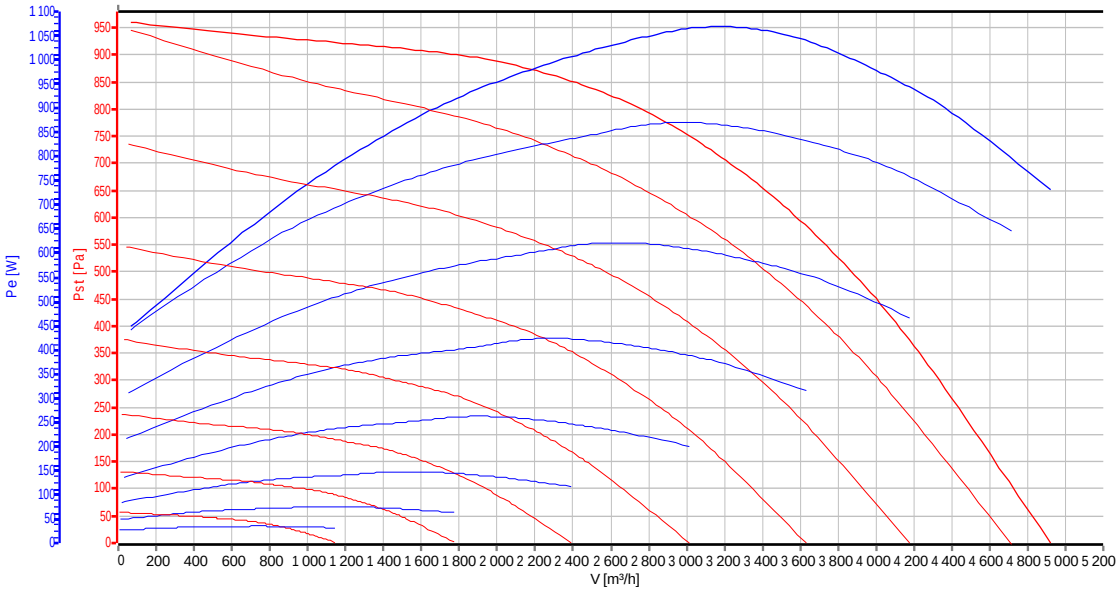
NTPF-280 EC 0,71 M



NTPF-280 EC 1,00 T



NTPF-310 EC 1,00 T



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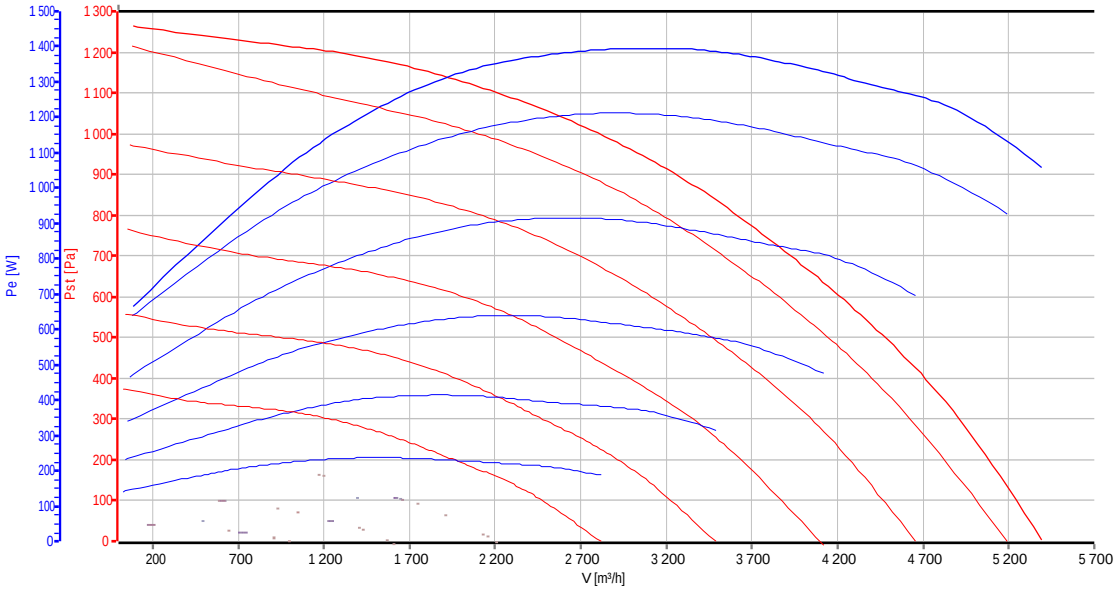

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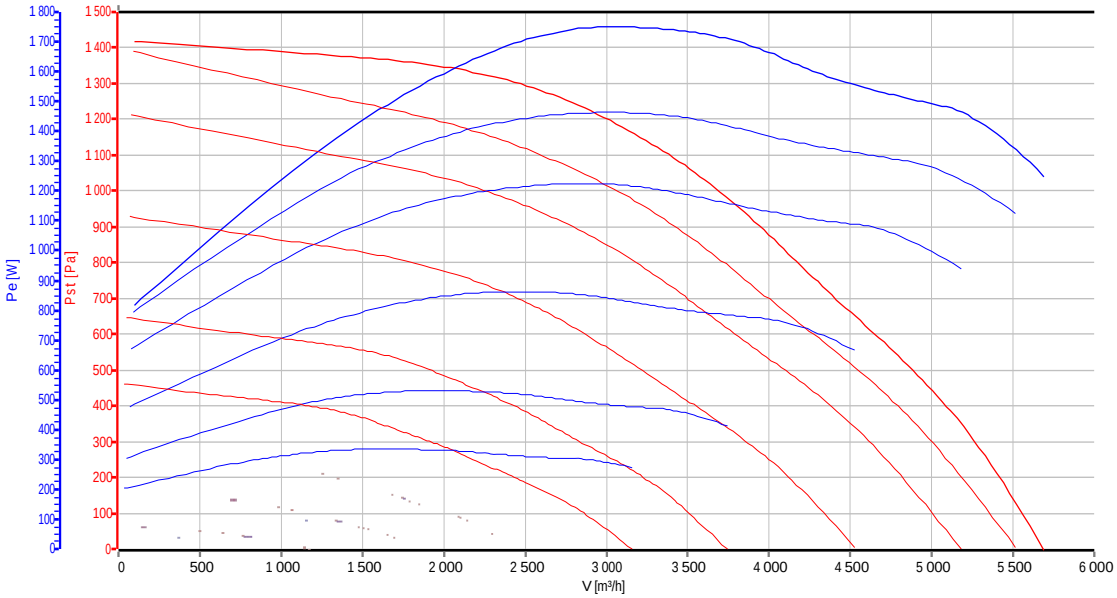
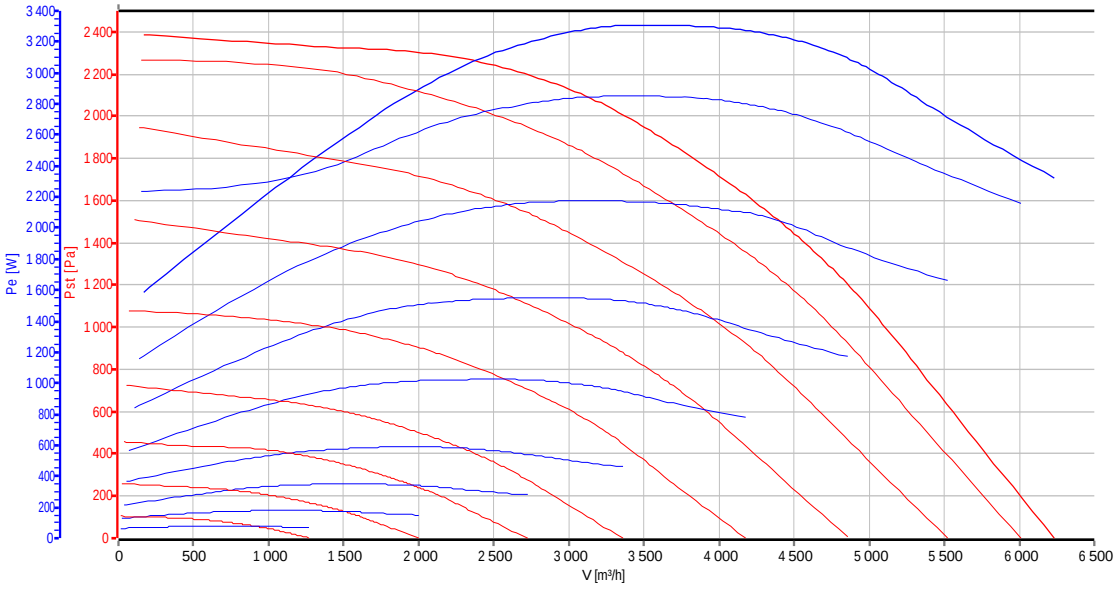
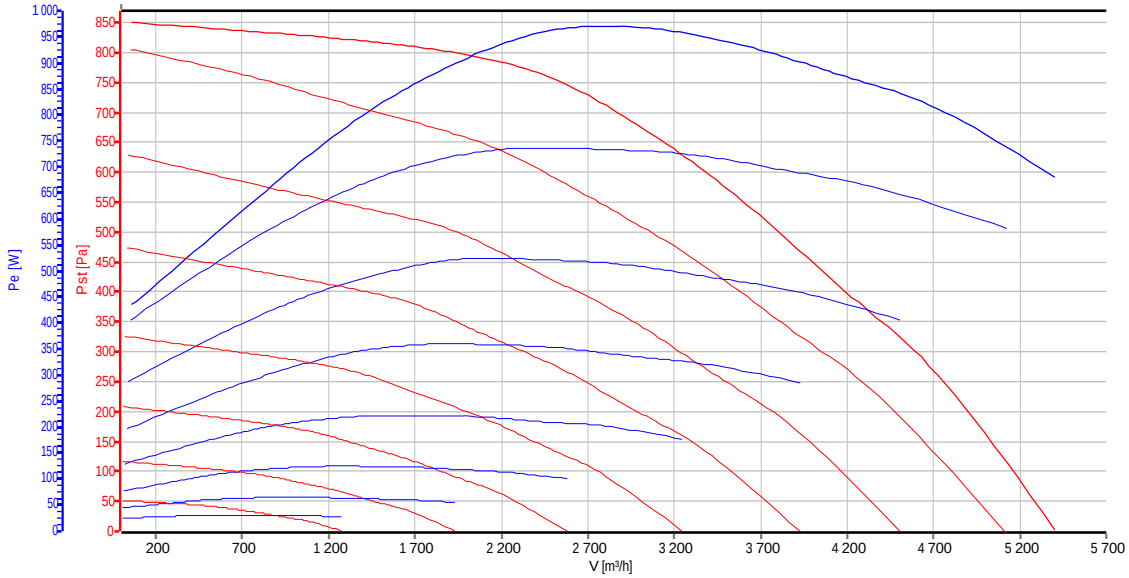


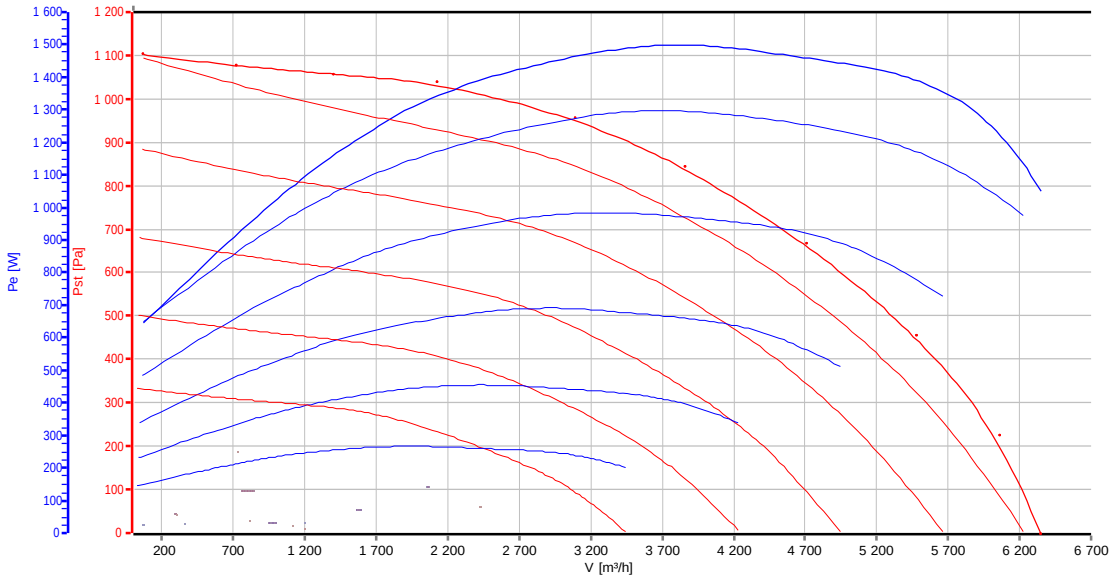
NTPF-310 EC 3,24 T



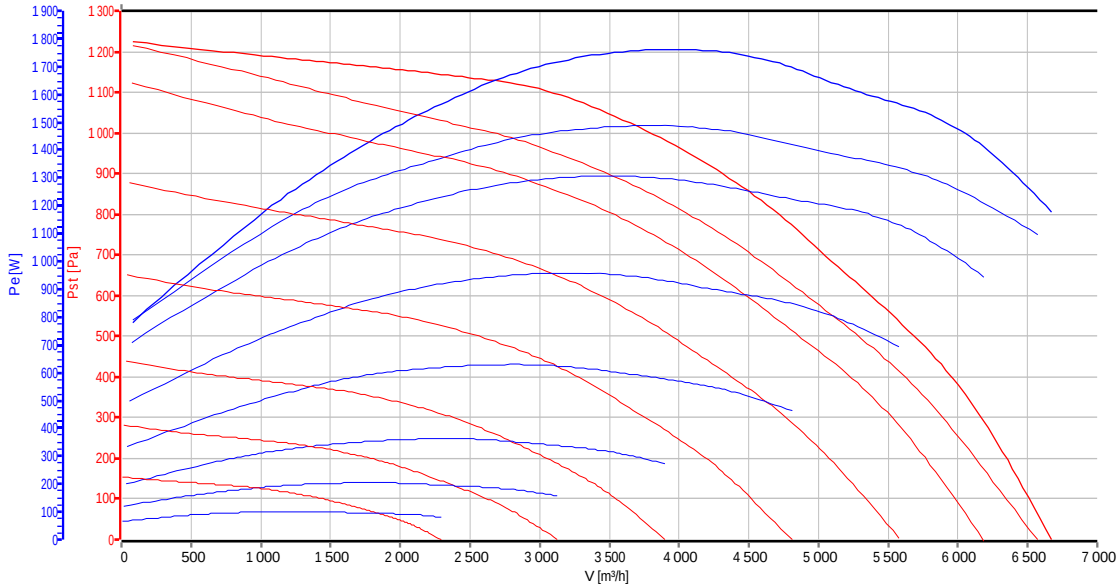
NTPF-355 EC 1,00 T



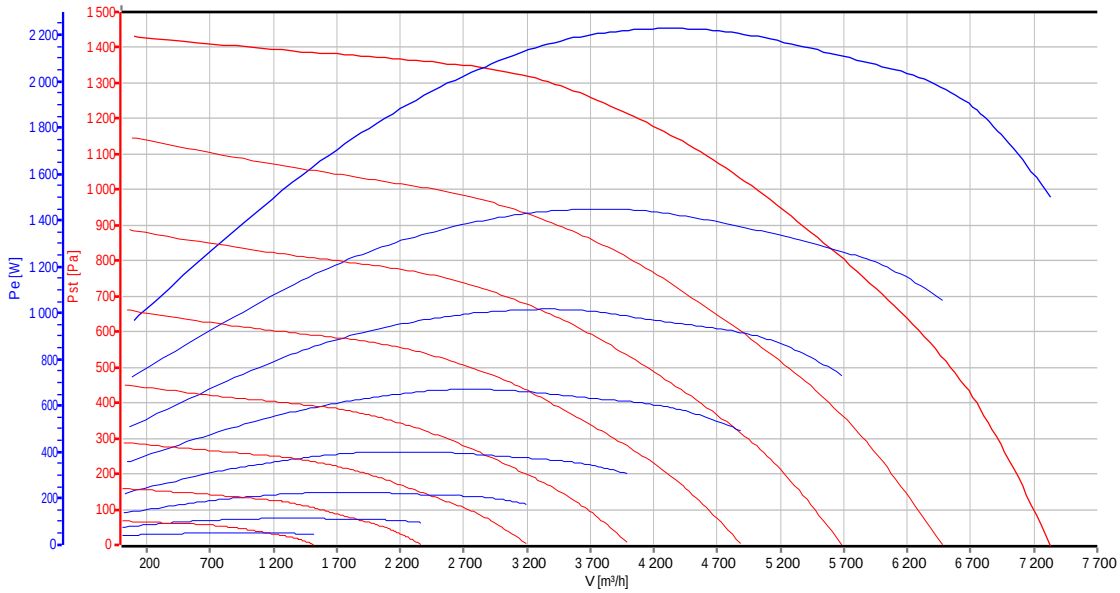
NTPF-355 EC 1,40 M



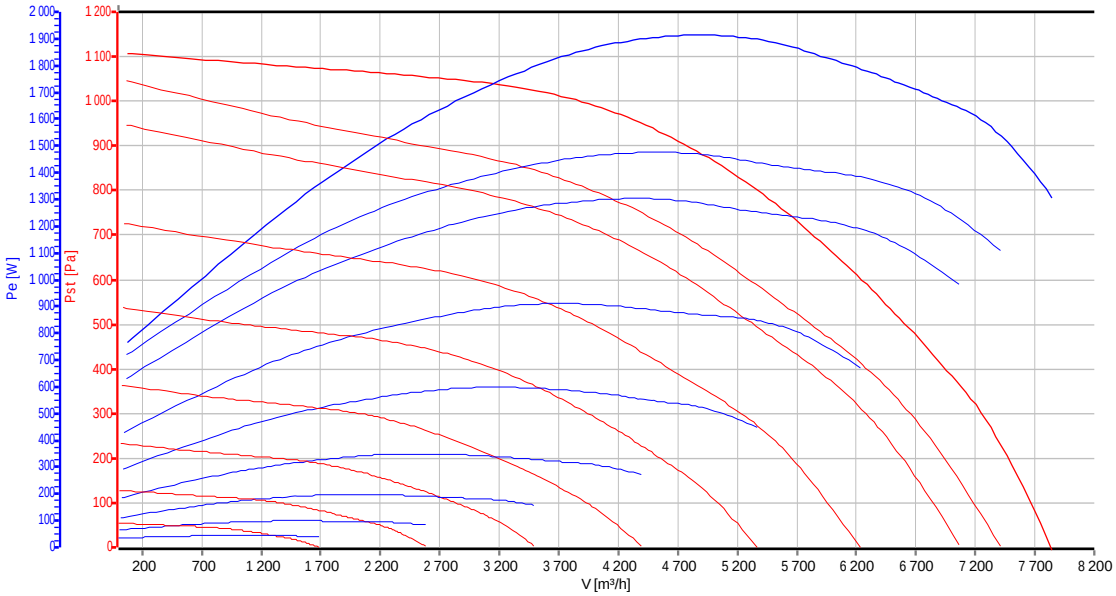
NTPF-355 EC 1,70 T



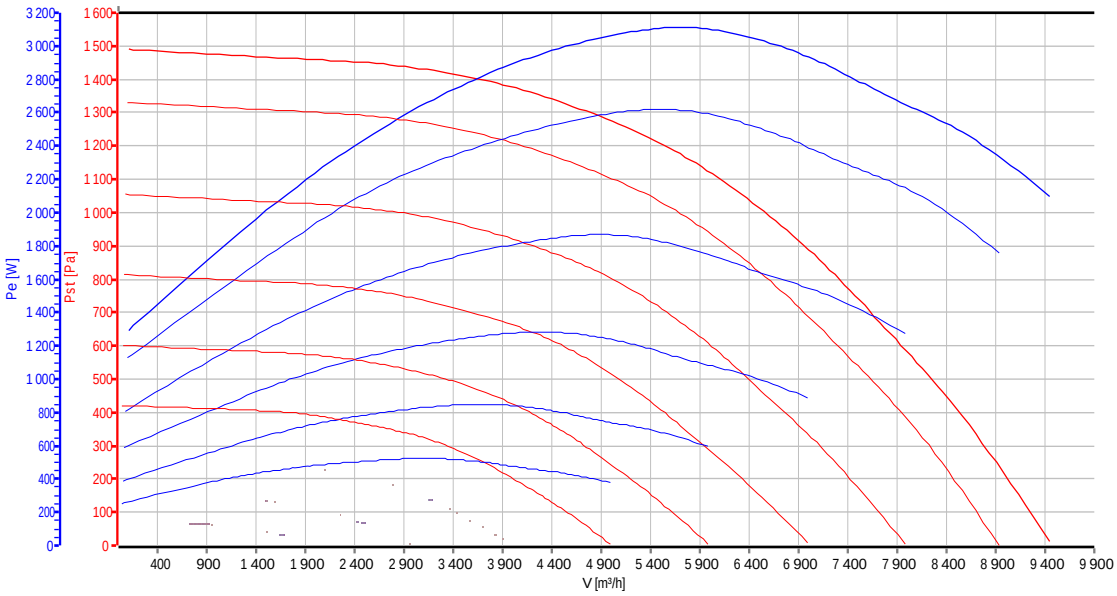
NTPF-355 EC 2,25 T



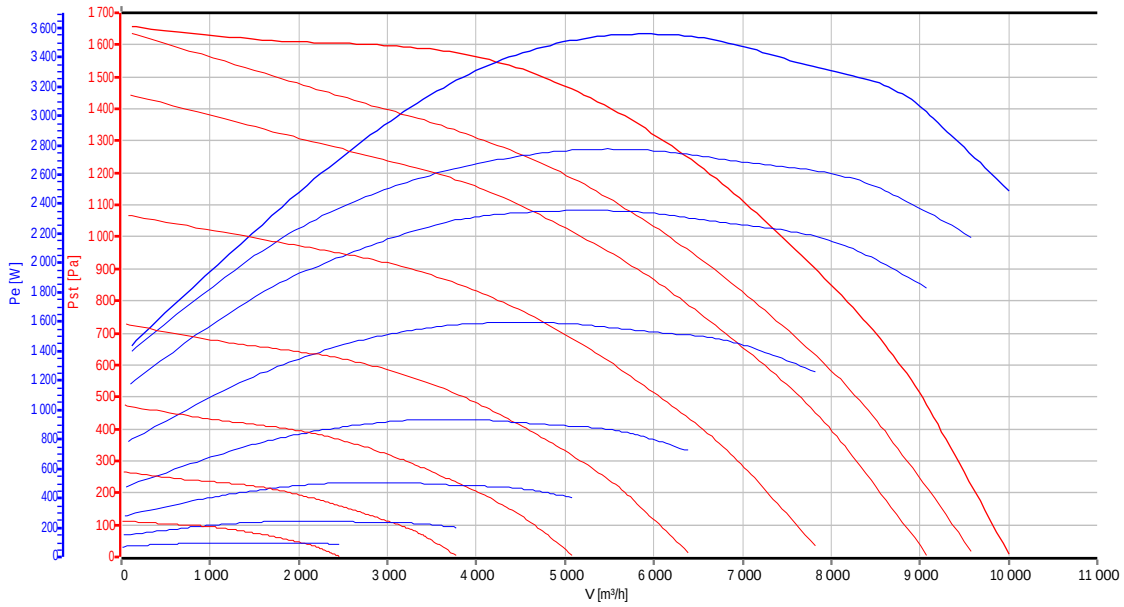
NTPF-400 EC 1,85 T



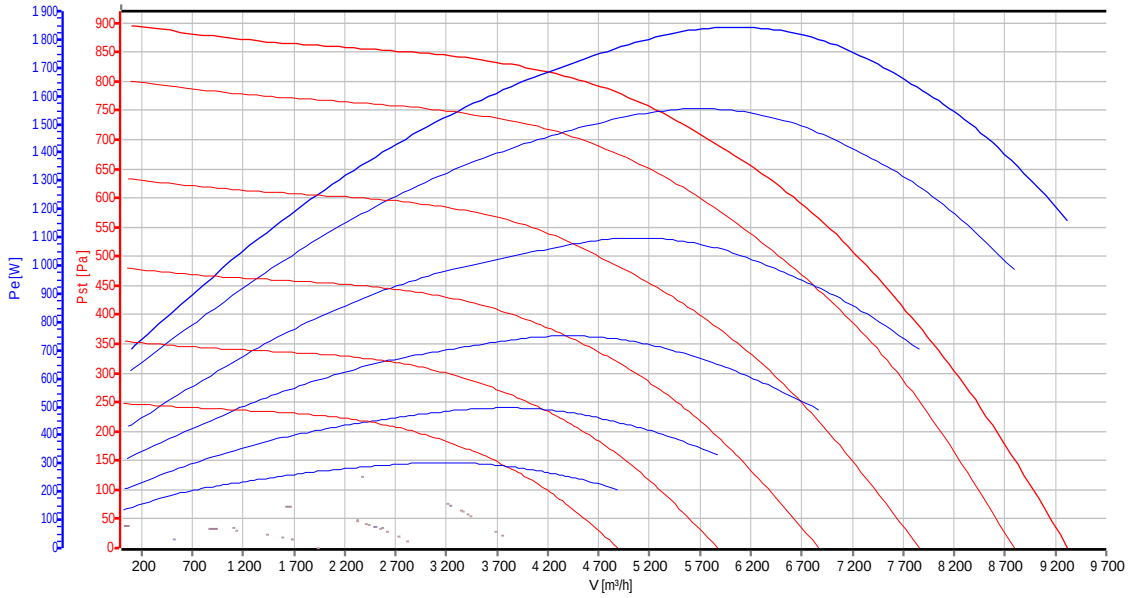
NTPF-400 EC 3,00 T



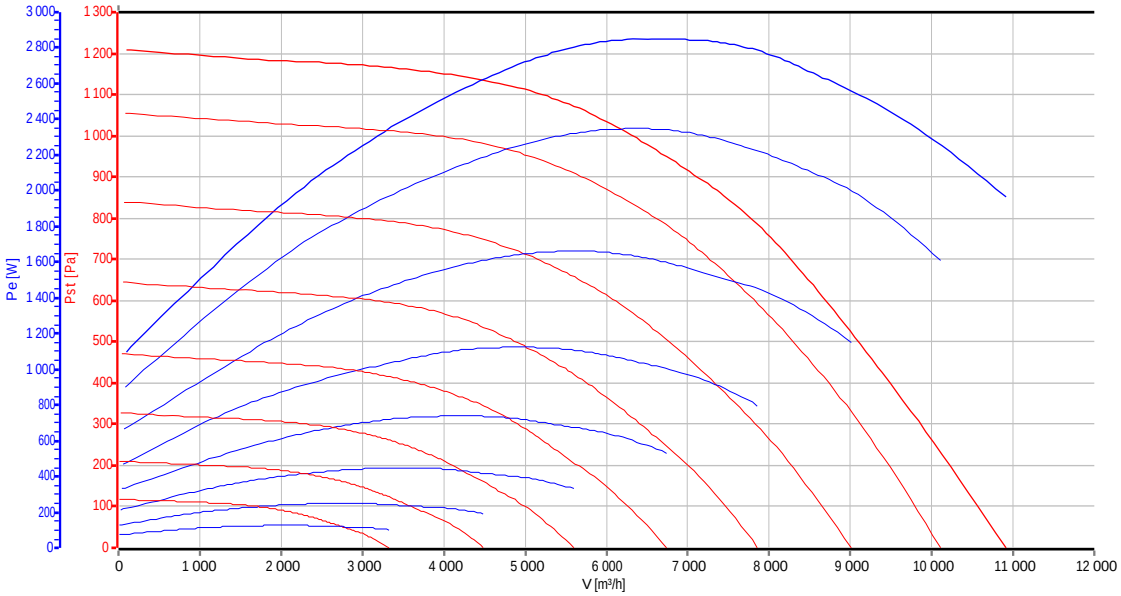
NTPF-400 EC 3,47 T



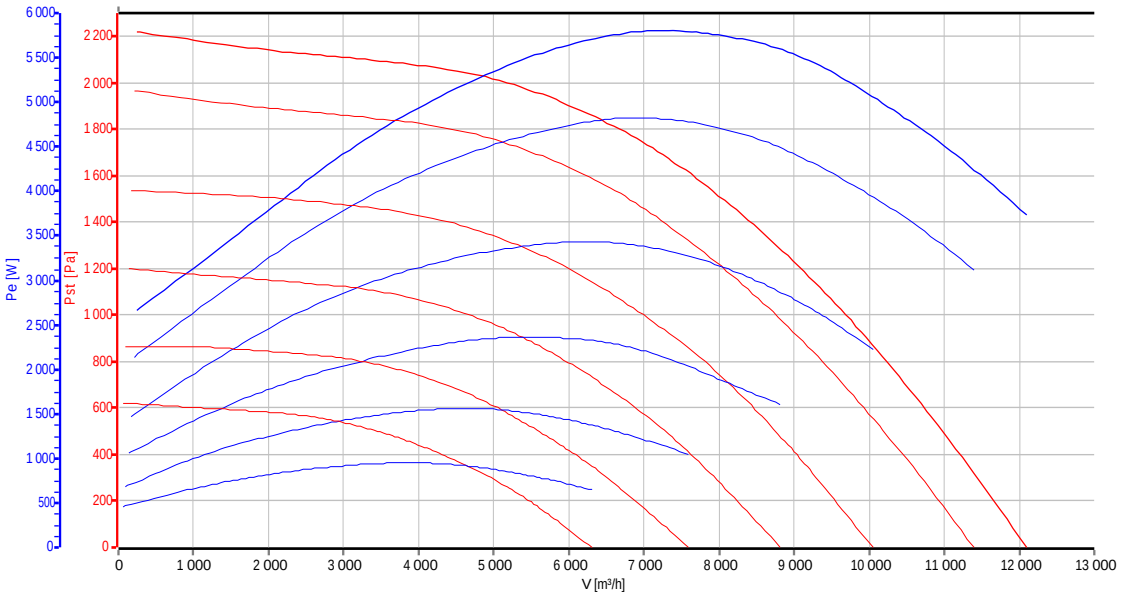
NTPF-450 EC 1,61 T



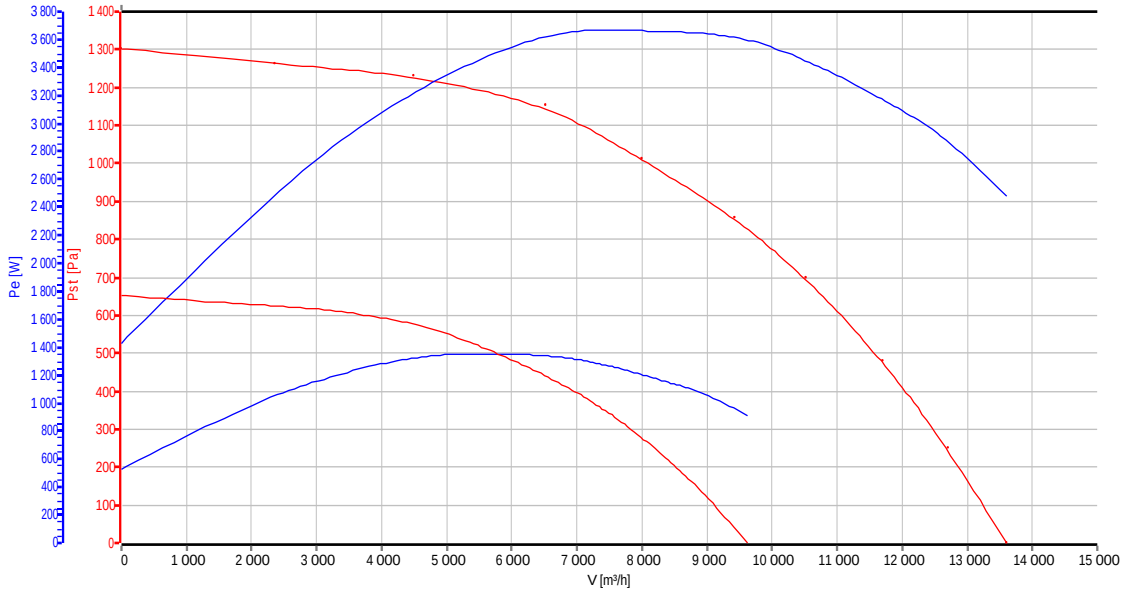
NTPF-450 EC 2,73 T



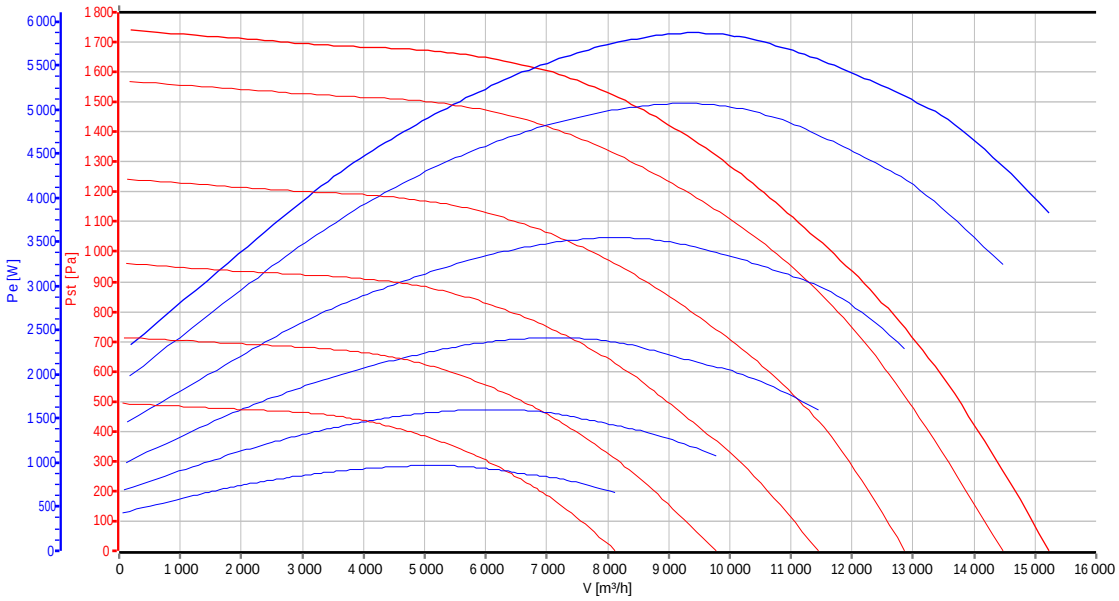
NTPF-450 EC 5,37 T



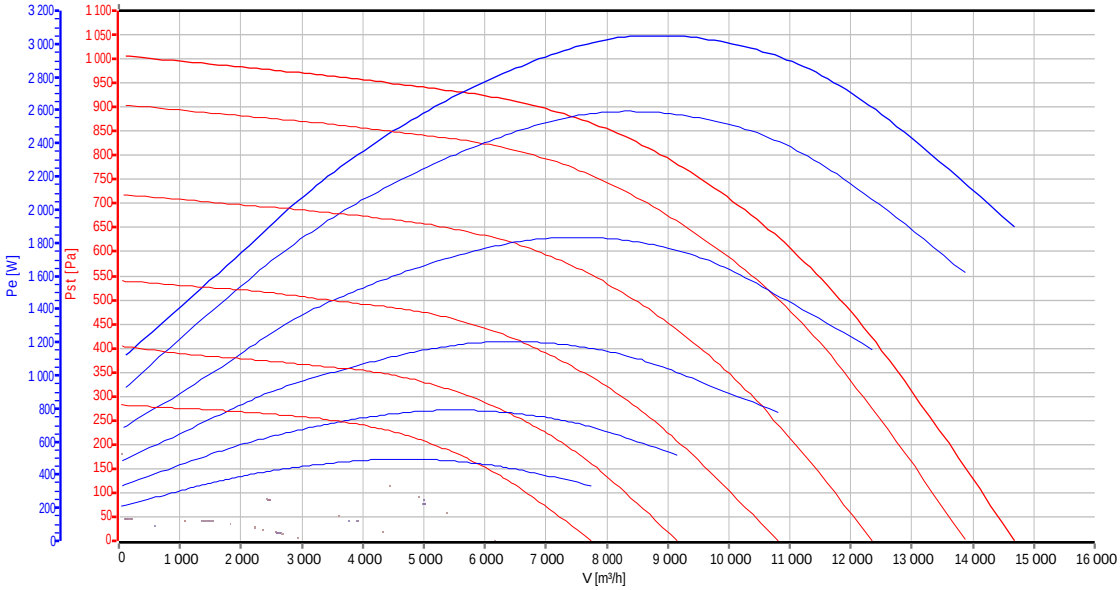
NTPF-500 EC 3,51 T



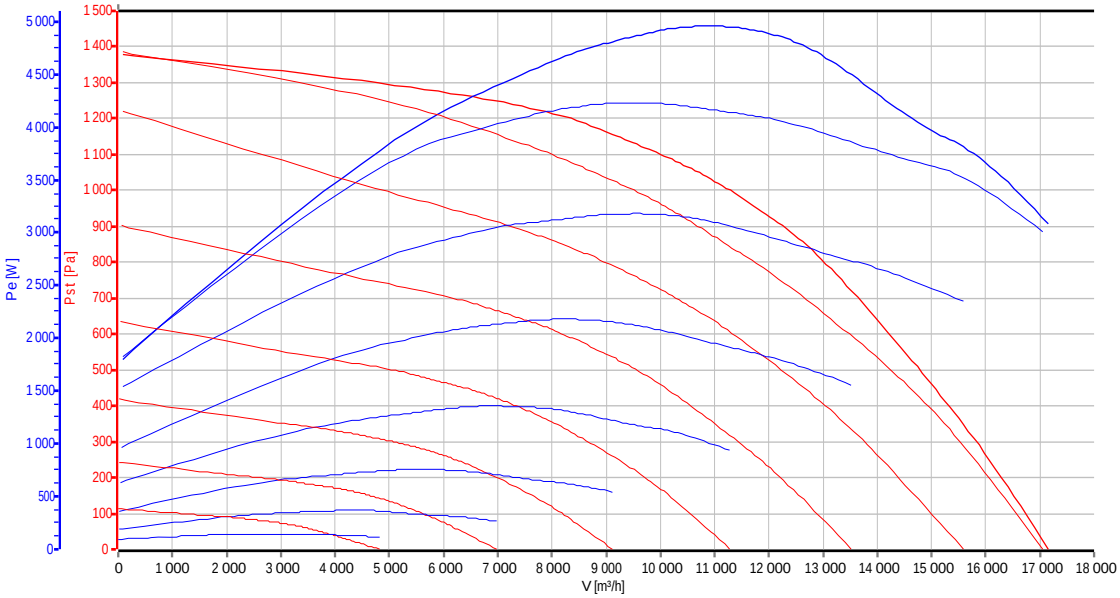
NTPF-500 EC 5,50 T



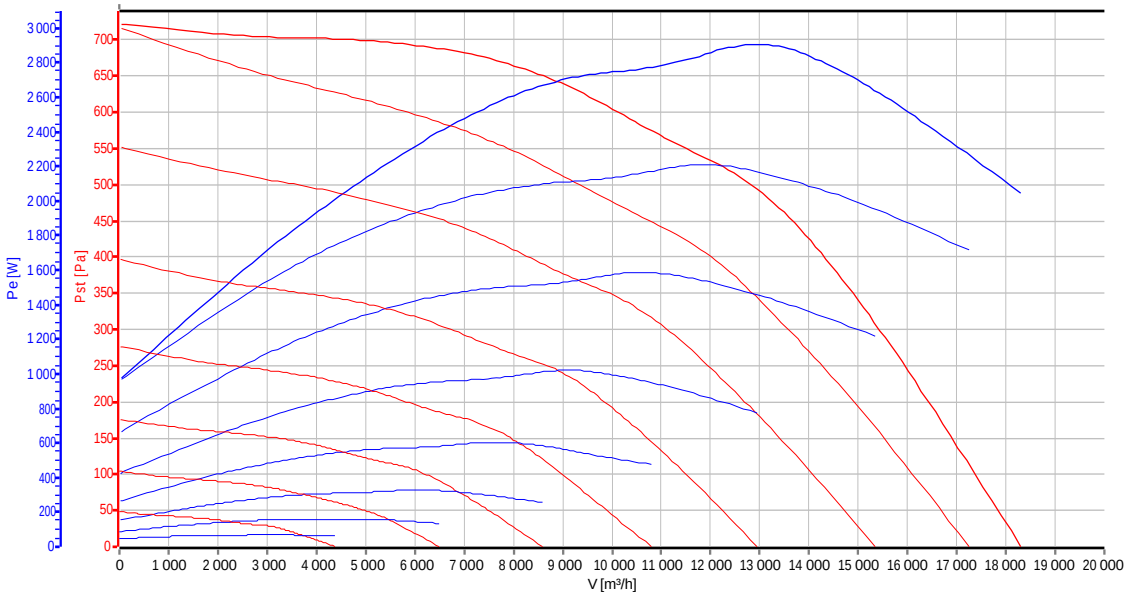
NTPF-560 EC 3,00 T



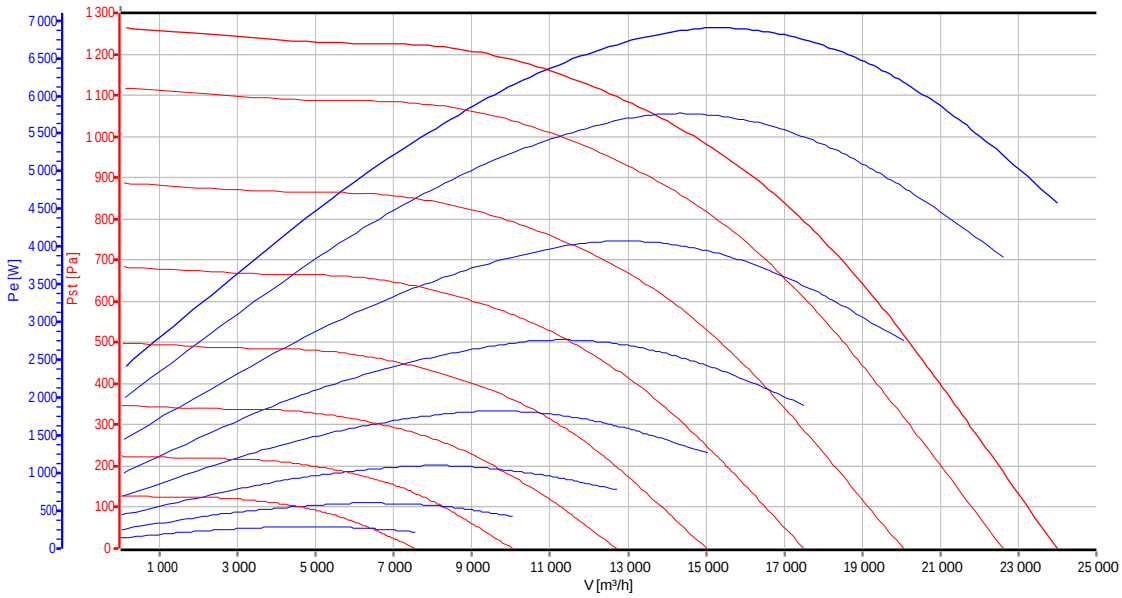
NTPF-560 EC 4,70 T



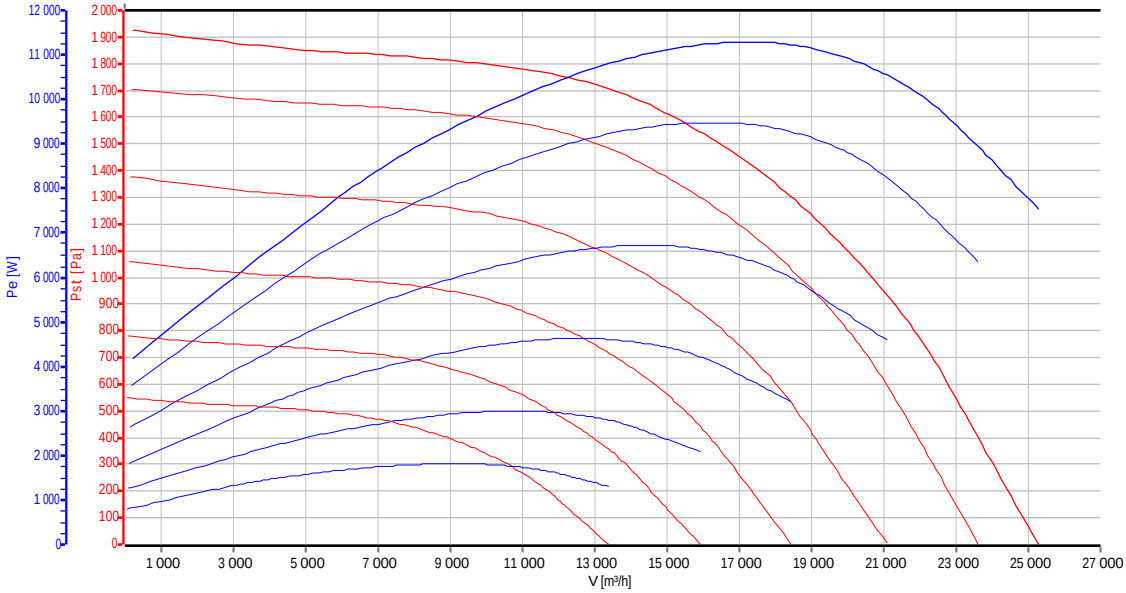
NTPF-630 EC 2,90 T



NTPF-630 EC 6,75 T



NTPF-630 EC 11,00 T



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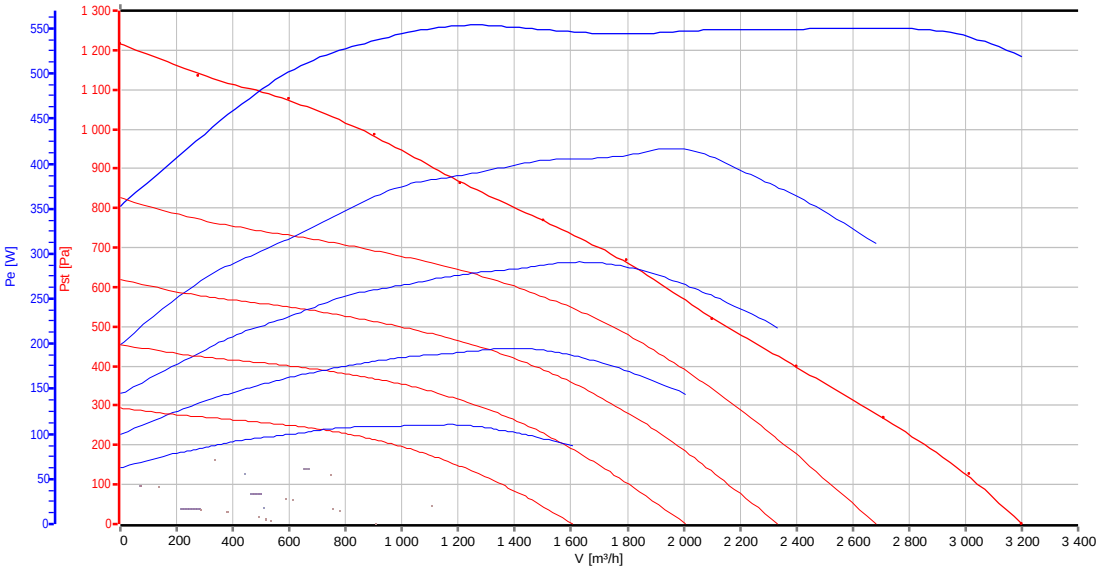
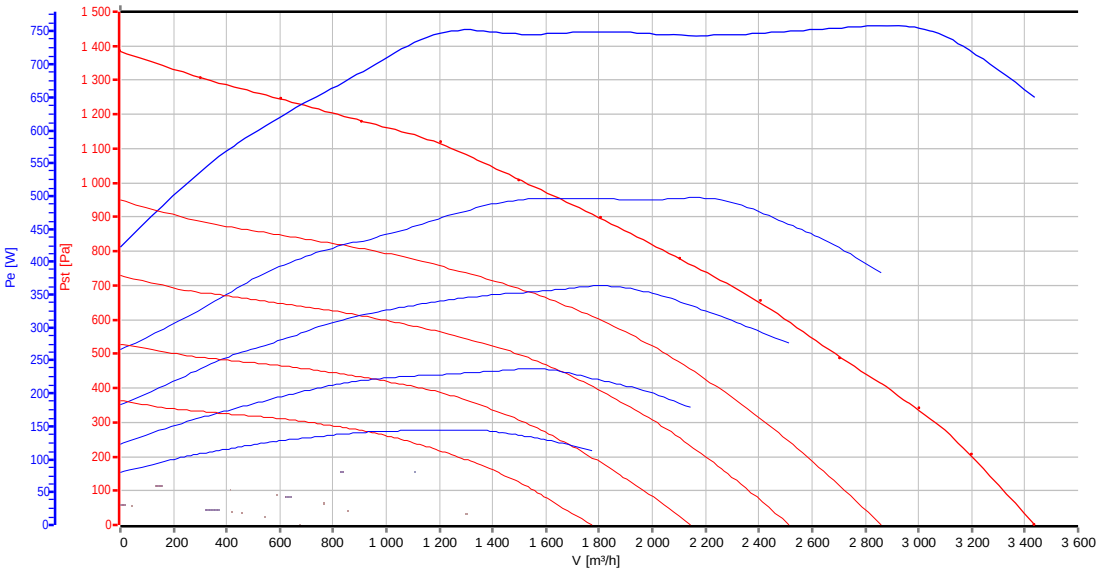
CHARACTERISTIC PERFORMANCE CURVE NTPF-A-EC
AIRFOIL TYPE IMPELLER

NTPF-A-250 EC 0,50 M



NTPF-A-250 EC 0,75 M



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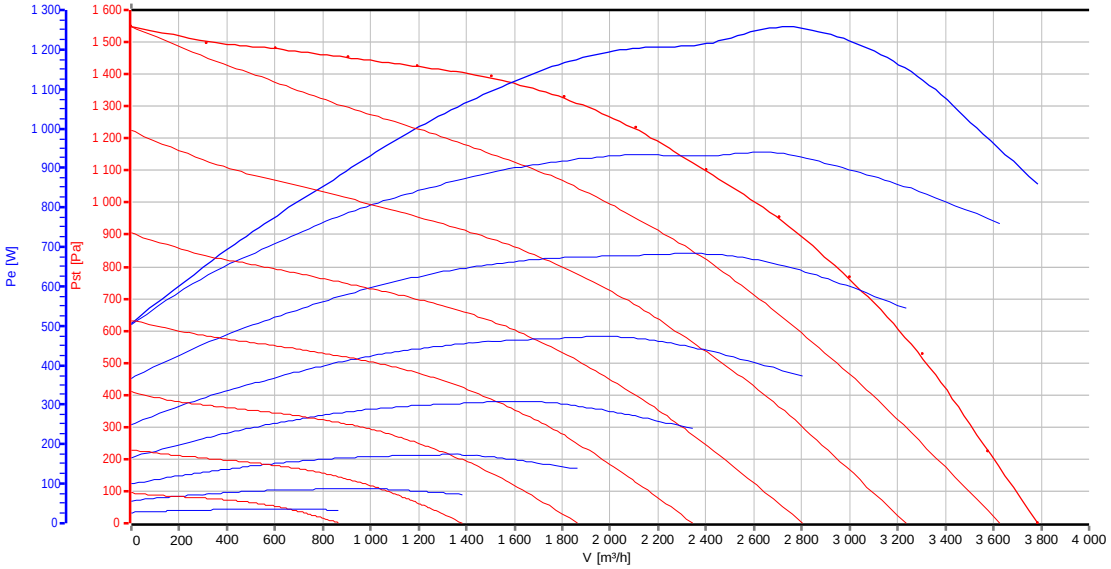
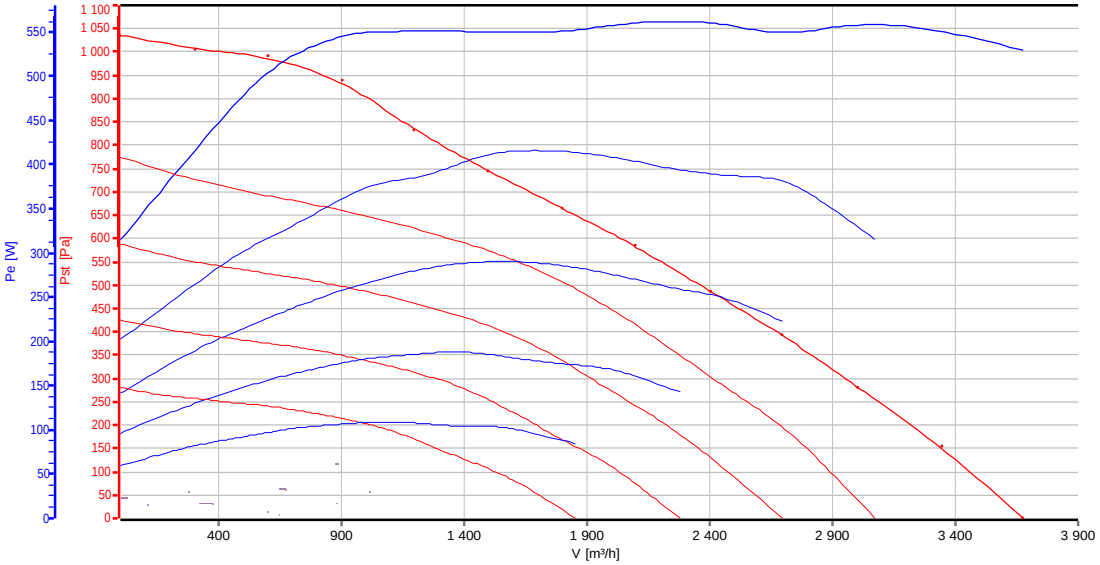
E-mail: tecnifan@tecnifan.es

NTPF-A-250 EC 1,18 T



NTPF-A-280 EC 0,50 M



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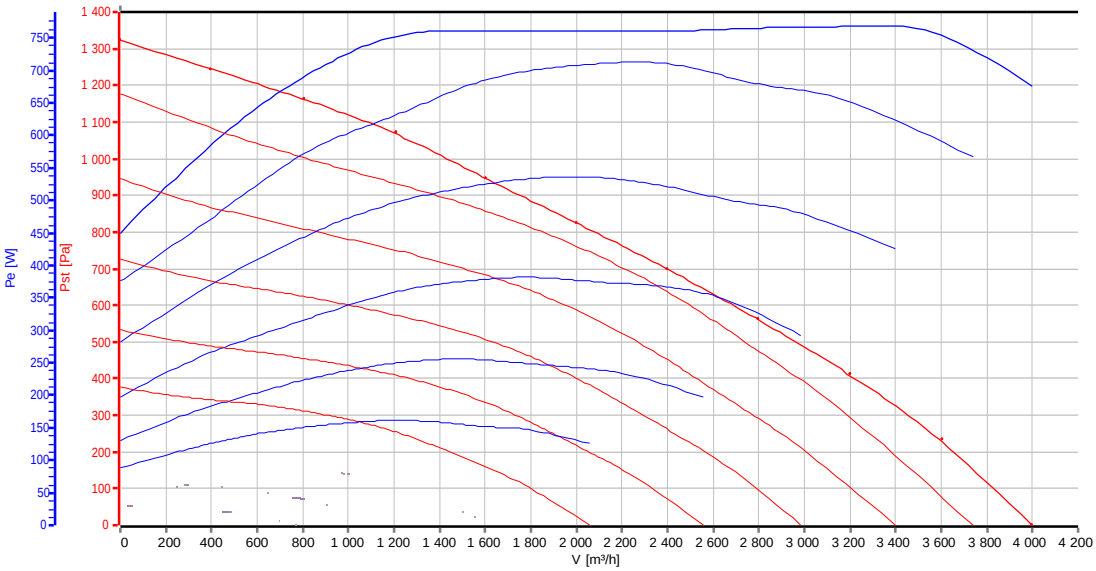
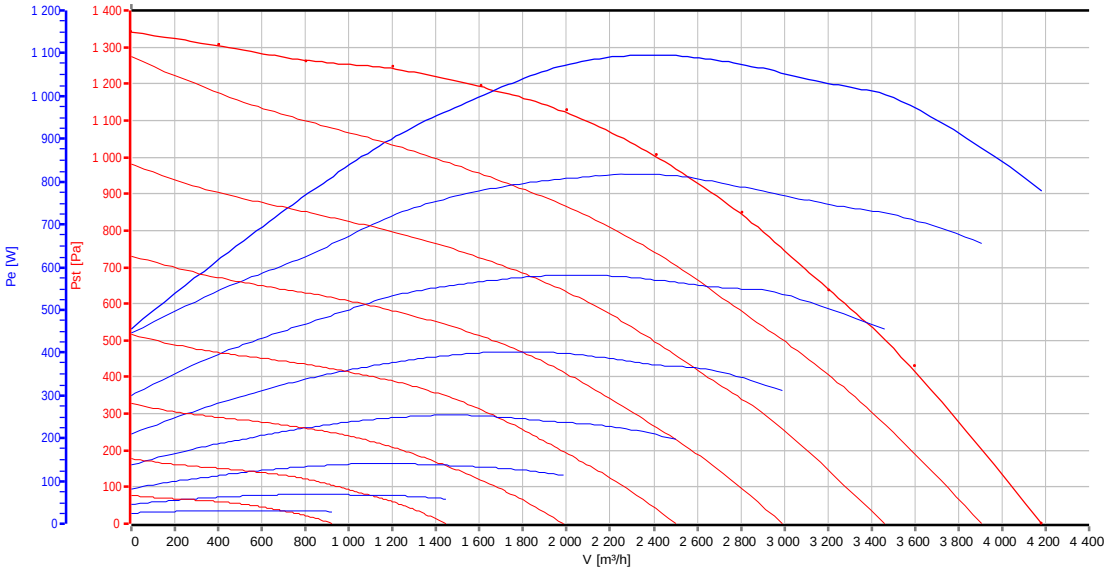
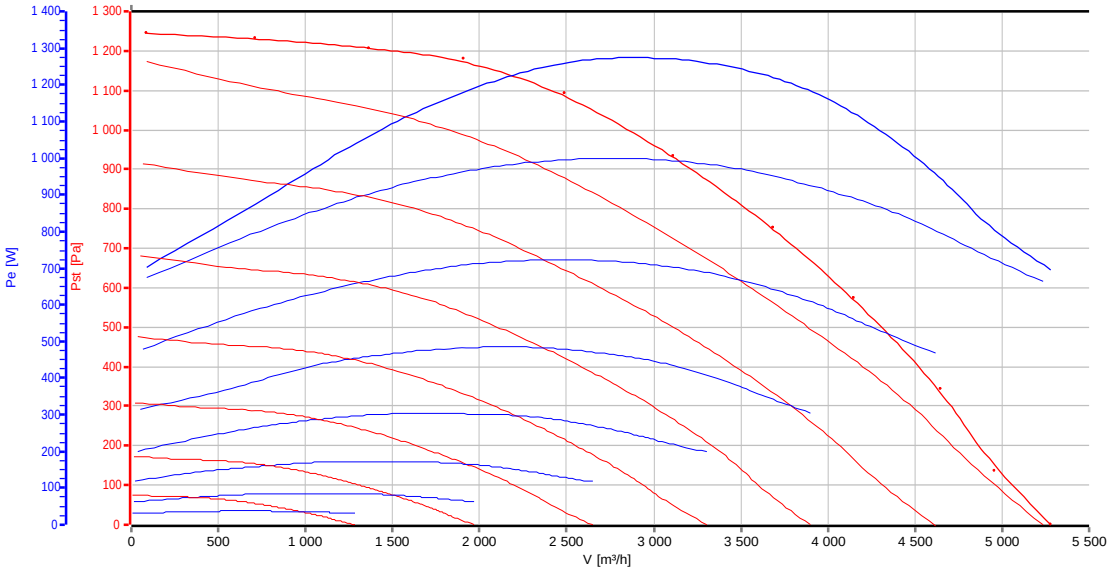


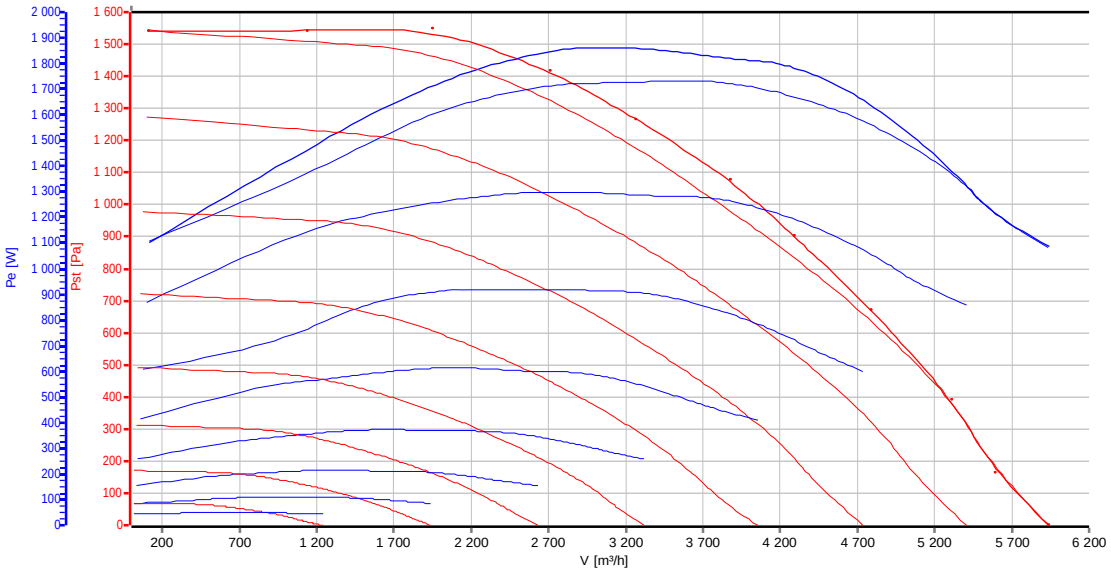
NTPF-A-280 EC 1,05 T



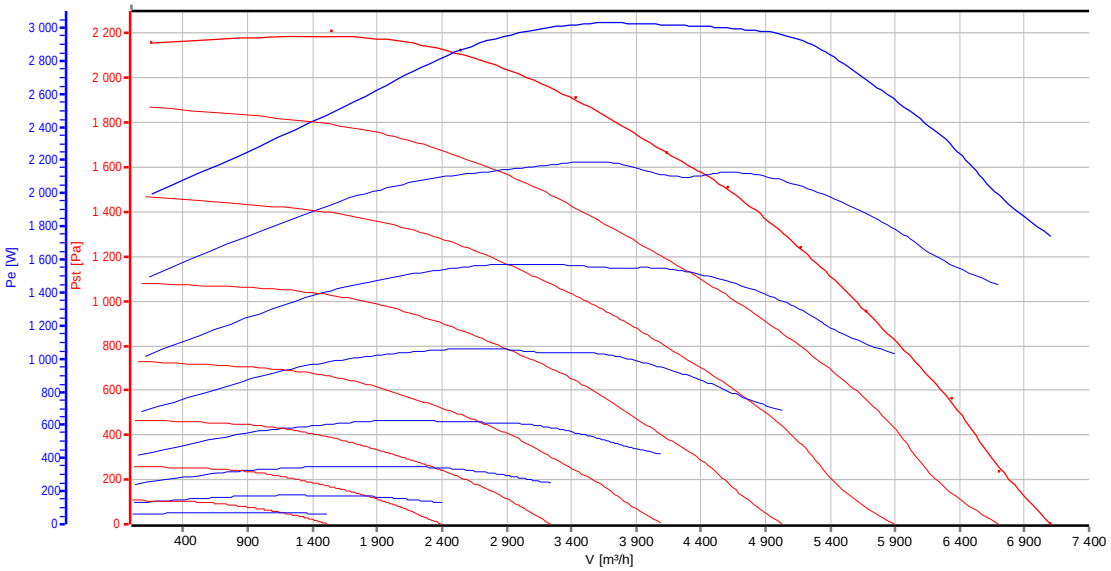
NTPF-A-310 EC 1,23 T



NTPF-A-310 EC 1,80 T



NTPF-A-310 EC 2,95 T



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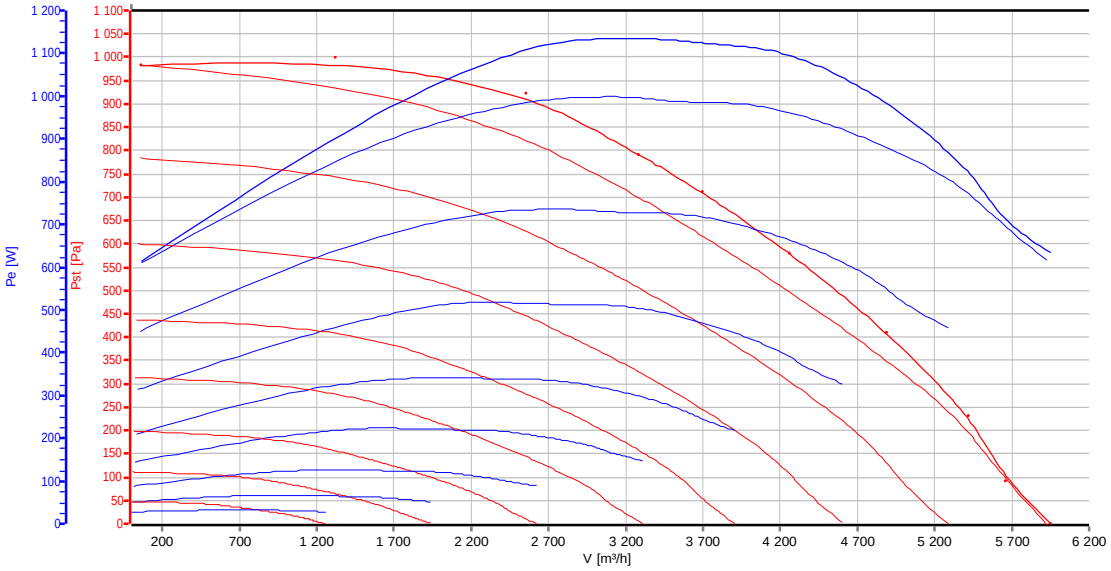

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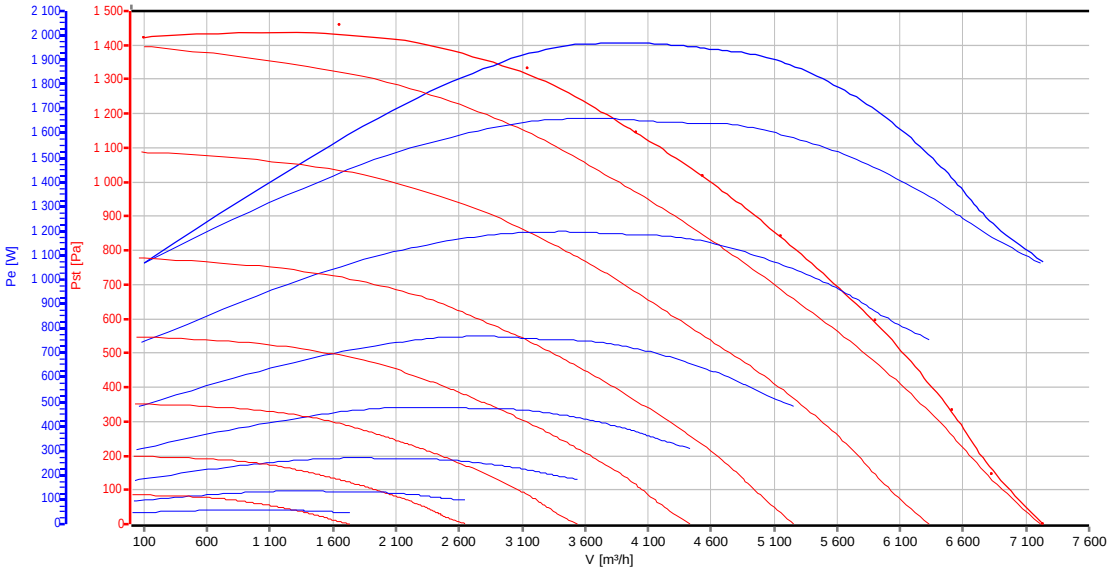

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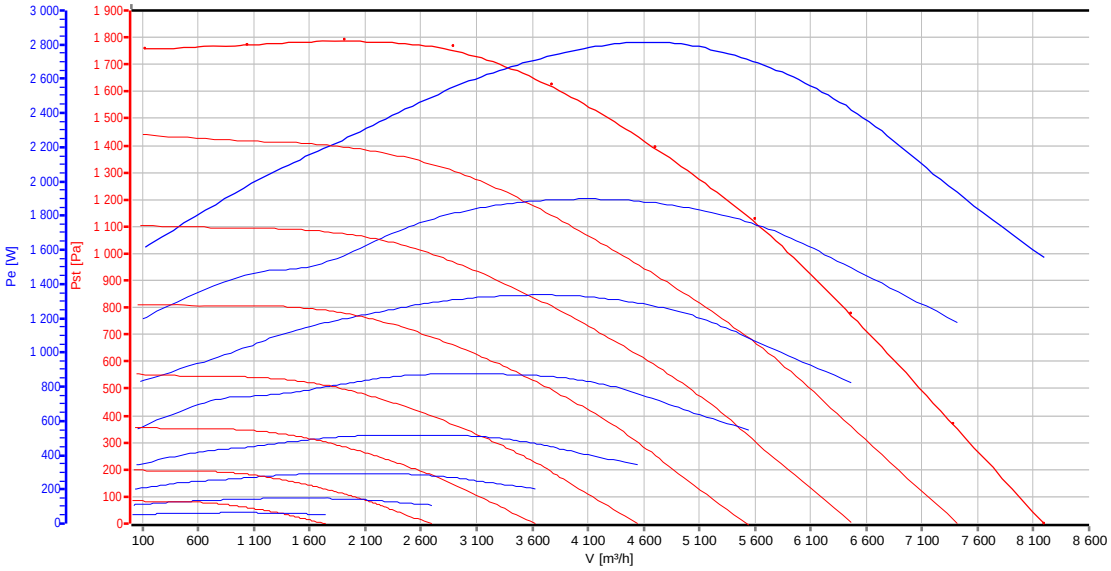
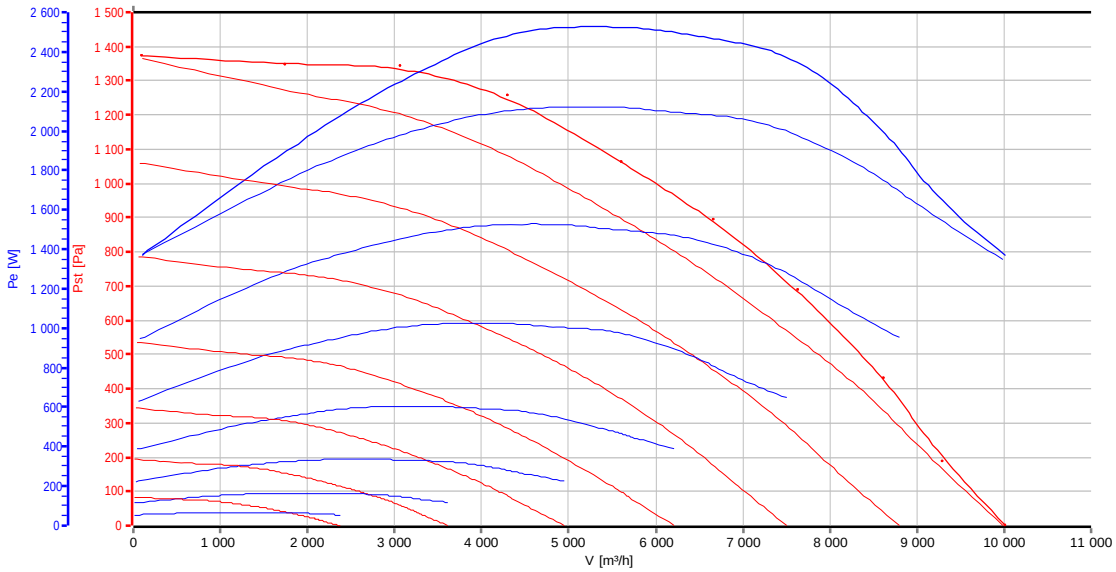
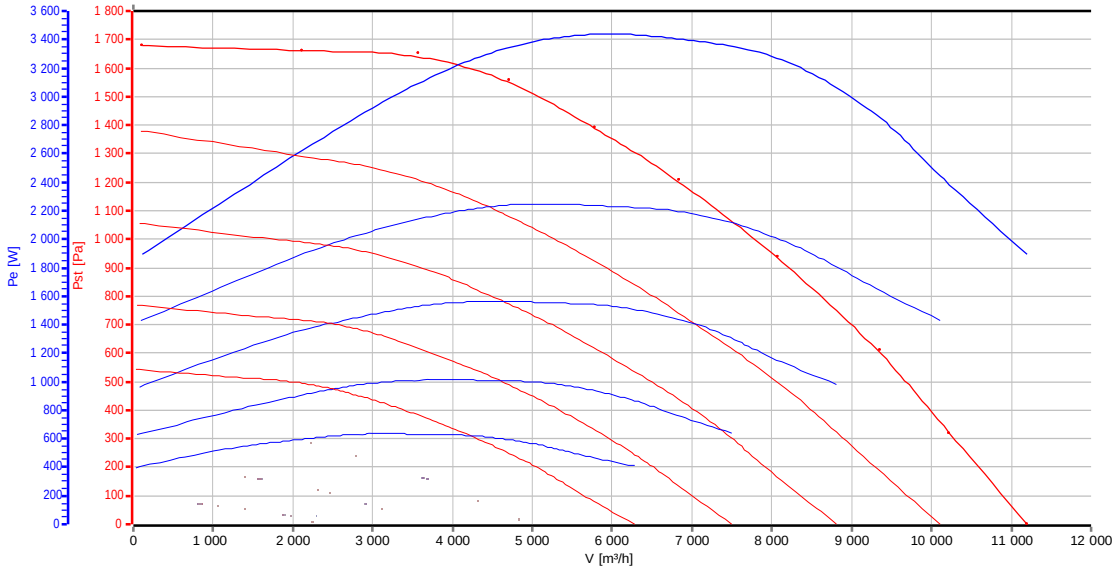


NTPF-A-400 EC 2,50 T



NTPF-A-400 EC 3,35 T



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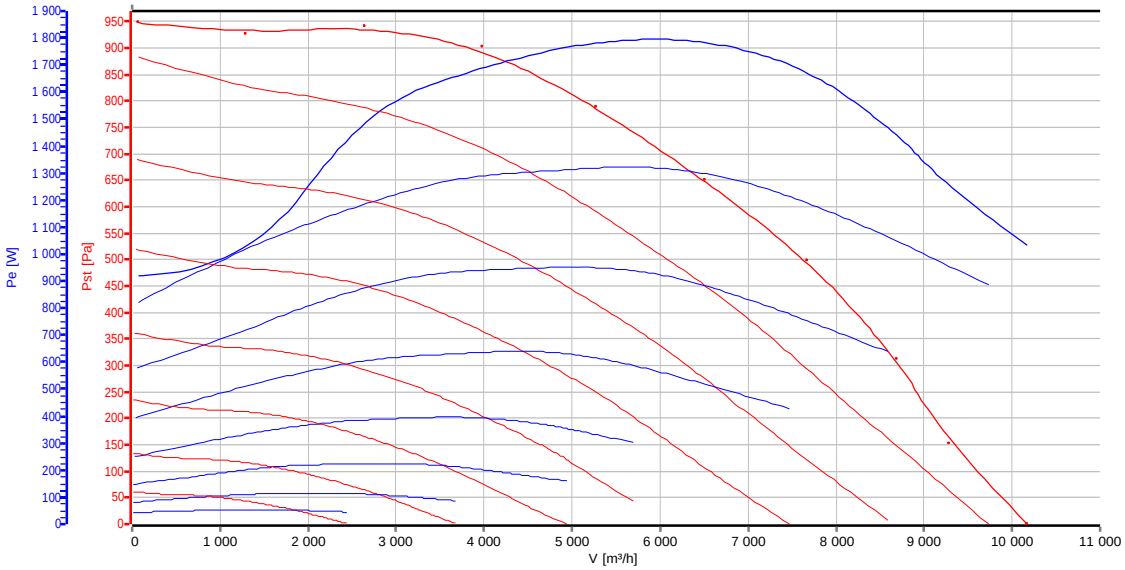

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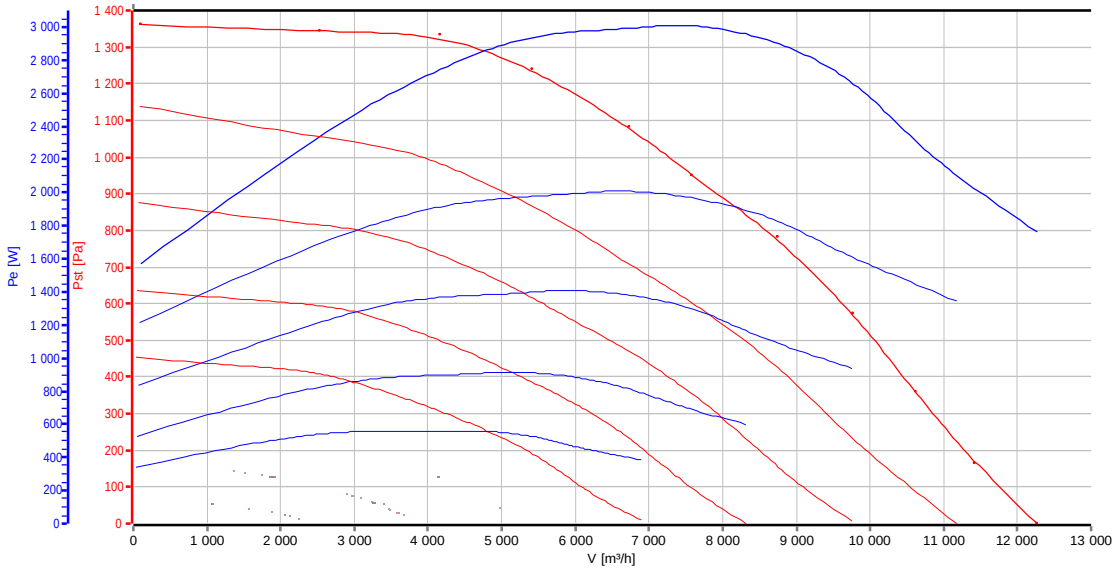
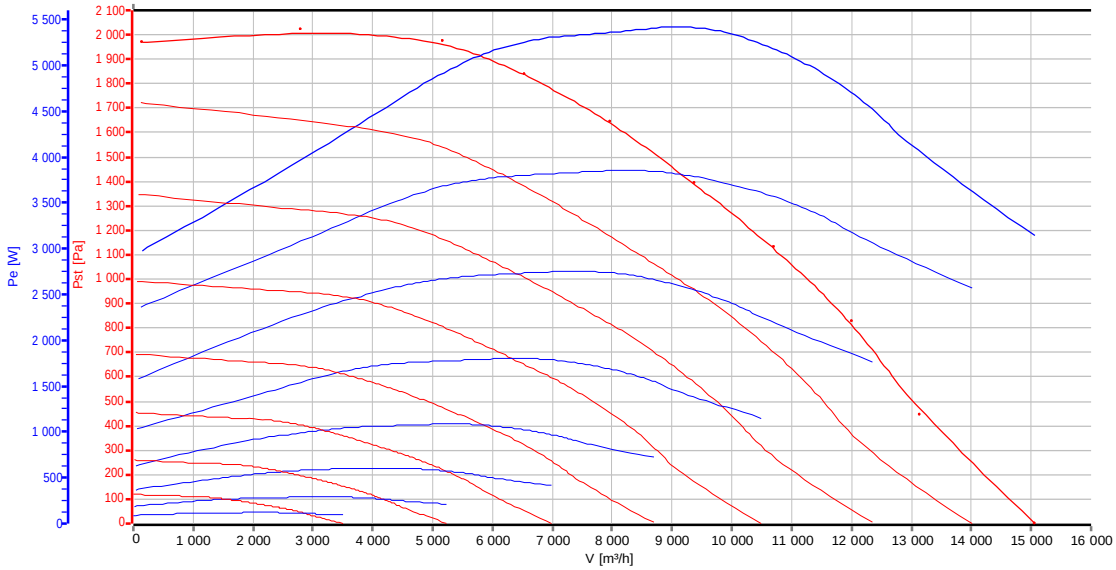
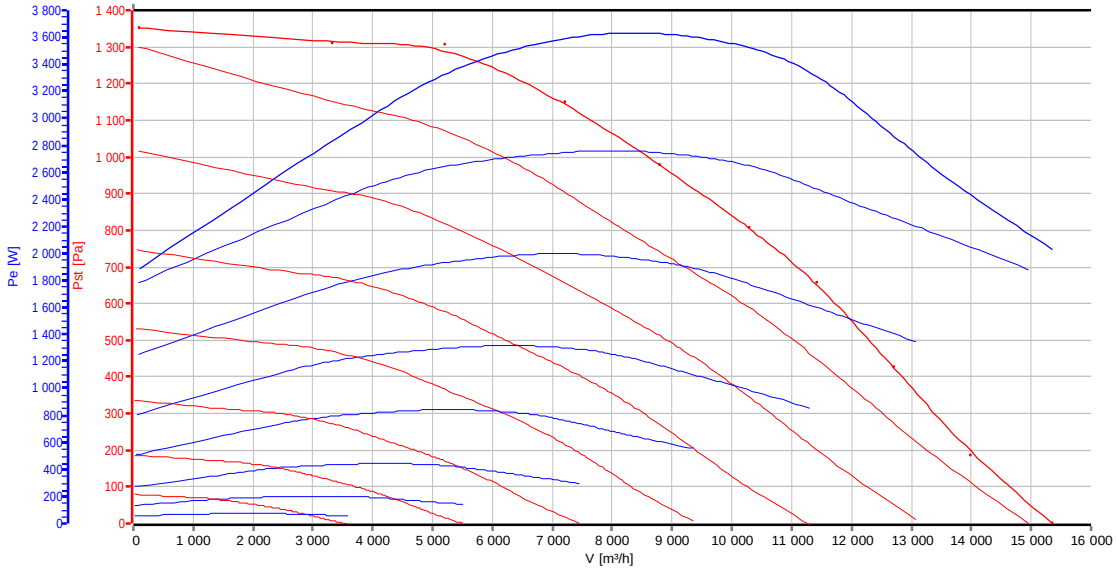


NTPF-A-450 EC 5,25 T



NTPF-A-500 EC 3,45 T



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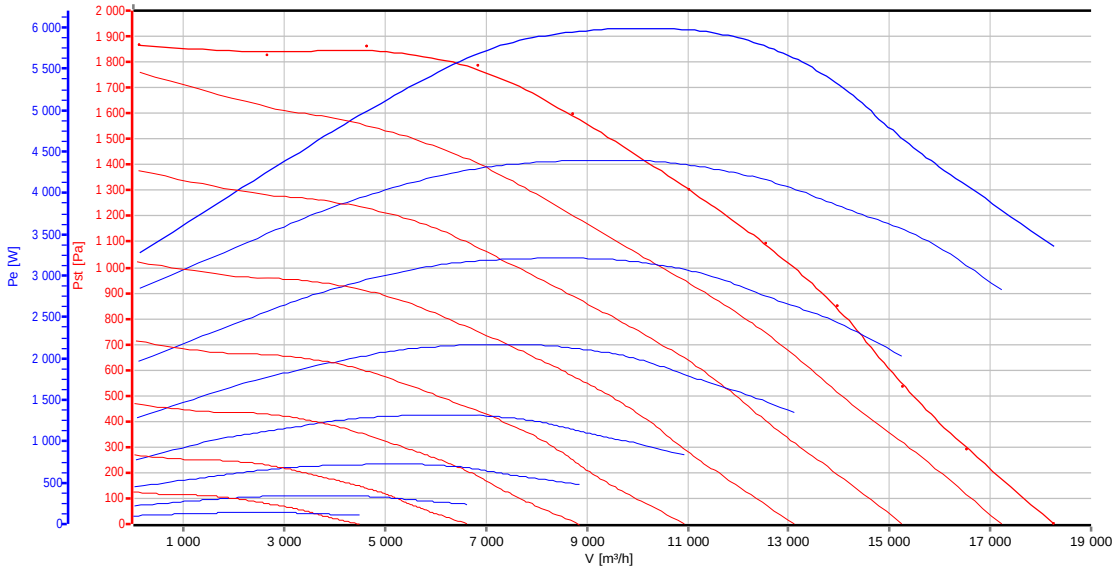
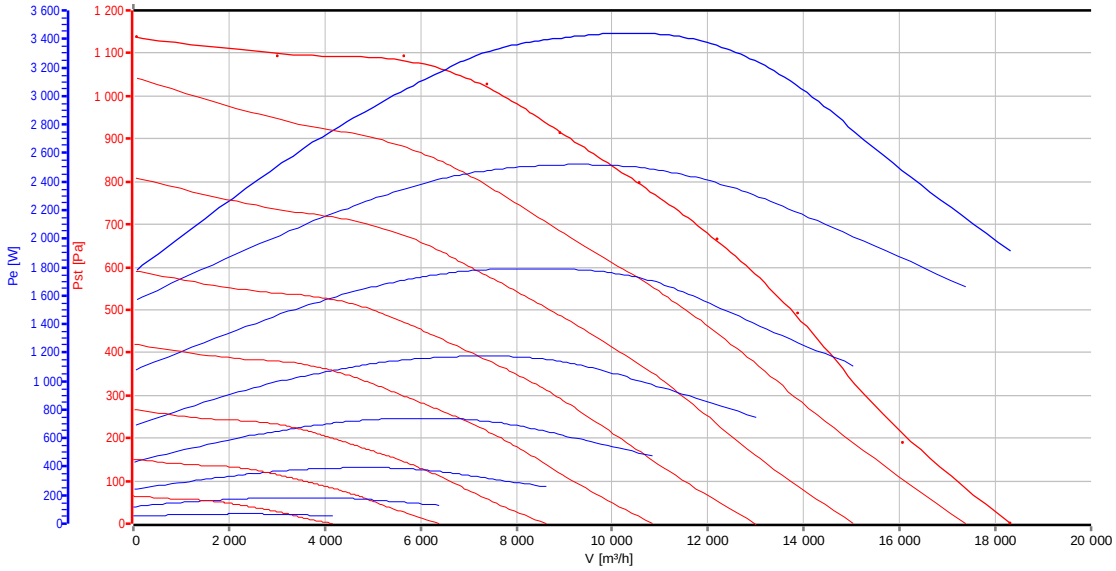
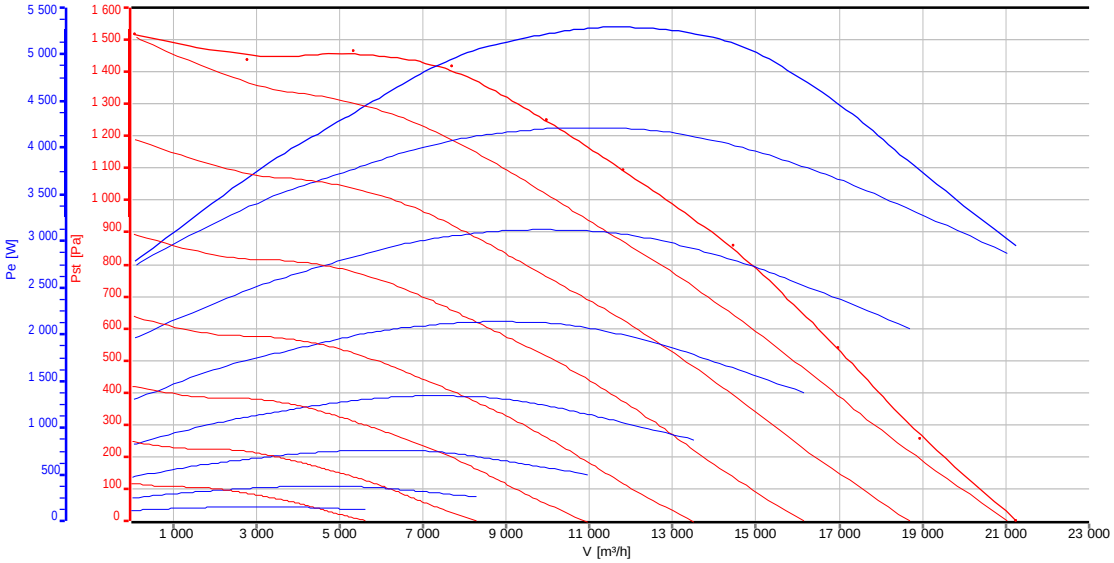


NTPF-A-560 EC 3,30 T



NTPF-A-560 EC 5,00 T