United engineers
for plastic technology

TURKUAZ POMPA

TURKUAZ POMPA HİDROFOR MAKİNA YEDEK PARÇA SAN.VE TİC. LTD. ŞTİ.

NFPA®

NFPA FIRE SYSTEMS

www.unitedengineers-egypt.com

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NFPA®

NFPA 20

STANDART FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION





WHAT IS NFPA?

National Fire Protection Association (NFPA) is founded in 1896 in United States. NFPA has great acceptance and respect all over the world with its contents, book-magazine publications, programs and standards regarding fire and occupational safety. Thanks to NFPA training, the applicability of the standards has become even more effective.

WHAT IS NFPA 20?

NFPA 20 (Standard for the Installation of Centrifugal Fire Pumps) is a standard created to determine the features, performance and installation rules of fire pumps and other pump groups, engine control systems and the spare parts that should be used.

As TURKUAZ POMPA, we have participated in NFPA training online and Fire pump groups are produced in accordance with NFPA 20 standards in line with these trainings in our company.

Qualifications of Fire Pumps According to NFPA 20

Fire pumps have a rated flow rate between 100-5000 gpm. Considering the nominal pressure values, it is find out that the values such as 30-262 psi (horizontal shaft pumps) and 26-510 psi (vertical shaft pumps). The flow rate of horizontal shaft end-suction fire pumps is standardized as 50-1250 gpm, the flow rate of line type pumps is 50-750 gpm, and the flow rate of vertical shaft turbine pumps is standardized as 250-5000 gpm and also;

- There is a separate control panel for each pump.
- At zero flow, the pressure does not exceed 1.4 times the rated value.
- At 1.5 times the nominal flow rate, it does not decrease to values less than 0.65 of the nominal pressure.
- Velocities in the suction pipe are less than 4.57 m/s.
- The bearing must be with bearings with a lifespan of at least 5000 hours.
- The pump impeller must be bronze.
- Pump shaft; AISI 316 or AISI 304
- Pump body: GG-25 cast iron
- Sealing: should be wrapped five times with soft packing.
- The service factor (overload multiplier) of electric motors should not exceed 1.15.
- Flanges are produced as DIN 2533 - PN 16

TNSP SERIES





> TNSP Series pumps are suitable for pumping liquids that do not contain corrosive substances and large solid particles.

> They are single-stage, horizontal shaft, volute body, end suction and closed impeller centrifugal pumps.

> There is a coupling connection between the motor shaft and the pump shaft. > Suction and discharge flanges comply with TS EN 1092-2/PN 16 standard.

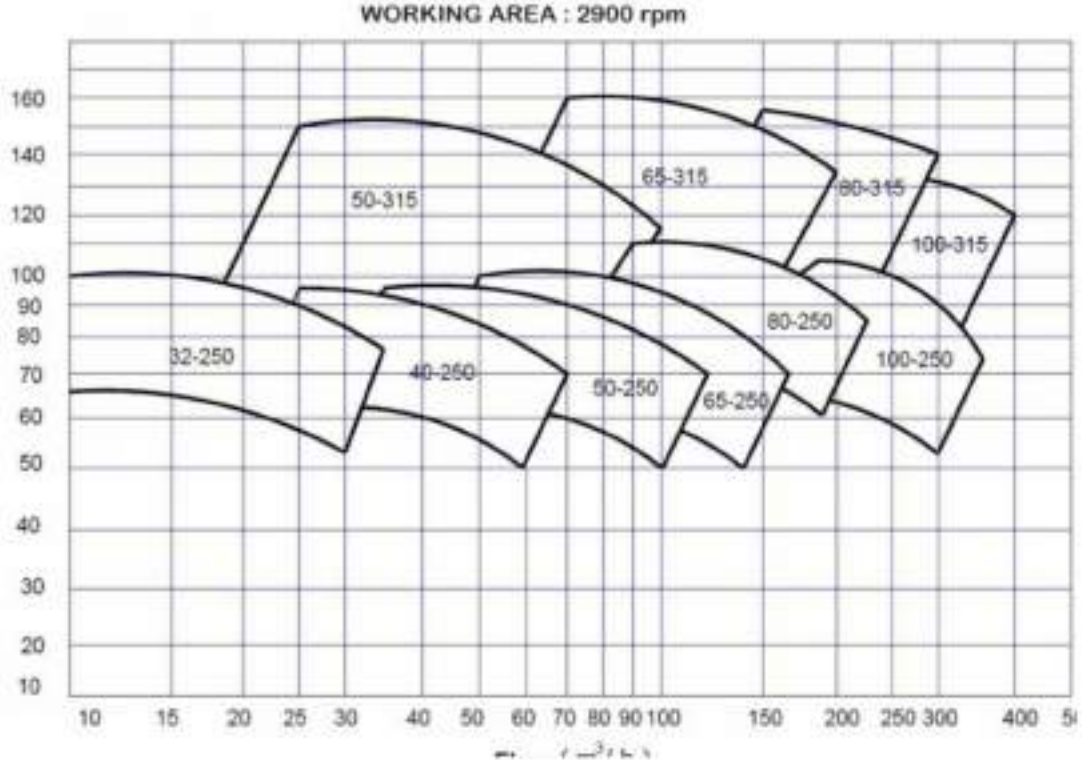
> Soft packing is used for sealing in mass production. Mechanical seal application can be produced according to costumer demand and purpose of use.

> Thanks to its easily removable design, the seal bearing, pump shaft, bearing housing and impeller can be removed without removing the volute from the installation.

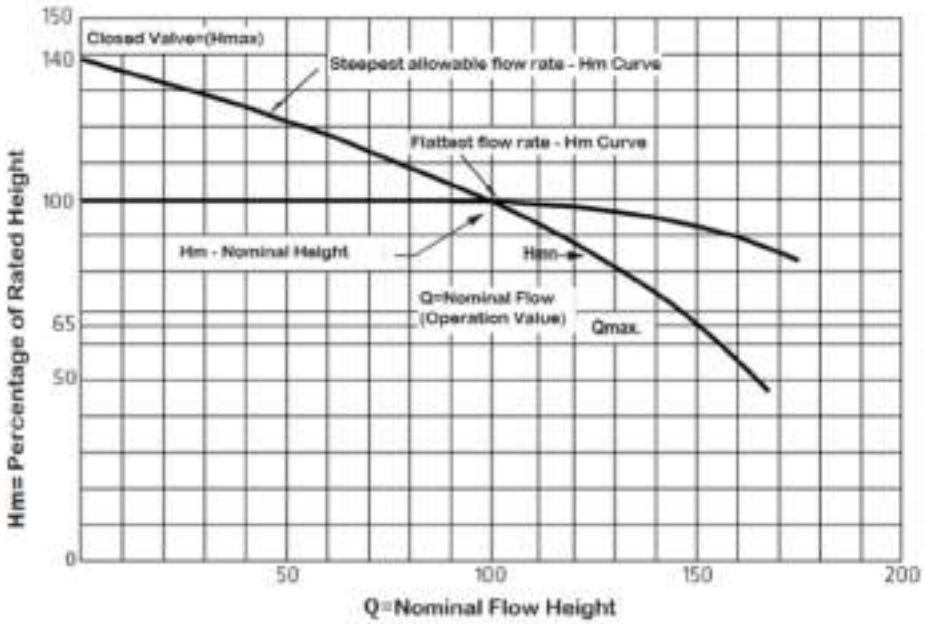
> The direction of rotation is counterclockwise from the suction side.

> Roller bearings must be lubricated from outside. The oil indicator is located in the bearing housing.

PERFORMANCE CURVE



FIRE PUMP CHARACTERISTIC CURVE



FIRE PUMP FLOW RATES ACCORDING to NFPA 20

(GPM)	L/DK	m³/h
25	95	5,7
50	189	11,4
100	379	22,7
150	568	34,1
200	757	45,4
250	946	56,8
300	1136	68,1
400	1514	91
450	1703	102
500	1892	114
750	2893	170
1000	3785	227
1250	4731	284
1500	5677	341
2000	7570	454
2500	9462	568
3000	11355	681
3500	13247	795
4000	15140	908
4500	17032	1022
5000	18925	1136

FIRE BOOSTER WITH ELECTRIC MOTOR





> For the maintenance of pumps in fire extinguishing systems, it is especially important that the pump can be easily removed without having to be removed from the system.

> A leak pump is used in fire extinguishing systems installations to handle minor water leaks that may occur before the main pump is activated. In this way, water leakage is responded to quickly and unnecessary pump operations are avoided.

> If a power outage occurs in the facility and if the generator does not start, a diesel motor pump can be used to backup the electropump.

> A pressure switch must be used and this switch is used when one device needs to back up another.

> Valves with shaft are preferred as a type of valve that is used in the suction pipe.

> Pressure measurements are made using the vacuum meter in the suction pipe and the manometer in the discharge pipe.

> In pump systems, valves that provide cooling of the pump are unactivated.

> It is known that systems consisting of more than one pump are designed in the purpose of 100% backup. In case of any malfunction in these systems, other pumps are activated and uninterrupted operation is ensured.

> The fire extinguishing system must be resistant to horizontal earthquake loads of up to 0.5 x weight.

FIRE BOOSTER WITH DIESEL MOTOR



> In fire extinguishing systems, fire pumps are generally used with 100% redundancy and most of these pumps are powered by diesel engines.

> It is determined by NFPA 20 that a motor pump must be provided.

> According to these specific standards, when the head of the electropump is zerothe value required to open the safety valve should be set to a factor of 1.21, and this valve should be placed on the discharge side of the pump.

> Turkuaz Pompa uses spring safety valves in fire extinguishing systems.



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SERTİFİKALAR VE BELGELER / *CERTIFICATES AND DOCUMENTS*


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CERTIFICATE

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NATIONAL FIRE PROTECTION ASSOCIATION

BE IT KNOWN THAT NFPA® RECOGNIZES

TURKUAZ POMPA

AS A MEMBER IN GOOD STANDING, WHO IS ENTITLED TO ALL THE RIGHTS, HONORS, AND PRIVILEGES OF MEMBERSHIP

IT'S A BIG WORLD. LET'S PROTECT IT TOGETHER.

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