

## ***FIRE PUMPS AND FIRE PUMP SETS***



Turbosan designs and manufactures various types of pumps according to needs of industry. We also build fire fighting sets with the pumps in our product range complying with **NFPA 20** and **TS EN 12845**.

As main pump of the fire fighting sets different types of pumps are used. According to the required capacity and head values most suitable pumps are selected and delivered to the user as installed on base frame coupled with electric motors and / or diesel engines.



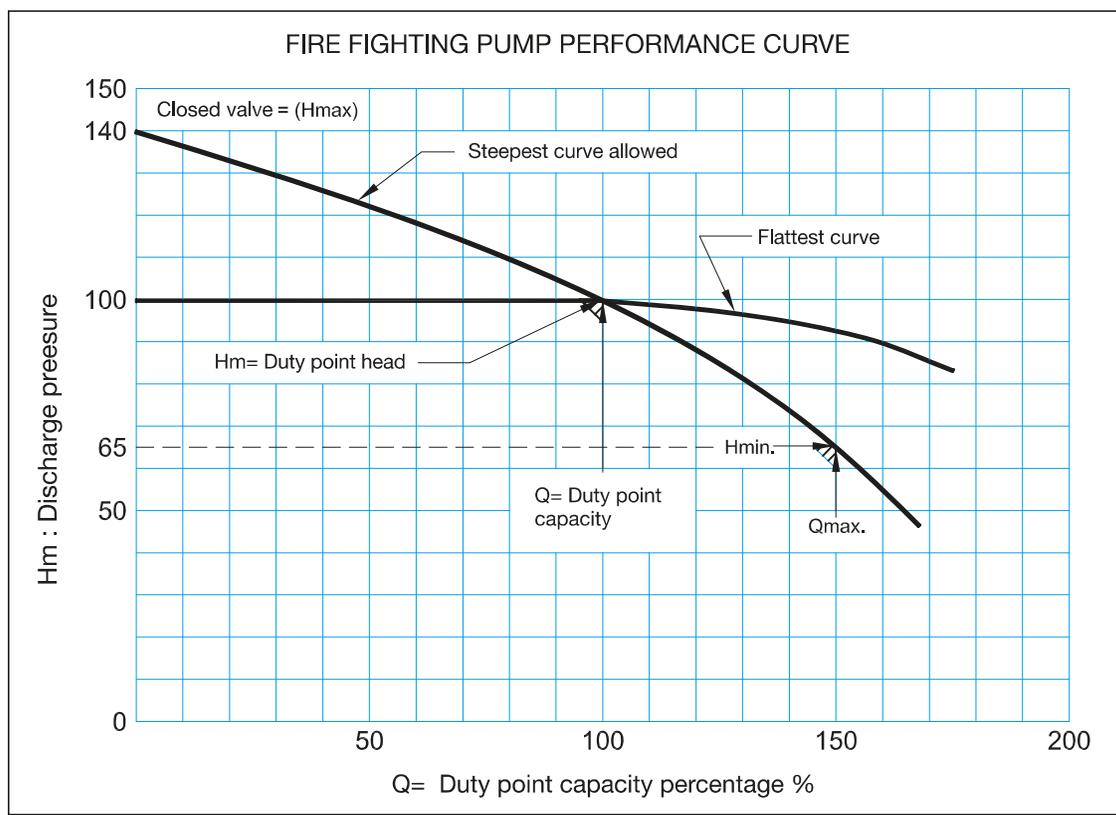
### **Turbosan fire fighting pumps complying with NFPA 20 and TS EN 12845**

- Horizontal end suction pumps ( NORM series)
- Horizontal split casing pumps ( CEP series)
- Jockey pumps ( Vertical)

## FIRE FIGHTING SETS

NFPA 20 ( National Fire protection Association) is standard which defines fire pump groups and installations for fire protection. Pumps used in Turbosan fire fighting sets complies with NFPA 20.

Q/H curve for fire fighting pumps must be flat as much as possible. Thanks to this flatness when need for higher capacity increases pressure drop will be minimum and pressure required at sprinkler will be stable for larger flow rates. On the performance curve Qmax value should not be less than 150 % of operating capacity. Closed valve pressure Hmax value should be less than % 140 of operation point Hm value.



### PUMPS GROUP

NORM, CEP and KAT series pumps and diesel engines and electric motors used for building fire fighting sets. They get combined in different installations according to the operation conditions.

- 1) Fire fighting sets with one pump or multiple pumps with electric motor
- 2) Fire fighting sets with one electric motor driven and one diesel engine driven pump.
- 3) Fire fighting sets with one electric motor driven and one diesel engine driven pump and one jockey Pump.

- The main goal of the use of multiple pumps is to have standby pump or in case of capacity increase it is not needed to change the fire fighting set. Pumps in fire fighting sets with 2 or 3 pumps must be fully complying with each other.

- The goal of Jockey pump use is to sustain pressure value in the piping installation in case of pressure leaks, without operating the main pumps. Vertical multi stage pump used as jockey pumps.

- Capacity (Q) of the jockey pumps must be 1 % of main pump's capacity and discharge head of the jockey pump must be 10 m more than that of main pump.

Example : If discharge capacity head of the main pump is 170 m<sup>3</sup>/h and discharge head of the main pump is 60 m, discharge capacity of the jockey pump must be 1,7 m<sup>3</sup>/h and discharge head of the jockey pump must be 60+10= 70 m.

## FIRE FIGHTING SETS

### FIRE FIGHTING PUMP CAPACITIES:

Capacity values of the fire fighting pumps shall be as below list according to NFPA 20 standard.

Discharge values are variable according to the fire fighting system so that they are not listed in the table.

- Water source or water tank specifications has the first priority in the fire fighting systems. Quantity of the water in the tank must be enough to supply water requirement completely and it should be suitable for easy re-filling. Suction line should be designed such that flow velocity is not more than 2,5 m/s. Suction pipe length must be 7 x De.
- Adequate ventilation must be available for diesel engine driven pumps and ambient temperature must be more than 10 °C.

**DIAMETER TABLE FOR FIRE FIGHTING SYSTEM PIPING INSTALLATION**

Capacity		Suction Pipe Diameter (*)	Discharge Pipe Diameter (*)	Safety Valve Diameter	Safety Valve Discharge Pipe Diameter	Flow Meter Diameter
m <sup>3</sup> /h	GPM					
5.7	25	1" - DN 25	1" - DN 25	3/4" - DN 15	1" - DN 15	1 1/4" - DN 32
11.4	50	1 1/2" - DN 40	1 1/4" - DN 32	1 1/4" - DN 32	1 1/2" - DN 40	2" - DN 50
22.7	100	2" - DN 50	2" - DN 50	1 1/2" - DN 40	2" - DN 50	2 1/2" - DN 65
34.1	150	2 1/2" - DN 65	2 1/2" - DN 65	2" - DN 50	2 1/2" - DN 65	3" - DN 80
45.4	200	3" - DN 80	3" - DN 80	2" - DN 50	2 1/2" - DN 65	3" - DN 80
56.8	250	3 1/2" - DN 100	3" - DN 80	2" - DN 50	2 1/2" - DN 65	4" - DN 100
68.1	300	4" - DN 100	4" - DN 100	2 1/2" - DN 65	3 1/2" - DN 100	4" - DN 100
91	400	4" - DN 100	4" - DN 100	3" - DN 80	5" - DN 125	4" - DN 100
102	450	5" - DN 125	5" - DN 125	3" - DN 80	5" - DN 125	4" - DN 100
114	500	5" - DN 125	5" - DN 125	3" - DN 80	5" - DN 125	5" - DN 125
170	750	6" - DN 150	6" - DN 150	4" - DN 100	6" - DN 150	5" - DN 125
227	1000	8" - DN 200	6" - DN 150	4" - DN 100	8" - DN 200	6" - DN 150
284	1250	8" - DN 200	8" - DN 200	6" - DN 150	8" - DN 200	6" - DN 150
341	1500	8" - DN 200	8" - DN 200	6" - DN 150	8" - DN 200	8" - DN 200
454	2000	10" - DN 250	10" - DN 250	6" - DN 150	10" - DN 250	8" - DN 200
568	2500	10" - DN 250	10" - DN 250	6" - DN 150	10" - DN 250	8" - DN 200
681	3000	12" - DN 300	12" - DN 300	8" - DN 200	12" - DN 300	8" - DN 200
795	3500	12" - DN 300	12" - DN 300	8" - DN 200	12" - DN 300	10" - DN 250
908	4000	14" - DN 350	12" - DN 300	8" - DN 200	14" - DN 350	10" - DN 250
1022	4500	16" - DN 400	14" - DN 350	8" - DN 200	14" - DN 350	10" - DN 250
1136	5000	16" - DN 400	14" - DN 350	8" - DN 200	14" - DN 350	10" - DN 250



TÜRBOSAN FIRE FIGHTING PUMPS ARE UL LISTED



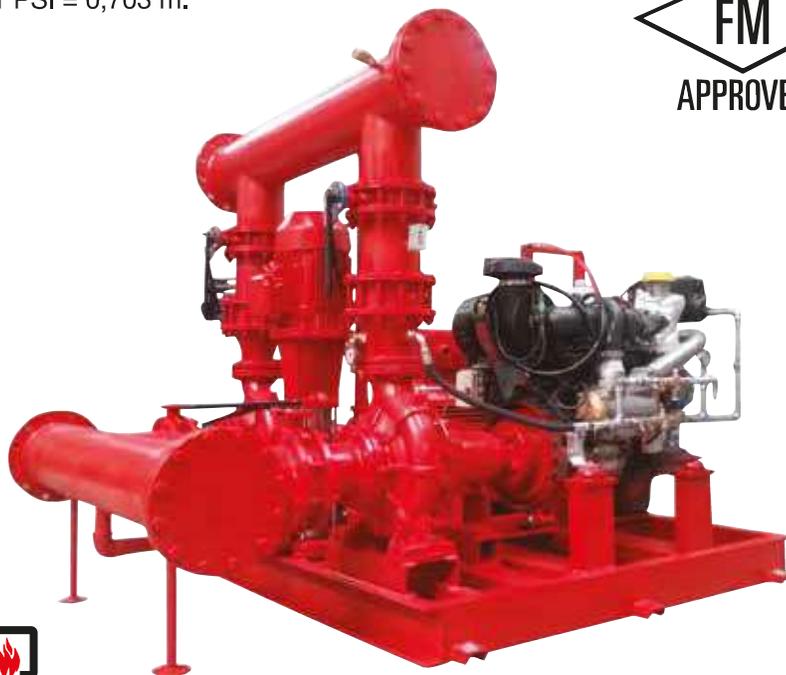
\* NFPA standard table 2-20

(\*) Pump flange can be different than pipe diameter.

Minimum suction pipe length must be 10 x suction pipe diameter.

100 GPM= 22,71 m<sup>3</sup>/h= 6,3 lt/s.

1 PSI = 0,703 m.



### OPERATING PRINCIPLE OF FIRE FIGHTING SET:

- Each pump of the fire fighting set operates by manually pressing of button on control panel or they operate automatically.
- Pumps shut down by pressing on stop button on control panel manually.
- Automatic systems operates by means of pressure switch. When pressure goes down lower than a specific value jockey pump starts operating. If the jockey pump can not supply enough pressure to support pressure leak main pumps starts to supply pressure to the fire fighting installation. If pressure supply of the jockey pump is enough it stops and main pumps do not start.

System can be set to start for certain intervals in a week, to start and stop



## FIRE FIGHTING SETS

### FIRE FIGHTING SET CONTROL SYSTEM :

- Separate control panels used for jockey pumps and for main pumps.
- Main pumps can operate as standby pump for each other or they can operate together .
- Control panels have available connections terminals for building automation.
- Electric motor of main pump has star delta connection.
- There are 2 batteries and battery charge system for diesel engine
- There is no thermal protection for main pump control panel
- Controls on electric motor driven pump on control panel door :
  - Manual start - stop button
  - Energy signal lamp
  - Test operation signal lamp
- Panel equipped with alarm signal buzzer and lamp
- Control panel supply voltage is 24 V
- Diesel engine control panel has following items on panel door:
  - Diesel engine operating lamp
  - Diesel engine failure signal lamp
  - Low battery warning signal
  - Minimum fuel signal lamp
- Panels have IP 54 protection
- Panels do not have a protection system which do not allow the system to operate in case of any failure.
- In case of electric supply cut diesel engine operates automatically.



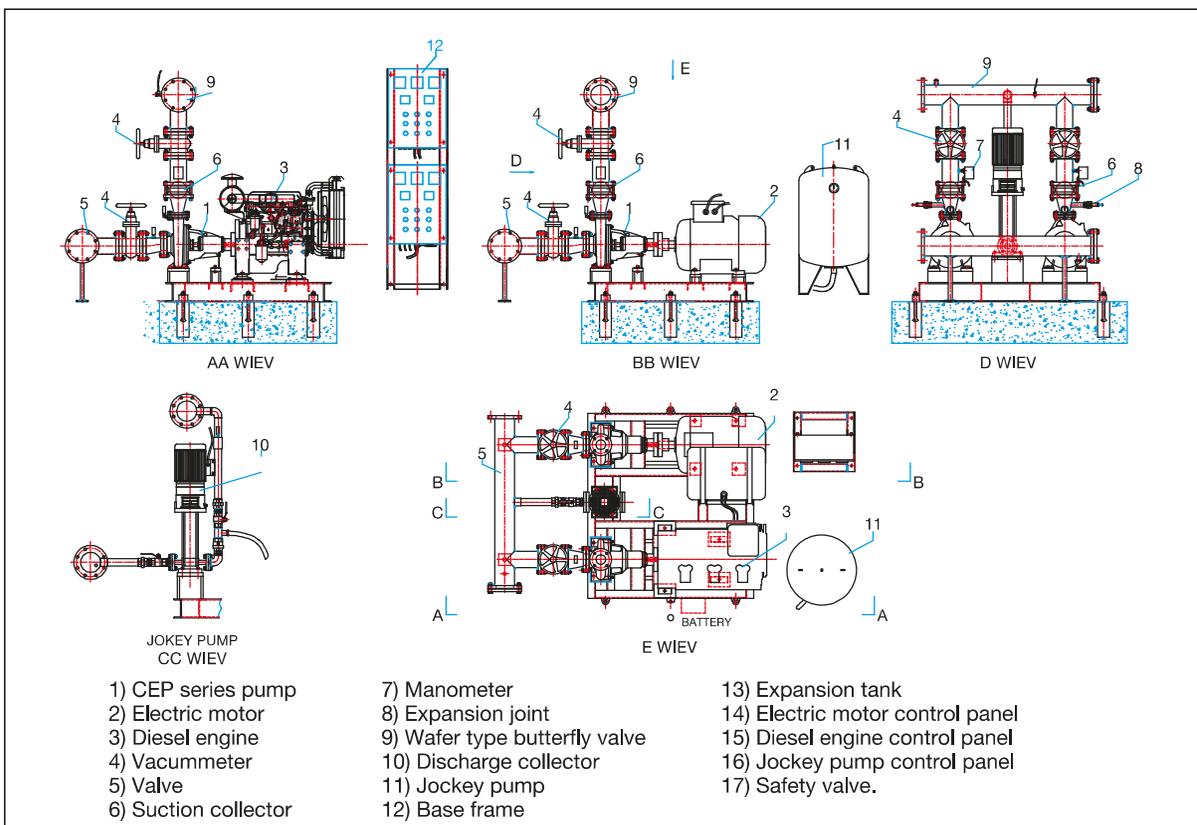
### DIESEL ENGINE DRIVEN PUMP COMPONENTS:

*Diesel engine is for keeping fire fighting systems in case of electric supply cut.*

- 1) Pump complying with NFPA 20 standart
- 2) Diesel engine
- 3) Control panel
- 4) Base frame and coupling
- 5) Battery
- 6) Pressure switch
- 7) Manometer
- 8) Fuel tank
- 9) Exhaust silencer.

### ELECTRIC MOTOR DRIVEN PUMP COMPONENTS:

- 1) Pump complying with NFPA 20 standart
- 2) Electric motor
- 3) Control panel
- 4) Base frame and coupling
- 5) Pressure switch
- 6) Manometer



## FIRE FIGHTING SETS

### UL LISTED and FM APPROVED FIRE FIGHTING PUMPS

#### UL LISTING : DEFINITION AND BENEFITS

- UL (Underwriters Laboratories Inc.) Is a worldwide independent safety consulting company established in 1894.
- UL engineers control, test and certify various equipment used in fire fighting systems. UL listing is a verification of fire fighting equipment.
- Turbosan’s fire fighting pumps are UL listed. Turbosan’s UL listed and related test reports are available at UL web site.
- Pumps have been tested according to UL 448, engineering files have been checked, mechanical and performance tests conducted by UL engineers.
- Materials of UL listed pumps are in accordance with UL 448 specifications.
- UL listed pumps are checked and tested regularly by UL engineers.
- Performance characteristics of UL listed pumps are selected to suit performance demand of fire fighting applications.
- Use of UL listing fire fighting equipment results in lower insurance fees.
- Periodical controls (daily, weekly, monthly, annual) of the fire fighting pumps done regularly.
- Turbosan fire fighting pump UL listing numbers;

NORM pumps : EX 26604

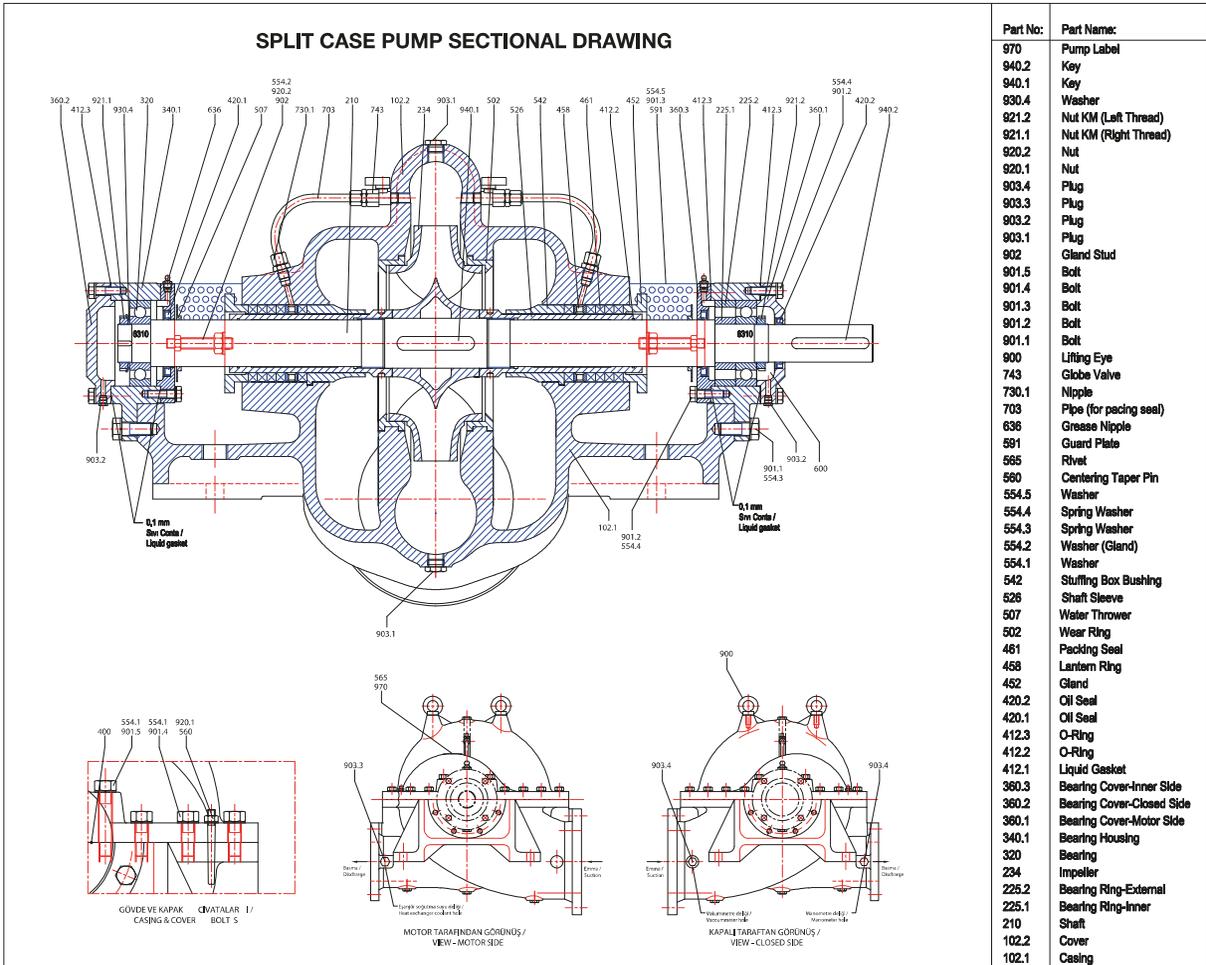
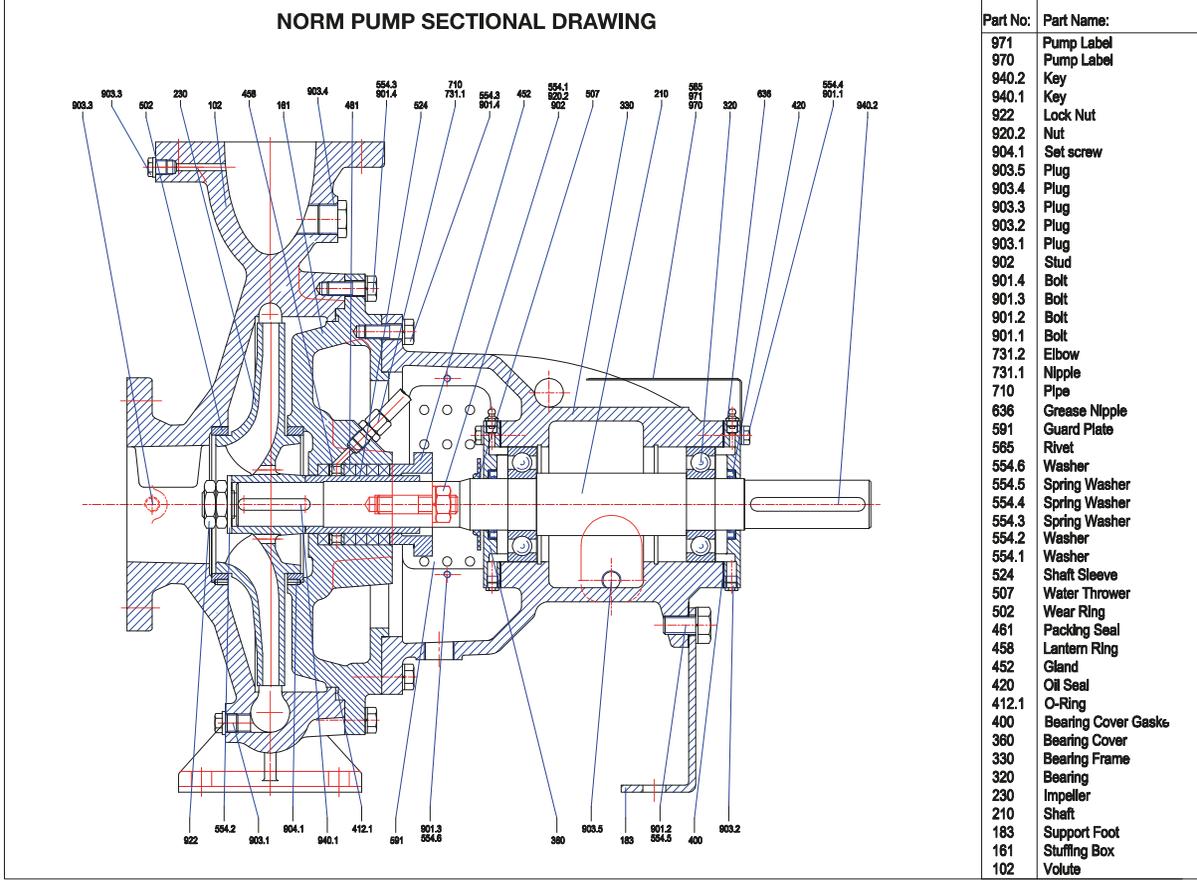
CEP pumps : EX 26605

END SUCTION NORM PUMP MATERIAL LIST			
PARTS NO:	COMPONENT DESCRIPTION	MATERIAL TYPE 1	MATERIAL TYPE 2
102	VOLUTE	GGG40	GGG40
161	STUFFING BOX	GGG40	GGG40
183	SUPPORT FOOT	SHEET METAL	SHEET METAL
210	SHAFT	AISI420	AISI420
230	IMPELLER	AISI316	G-CuSn10
330	BEARING FRAME	GG25	GG25
360	BEARING COVER	GG25	GG25
452	GLAND	AISI316	G-CuSn10
458	LANTERN RING	G-CuSn10	G-CuSn10
502	WEAR RING	Rg 5	G-CuSn10
507	WATER THROWER	RUBBER	RUBBER
524.1	SHAFT SLEEVE	AISI316	AISI316
591	GUARD PLATE	STEEL	STEEL
970	PUMP LABEL	AISI304	AISI304
	PAINTING	RAL 3020	RAL 3020

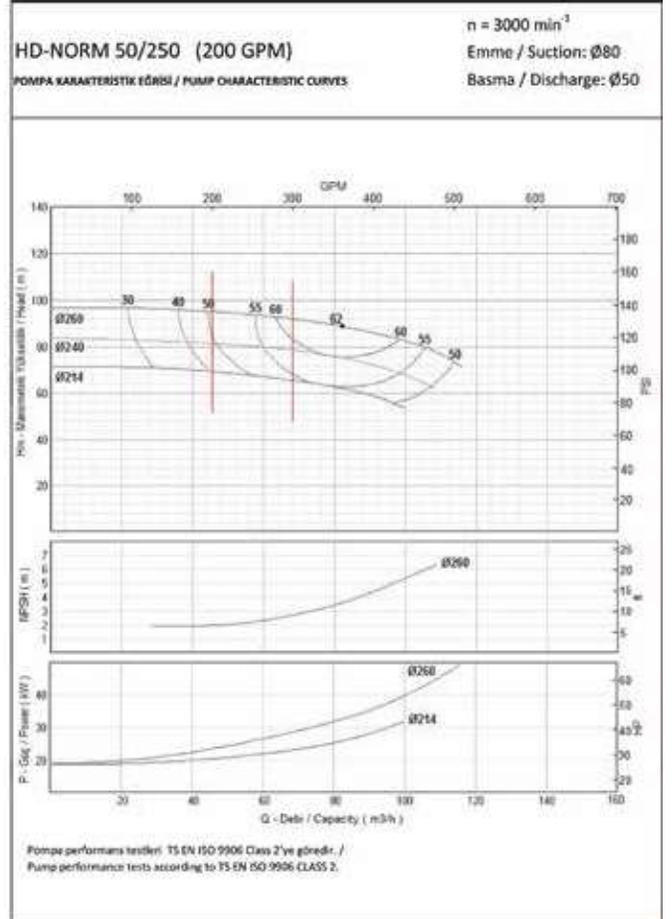
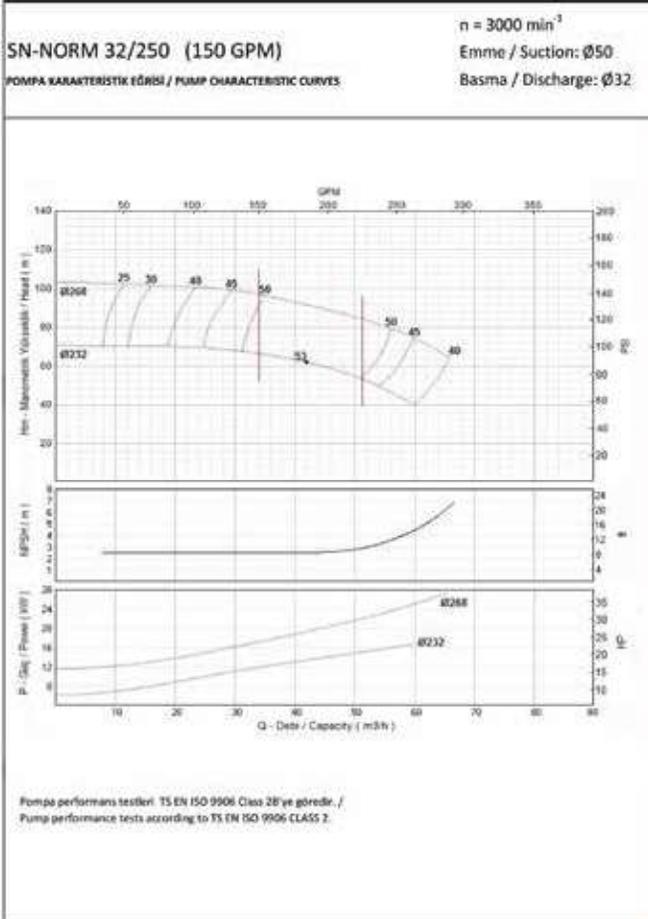
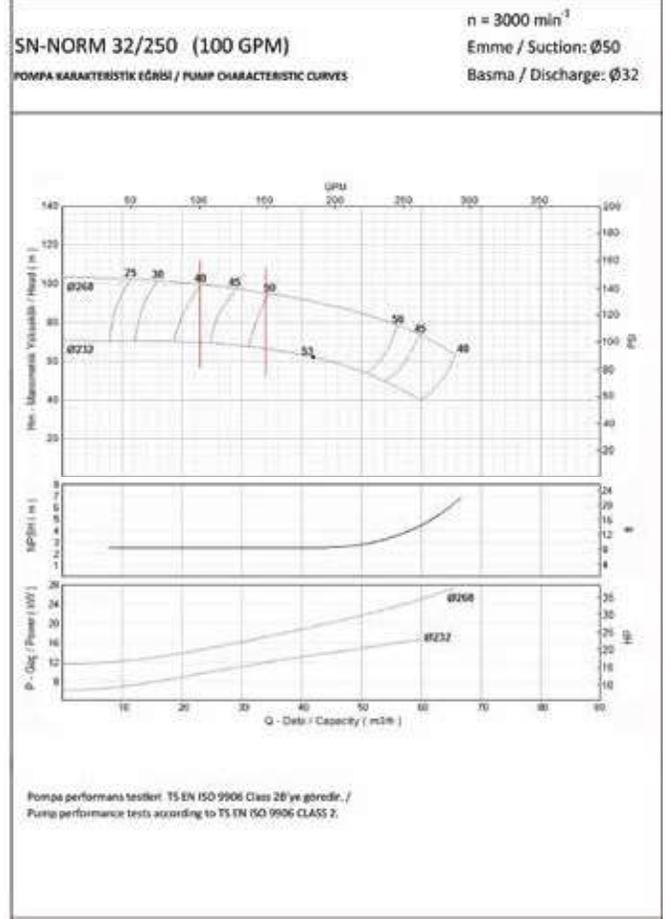
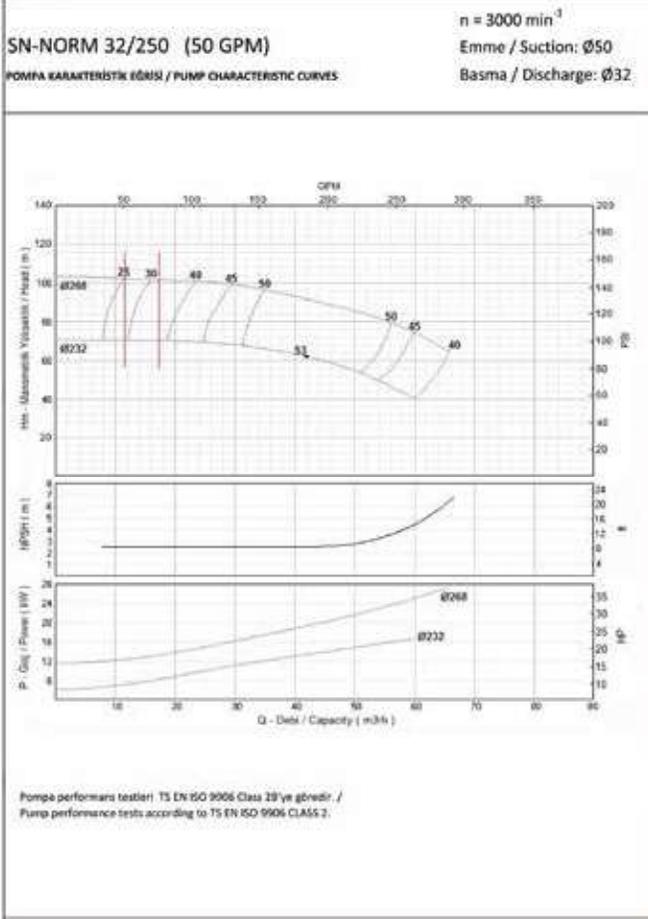
SPLIT CASE CEP PUMP MATERIAL LIST			
PARTS NO:	COMPONENT DESCRIPTION	MATERIAL TYPE 1	MATERIAL TYPE 2
102.1	CASING	GGG40	GGG40
102.2	COVER	GGG40	GGG40
210	SHAFT	AISI420	AISI420
225.1	BEARING RING INTERNAL	GG25	GG25
225.2	BEARING RING EXTERNAL	GG25	GG25
234	IMPELLER	AISI316	G-CuSn10
340.1	BEARING HOUSING	GGG40	GGG40
360.1	BEARING COVER-MOTOR SIDE	GG25	GG25
360.2	BEARING COVER-CLOSED SIDE	GG25	GG25
360.3	BEARING COVER-INSIDE	GG25	GG25
452	GLAND	AISI316	G-CuSn10
458	LANTERN RING	G-CuSn10	G-CuSn10
502	WEAR RING	Rg 5	G-CuSn10
507	WATER THROWER	RUBBER	RUBBER
526	SHAFT SLEEVE	AISI316	AISI316
542	STUFFING BOX BUSHING	GGG40	GGG40
560	CENTERING TAPER PIN	AISI304	AISI304
591	GUARD PLATE	STEEL	STEEL
970	PUMP LABEL	AISI304	AISI304
	PAINTING	RAL 3020	RAL 3020

Explanation:  
 Material Type 1 and Material Type 2 for NORM - CEP pumps are UL Listed.  
 Material Type 1 is "Standard Material Construction" for all applications,

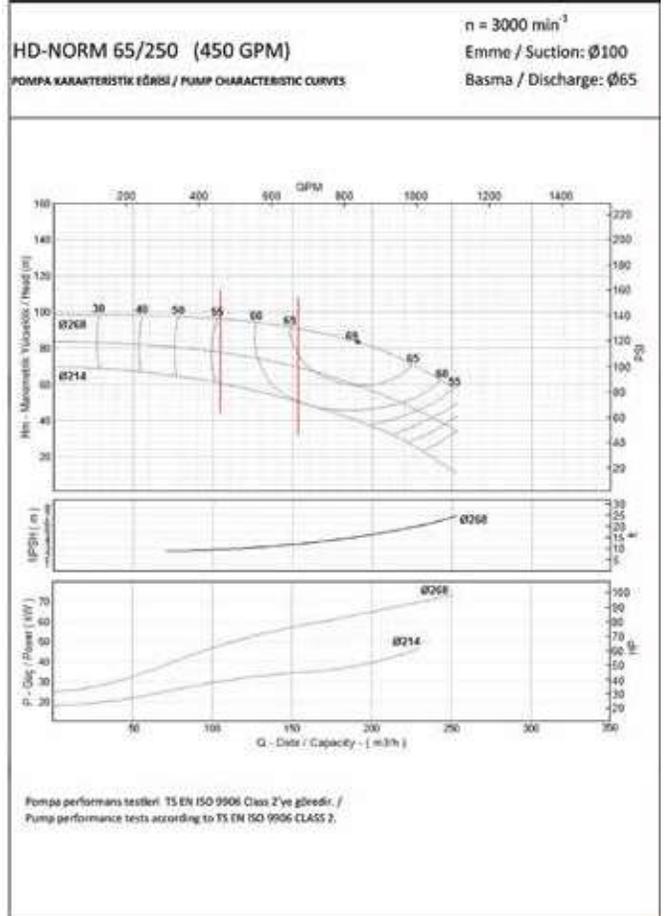
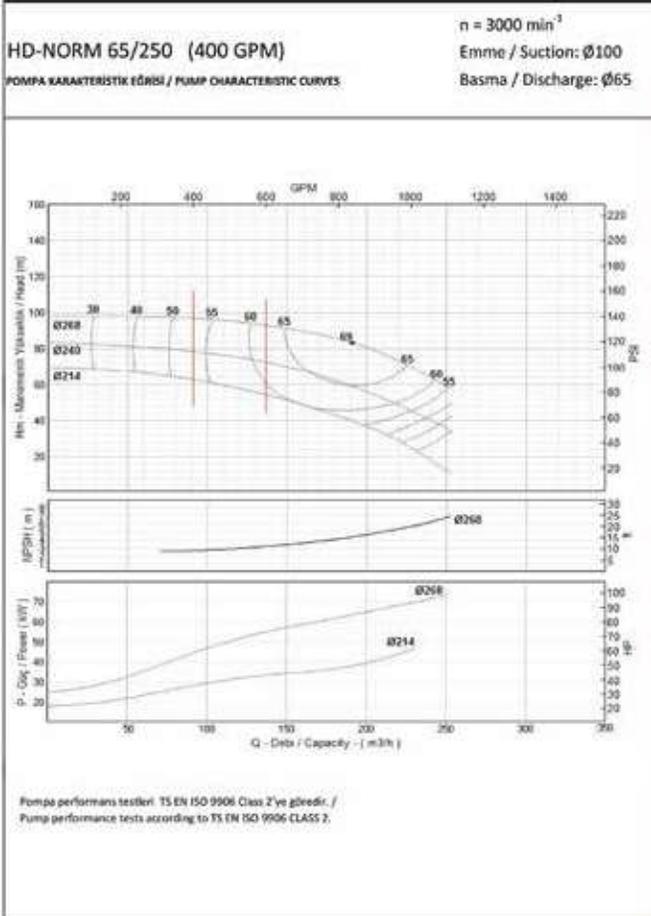
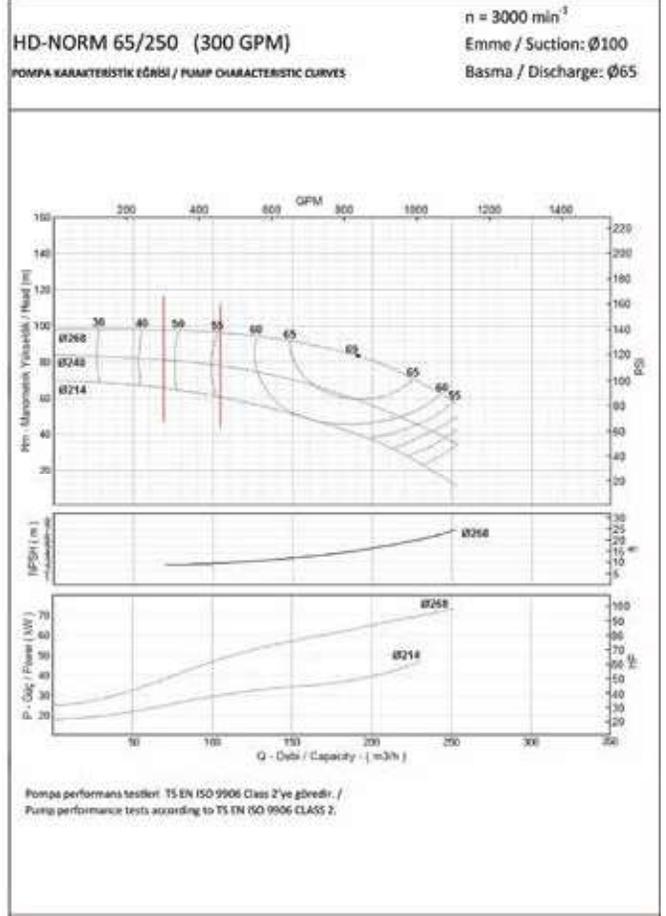
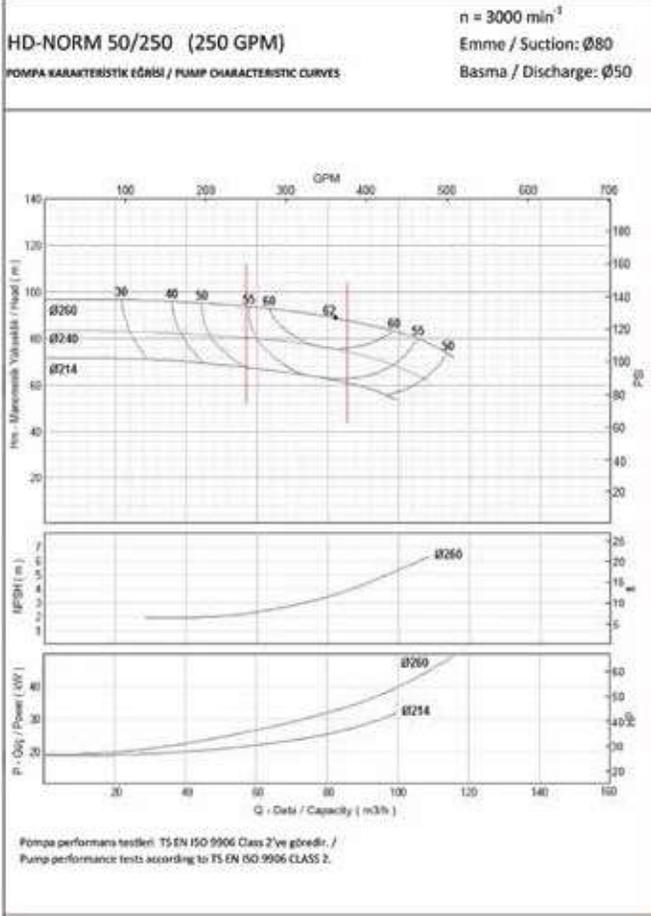
**FIRE FIGHTING SETS**



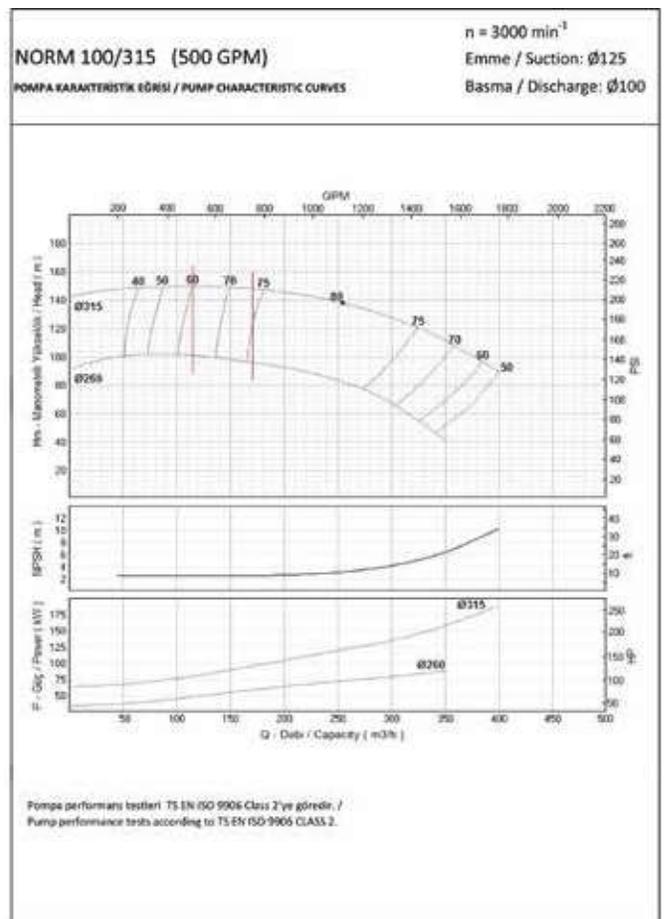
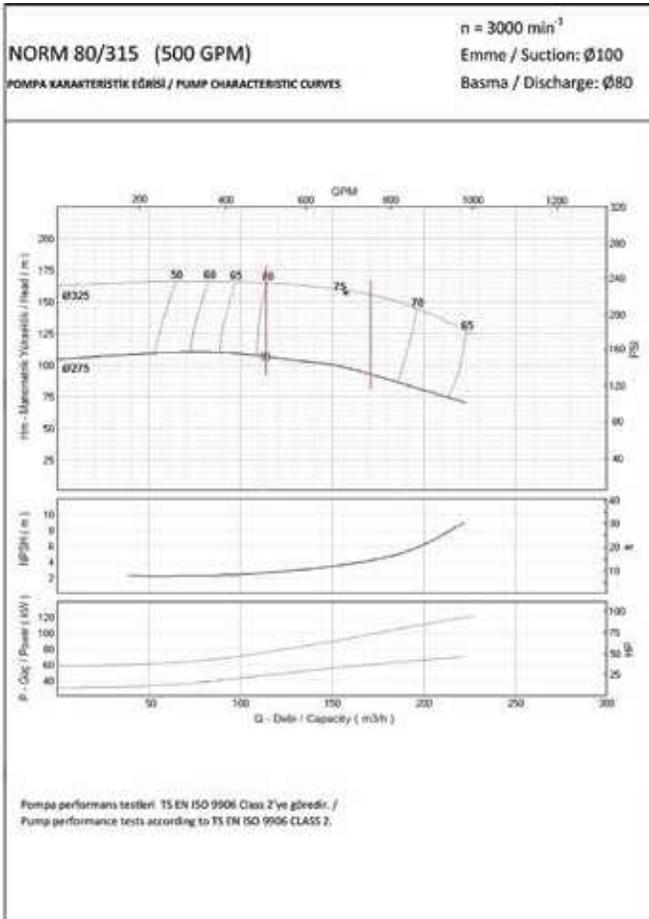
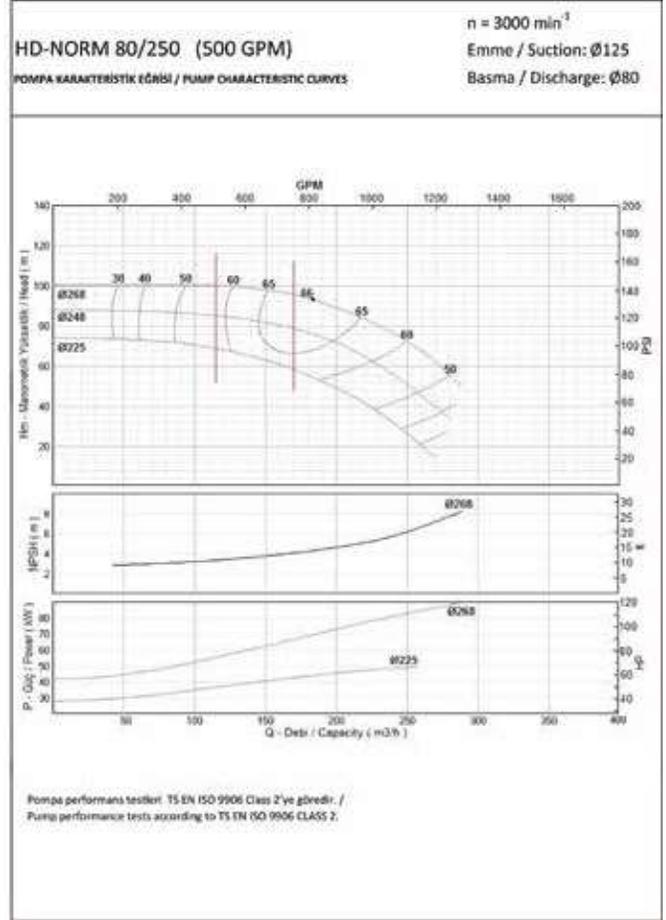
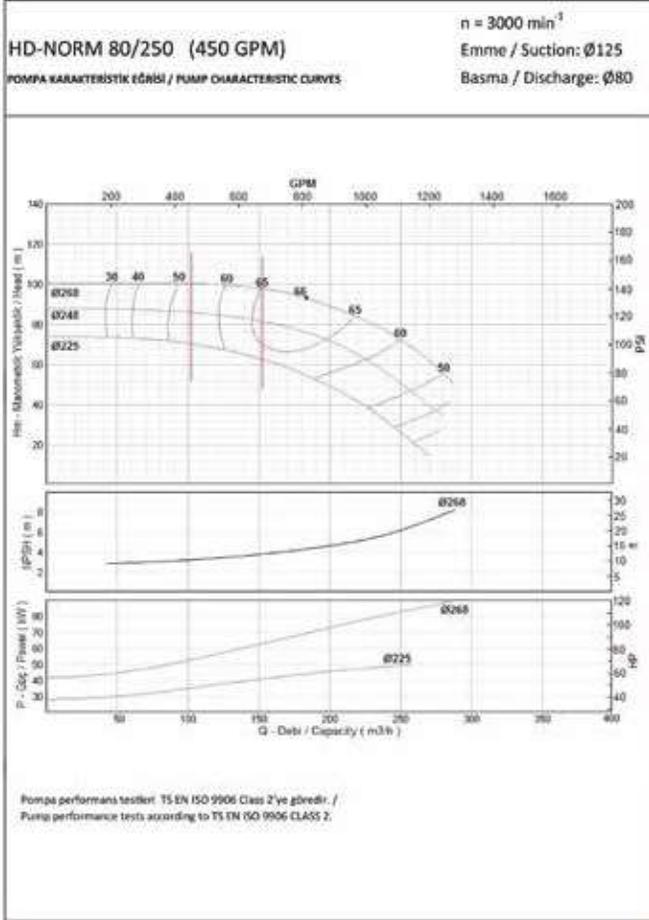
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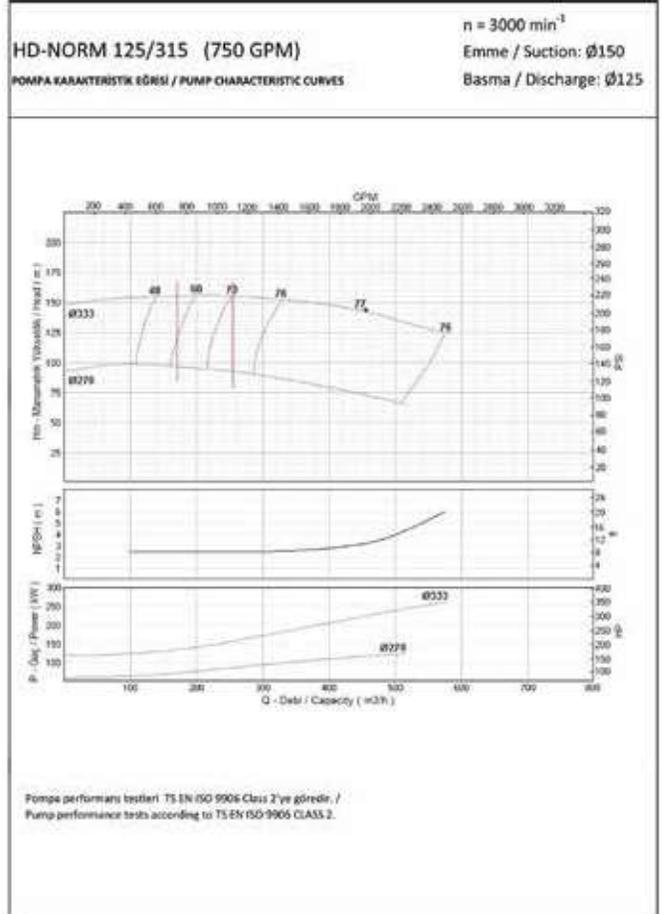
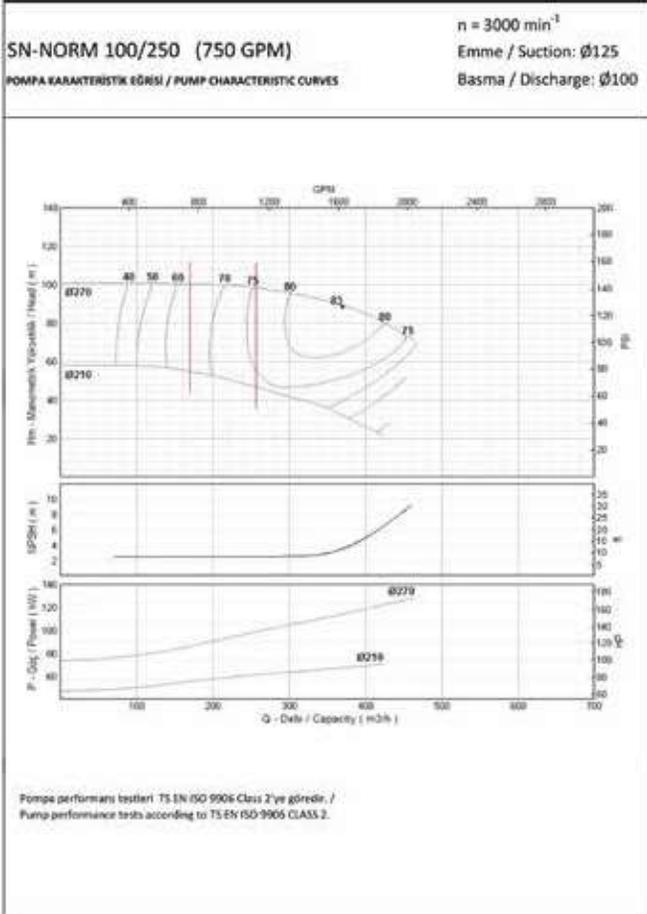
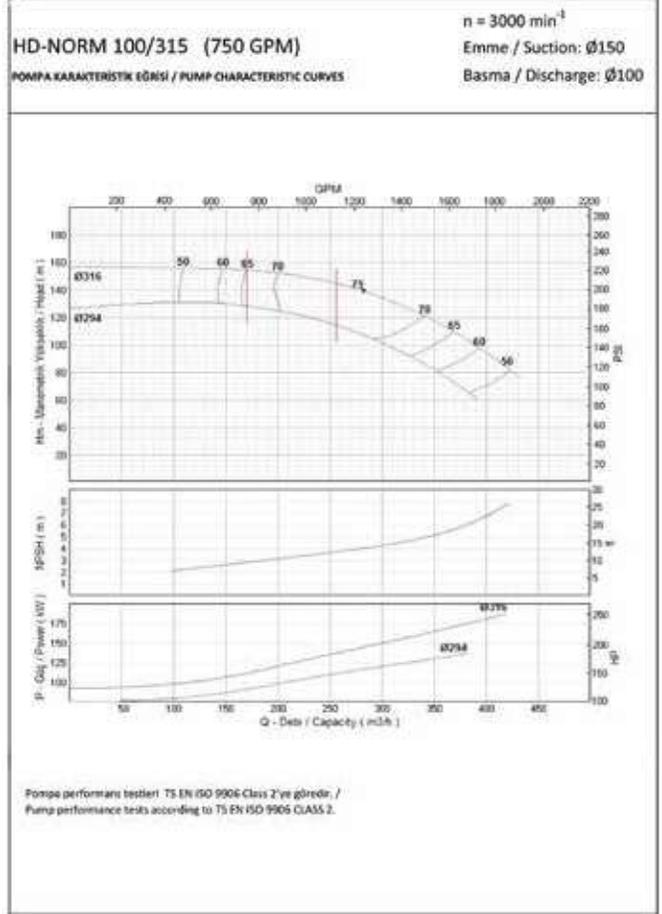
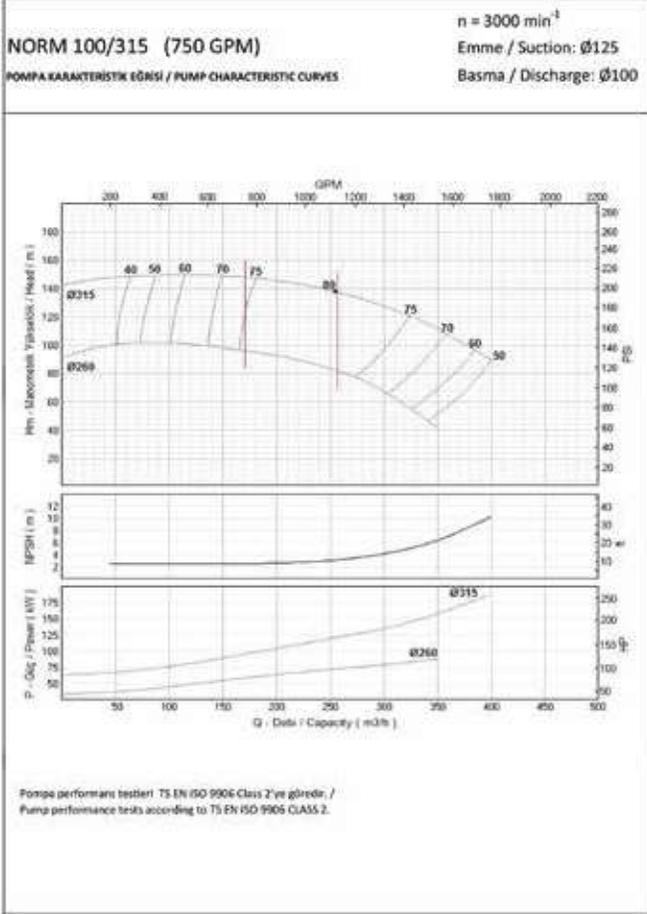
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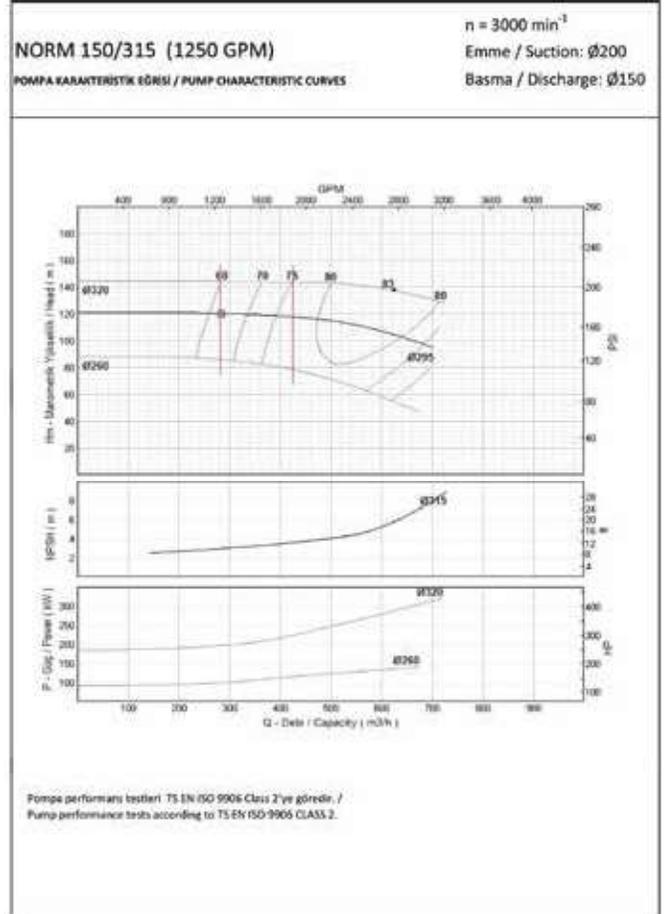
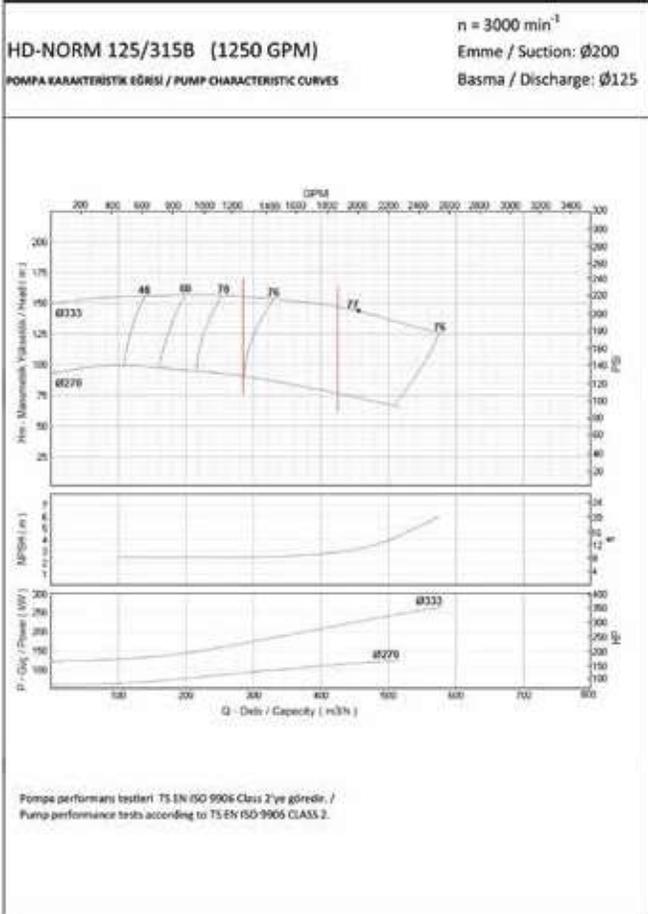
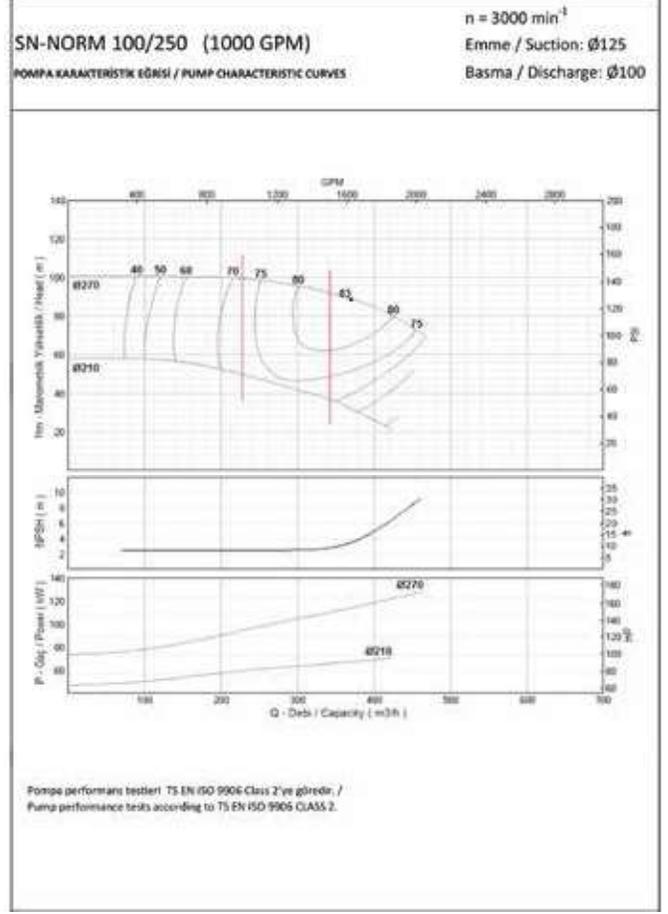
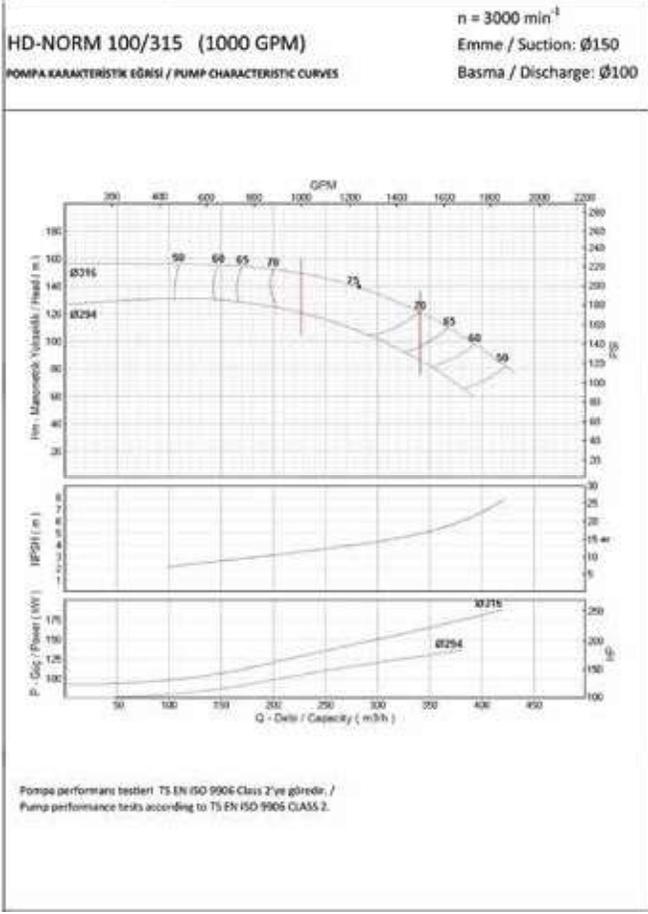
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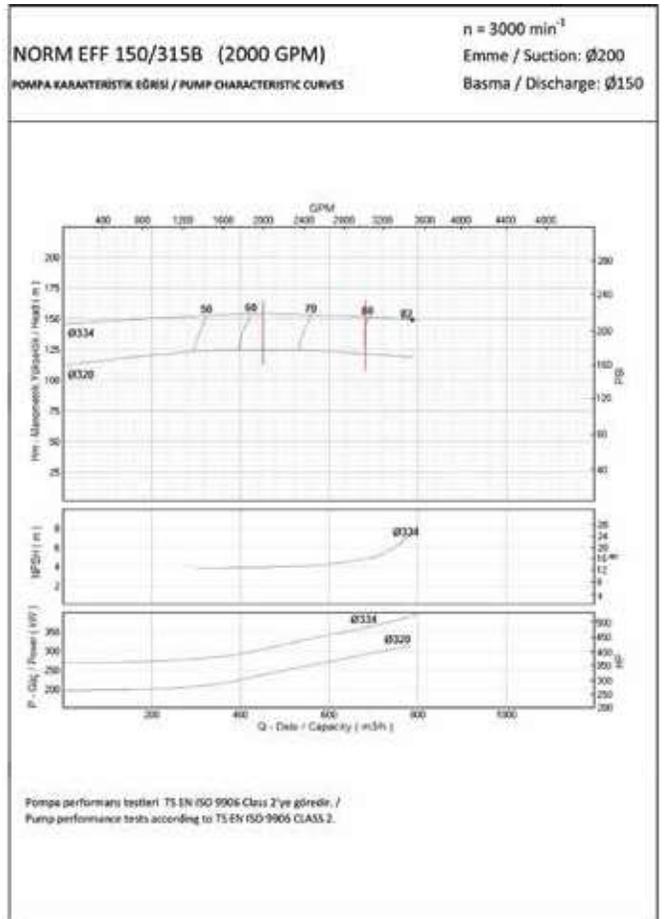
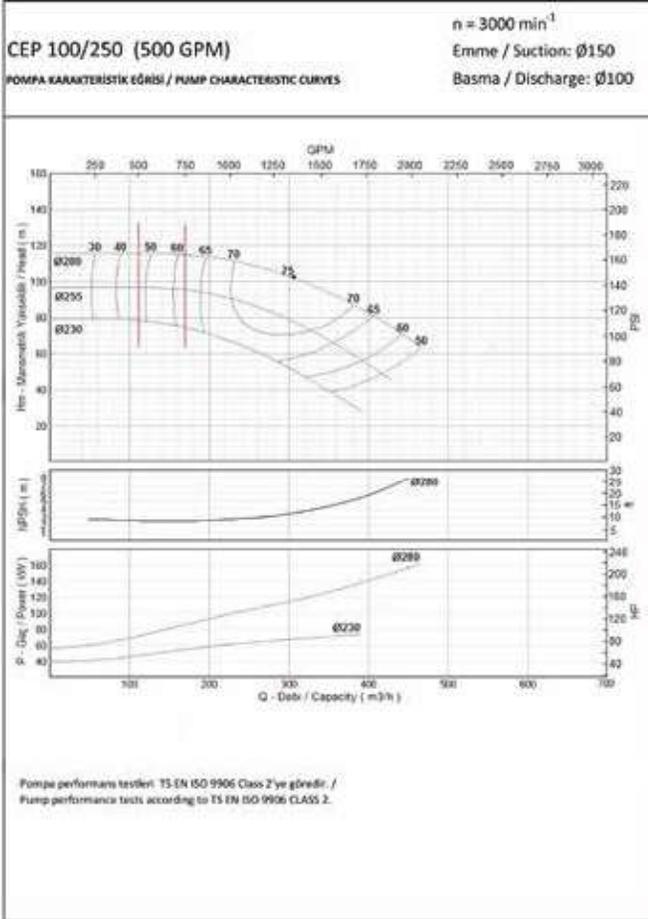
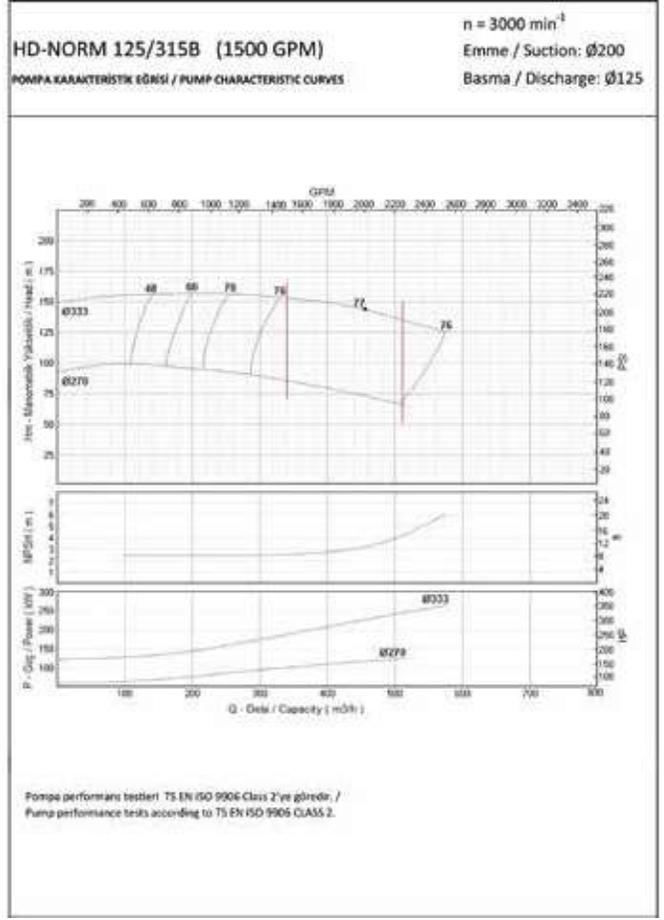
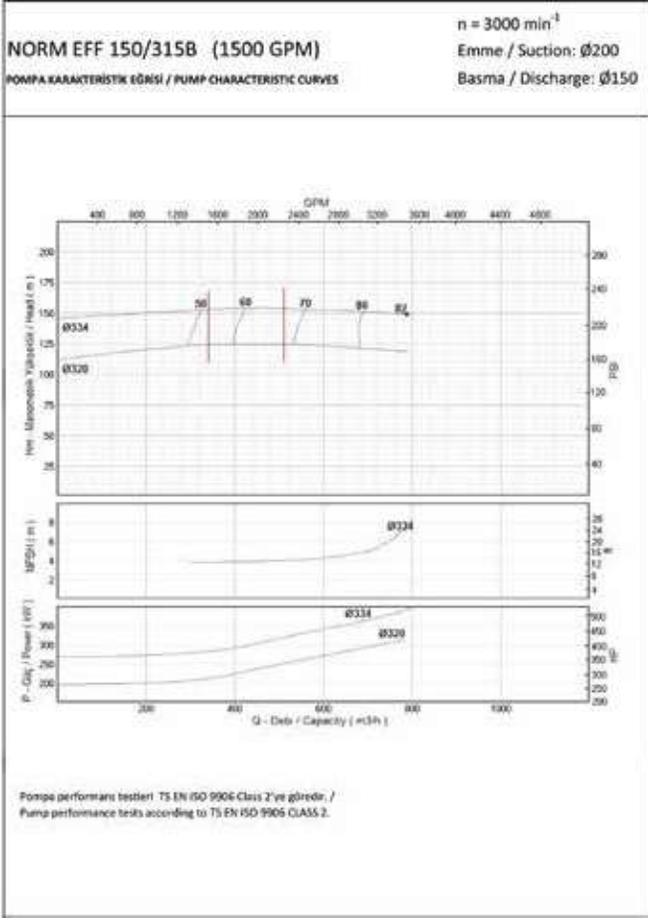
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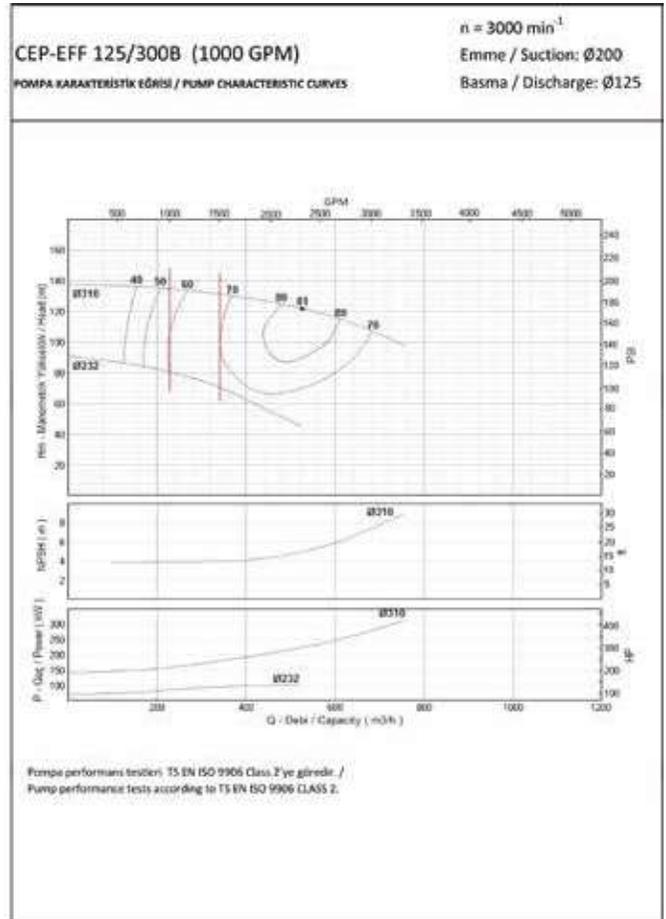
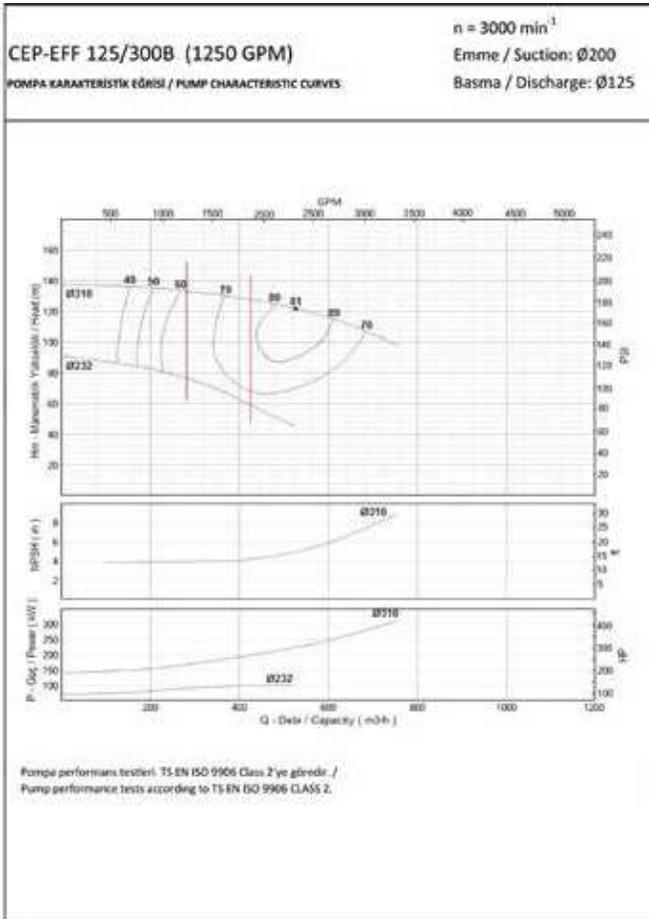
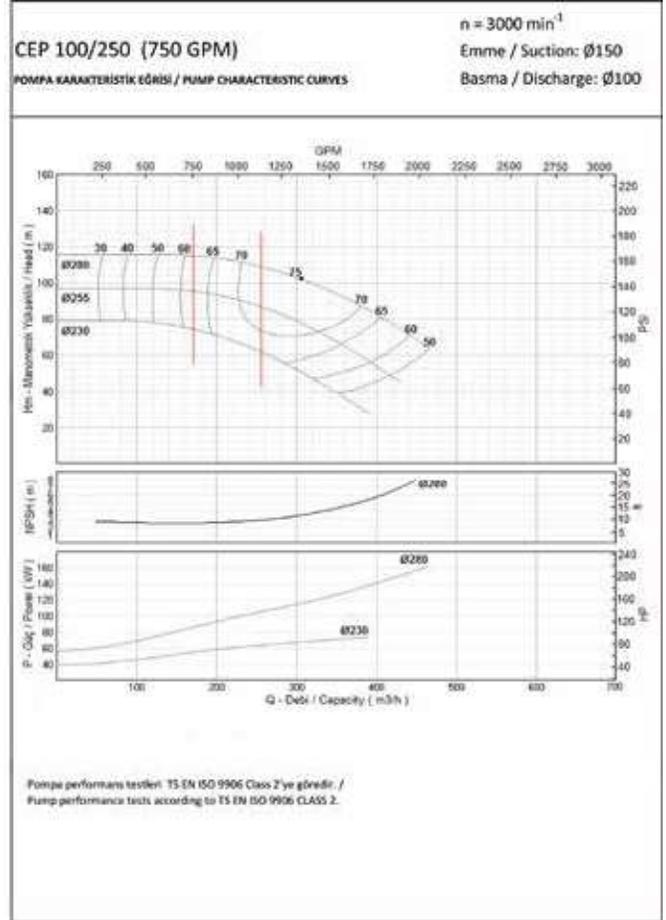
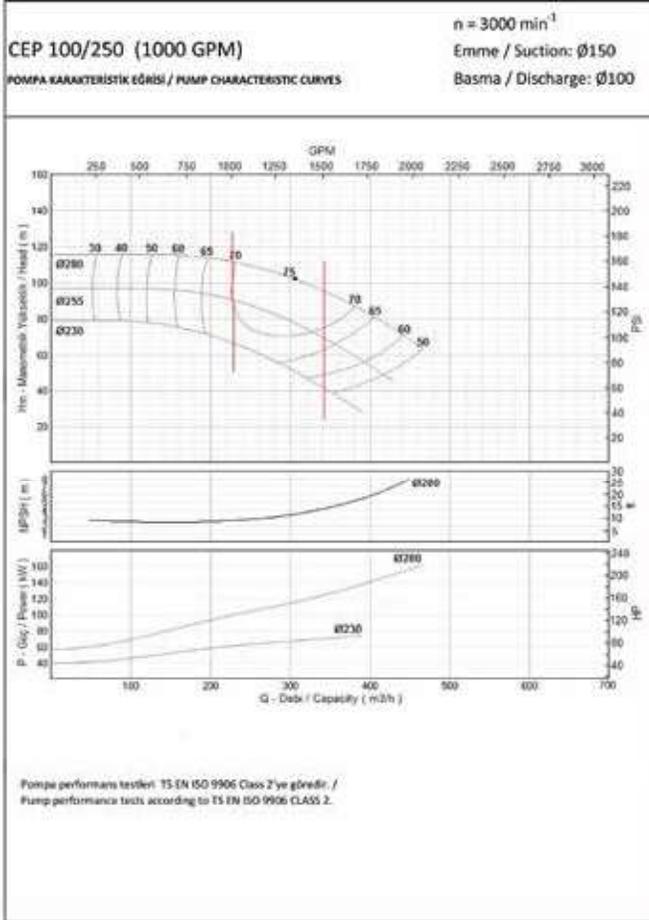
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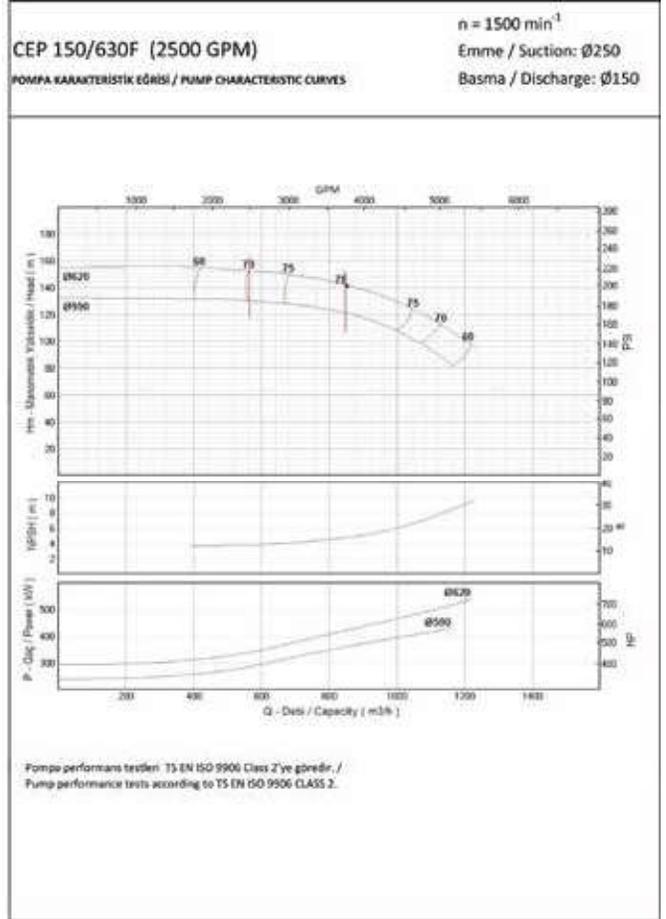
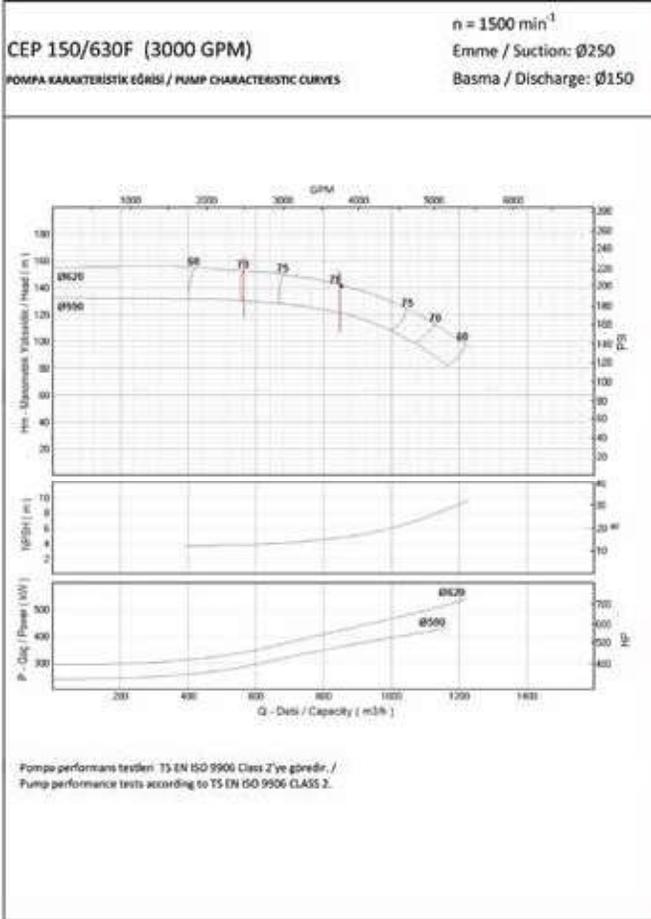
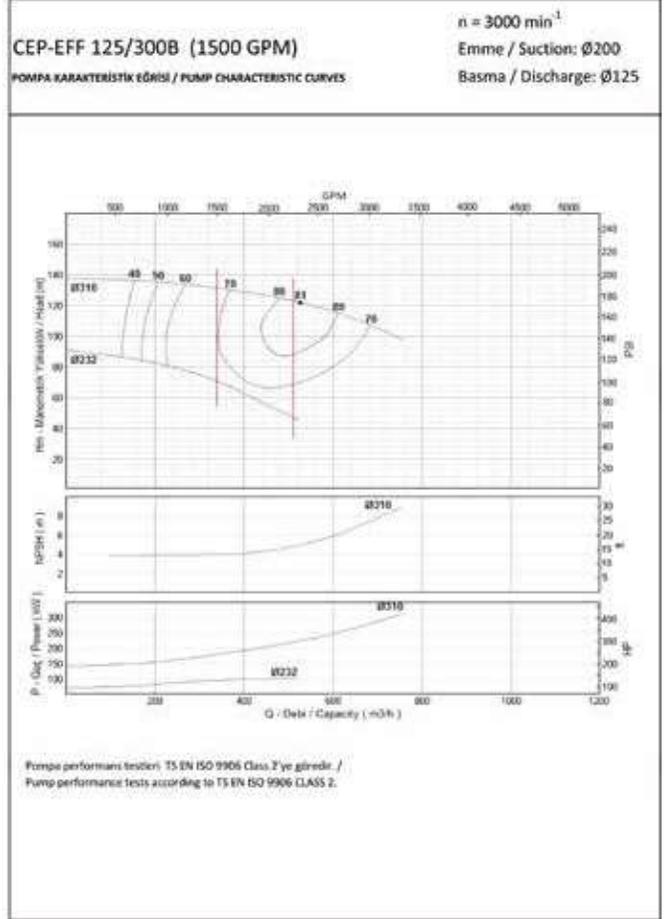
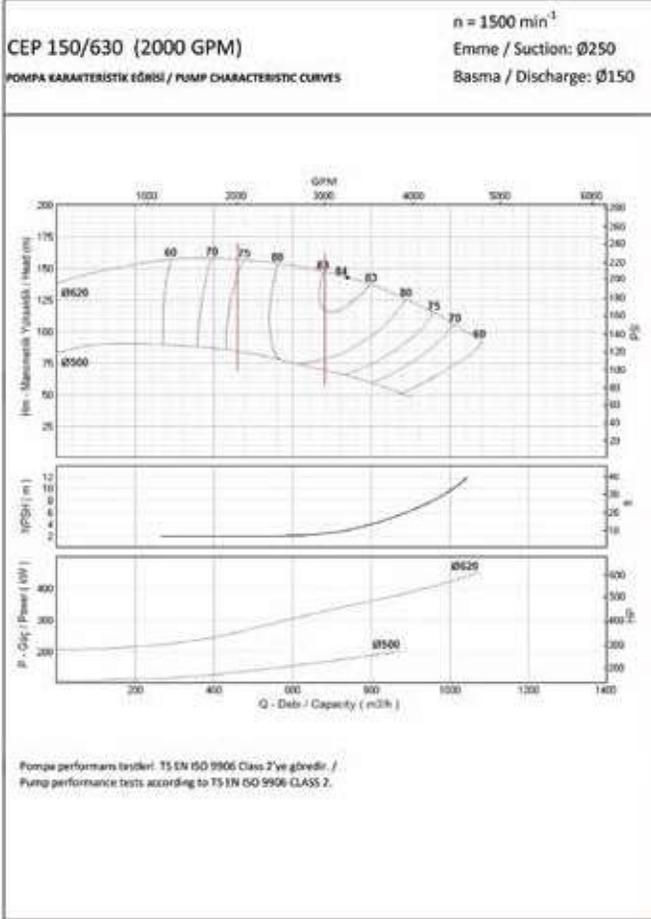
**FIRE FIGHTING SETS**



## FIRE FIGHTING SETS



**FIRE FIGHTING SETS**



## FIRE FIGHTING SETS

UL LISTED END SUCTION PUMPS FOR 3000 rpm				
NORM Pump Size	Rated Pressure	Electric Motor Rated Power	Diesel Engine	Diesel Engine Rated Power
	(Hm) mwc	(kW)	Model	(kW)
<b>Rated capacity</b>		<b>50 GPM (11,4 m3/h)</b>		
<b>NORM SN 32/250 2" x 1 1/4"</b>	72	11	KA4H-UFKA24	33,5
	80	11	KA4H-UFKA24	33,5
	85	15	KA4H-UFKA24	33,5
	90	15	KA4H-UFKA24	33,5
	95	15	KA4H-UFKA24	33,5
	100	15	KA4H-UFKA24	33,5
<b>Rated capacity</b>		<b>100 GPM (22,7 m3/h)</b>		
<b>NORM SN 32/250 2" x 1 1/4"</b>	72	15	KA4H-UFKA24	33,5
	80	15	KA4H-UFKA24	33,5
	85	18,5	KA4H-UFKA24	33,5
	90	18,5	KA4H-UFKA24	33,5
	95	18,5	KA4H-UFKA24	33,5
	98	18,5	KA4H-UFKA24	33,5
<b>Rated capacity</b>		<b>150 GPM (34,1 m3/h)</b>		
<b>NORM SN 32/250 2" x 1 1/4"</b>	70	18,5	KA4H-UFKA24	33,5
	75	18,5	KA4H-UFKA24	33,5
	80	18,5	KA4H-UFKA24	33,5
	85	22	KA4H-UFKA24	33,5
	90	22	KA4H-UFKA24	33,5
	96	30	KA4H-UFKA24	33,5
<b>Rated capacity</b>		<b>200 GPM (45,4 m3/h)</b>		
<b>HD-NORM 50/250 3" x 2"</b>	70	30	KA4H-UFKA24	33,5
	80	30	KA4H-UFKA24	33,5
	90	30	KA4H-UFKA24	33,5
	95	30	KA4H-UFKA24	33,5
<b>Rated capacity</b>		<b>250 GPM (56,8 m3/h)</b>		
<b>HD-NORM 50/250 3" x 2"</b>	70	30	KA4H-UFKA24	33,5
	80	30	KA4H-UFKA24	33,5
	90	37	KA4H-UFKA24	33,5
	93	37	KA4H-UFKA24	33,5
<b>Rated capacity</b>		<b>300 GPM (68,1 m3/h)</b>		
<b>HD-NORM 65/250 4" x 2 1/2"</b>	65	37	KA4H-UFKA24	33,5
	70	37	KA4H-UFKA24	33,5
	80	45	JU4H-UF04	45
	90	45	JU4H-UF04	45
	95	55	JU4H-UF14	53
<b>Rated capacity</b>		<b>400 GPM (91 m3/h)</b>		
<b>HD-NORM 65/250 4" x 2 1/2"</b>	65	37	JU4H-UF04	45
	70	45	JU4H-UF04	45
	80	45	JU4H-UF04	45
	90	55	JU4H-UF14	53
	95	55	JU4H-UF24	62
<b>Rated capacity</b>		<b>450 GPM (102 m3/h)</b>		
<b>HD-NORM 65/250 4" x 2 1/2"</b>	65	45	JU4H-UF04	45
	70	45	JU4H-UF04	45
	80	55	JU4H-UF14	53
	90	55	JU4H-UF14	53
<b>Rated capacity</b>		<b>450 GPM (102 m3/h)</b>		
<b>HD-NORM 80/250 5" x 3"</b>	72	45	JU4H-UF04	45
	80	45	JU4H-UF04	45
	90	55	JU4H-UF14	53
	100	75	JU4H-UF24	62
<b>Rated capacity</b>		<b>500 GPM (114 m3/h)</b>		
<b>HD-NORM 80/250 5" x 3"</b>	70	45	JU4H-UF04	45
	80	45	JU4H-UF14	53
	90	55	JU4H-UF14	53
	100	75	JU4H-UF24	62
<b>Rated capacity</b>		<b>500 GPM (114 m3/h)</b>		
<b>NORM 80/315 4" x 3"</b>	107	75	JU4H-UF24	62
	110	75	JU4H-UF34	86
	115	75	JU4H-UF34	86
	120	75	JU4H-UF34	86
	125	75	JU4H-UF34	86
	130	75	JU4H-UF34	86
	140	90	JU4H-UF34	86
	150	90	JU4H-UF54	108
	155	110	JU4H-UF54	108
160	110	JU4H-UF54	108	

## FIRE FIGHTING SETS

UL LISTED END SUCTION PUMPS FOR 3000 rpm				
NORM Pump Size	Rated Pressure	Electric Motor Rated Power	Diesel Engine	Diesel Engine Rated Power
	(Hm) mwc	(kW)	Model	(kW)
<b>Rated capacity</b>				
<b>500 GPM (114 m3/h)</b>				
<b>NORM 100/315 5" x 4"</b>	102	75	JU4H-UF24	62
	110	75	JU4H-UF34	86
	120	75	JU4H-UF34	86
	125	75	JU4H-UF34	86
	130	90	JU4H-UF34	86
	140	90	JU4H-UF34	86
	149	110	JU4H-UF54	108
<b>Rated capacity</b>				
<b>750 GPM (170 m3/h)</b>				
<b>NORM SN 100/250 5" x 4"</b>	56	45	JU4H-UF04	45
	65	55	JU4H-UF24	62
	70	75	JU4H-UF24	62
	80	75	JU4H-UF34	86
	90	90	JU4H-UF34	86
	99	90	JU4H-UF54	108
<b>Rated capacity</b>				
<b>750 GPM (170 m3/h)</b>				
<b>NORM 100/315 5" x 4"</b>	100	90	JU4H-UF34	86
	110	90	JU4H-UF54	108
	120	110	JU4H-UF54	108
	130	110	JU4H-UF54	108
	140	132	JU6H-UF34	131
	147	132	JU6H-UF34	131
<b>Rated capacity</b>				
<b>750 GPM (170 m3/h)</b>				
<b>HD NORM 100/315 6" x 4"</b>	132	132	JU6H-UF34	131
	140	132	JU6H-UF34	131
	150	132	JU6H-UF34	131
<b>Rated capacity</b>				
<b>750 GPM (170 m3/h)</b>				
<b>HD-NORM 125/315 6" x 5"</b>	100	110	JU4H-UF54	108
	110	110	JU4H-UF54	108
	120	132	JU6H-UF34	131
	130	132	JU6H-UF34	131
	140	160	JU6H-UF54	161
	150	160	JU6H-UF54	161
<b>Rated capacity</b>				
<b>1000 GPM (227 m3/h)</b>				
<b>NORM SN 100/250 5" x 4"</b>	50	55	JU4H-UF14	53
	65	75	JU4H-UF34	86
	70	75	JU4H-UF34	86
	80	90	JU4H-UF34	86
	90	90	JU4H-UF54	108
	98	110	JU4H-UF54	108
<b>Rated capacity</b>				
<b>1000 GPM (227 m3/h)</b>				
<b>HD NORM 100/315 6" x 4"</b>	125	160	JU6H-UF54	161
	130	160	JU6H-UF54	161
	140	160	JU6H-UF54	161
	149	160	JU6H-UF54	161
<b>Rated capacity</b>				
<b>1250 GPM (284 m3/h)</b>				
<b>HD NORM 125/315B 8" x 5"</b>	111	160	JU6H-UF84	205
	120	200	JU6H-UF84	205
	130	200	JU6H-UF84	205
	140	250		
	150	250		
<b>Rated capacity</b>				
<b>1250 GPM (284 m3/h)</b>				
<b>NORM 150/315 8" x 6"</b>	86	132	JU6H-UF34	131
	90	132	JU6H-UF34	131
	100	160	JU6H-UF54	161
	110	160	JU6H-UF54	161
	120	200	JU6H-UF84	205
	130	200	JU6H-UF84	205
	140	250		
<b>Rated capacity</b>				
<b>1500 GPM (341 m3/h)</b>				
<b>HD NORM 125/315B 8" x 5"</b>	110	200	JU6H-UF84	205
	120	200	JU6H-UF84	205
	130	250		
	140	250		
	150	250		
<b>Rated capacity</b>				
<b>1500 GPM (341 m3/h)</b>				
<b>NORM EFF 150/315B 8" x 6"</b>	130	315		
	140	315		
	150	315		
<b>Rated capacity</b>				
<b>2000 GPM (454 m3/h)</b>				
<b>NORM EFF 150/315B 8" x 6"</b>	130	315		
	140	315		
	150	355		

## FIRE FIGHTING SETS

<b>UL LISTED SPLIT CASE PUMPS FOR 3000 rpm</b>				
CEP Pump Size	Rated Pressure	Electric Motor Rated Power	Diesel Engine	Diesel Engine Rated Power
	(Hm) mwc	(kW)	Model	(kW)
<b>Rated capacity</b>	<b>500 GPM (114 m3/h)</b>			
<b>CEP 100/250 6" x 4"</b>	80	75	JU4H-UF24	62
	90	75	JU4H-UF34	86
	100	75	JU4H-UF34	86
	110	90	JU4H-UF34	86
<b>Rated capacity</b>	<b>750 GPM (170 m3/h)</b>			
<b>CEP 100/250 6" x 4"</b>	75	75	JU4H-UF34	86
	80	75	JU4H-UF34	86
	90	90	JU4H-UF34	86
	100	90	JU4H-UF54	108
	110	110	JU4H-UF54	108
<b>Rated capacity</b>	<b>1000 GPM (227m3/h)</b>			
<b>CEP 100/250 6" x 4"</b>	70	75	JU4H-UF34	86
	80	90	JU4H-UF54	108
	90	110	JU4H-UF54	108
	100	110	JU4H-UF54	108
	110	132	JU6H-UF34	131
<b>Rated capacity</b>	<b>1000 GPM (227m3/h)</b>			
<b>CEP EFF 125/300B 8" x 5"</b>	80	110	JU4H-UF54	108
	90	110	JU6H-UF34	131
	100	132	JU6H-UF34	131
	110	160	JU6H-UF54	161
	120	160	JU6H-UF54	161
	130	200	JU6H-UF84	205
<b>Rated capacity</b>	<b>1250 GPM (284 m3/h)</b>			
<b>CEP EFF 125/300B 8" x 5"</b>	80	110	JU6H-UF34	131
	90	132	JU6H-UF34	131
	100	160	JU6H-UF54	161
	110	160	JU6H-UF54	161
	120	200	JU6H-UF84	205
	130	200	JU6H-UF84	205
<b>Rated capacity</b>	<b>1500 GPM (341 m3/h)</b>			
<b>CEP EFF 125/300B 8" x 5"</b>	71	110	JU4H-UF54	108
	80	132	JU6H-UF34	131
	90	160	JU6H-UF54	161
	100	160	JU6H-UF54	161
	110	200	JU6H-UF84	205
	125	200	JU6H-UF84	205
<b>UL LISTED SPLIT CASE PUMPS FOR 1500 rpm</b>				
<b>Rated capacity</b>	<b>2000 GPM (454 m3/h)</b>			
<b>CEP 150/630 10" x 6"</b>	90	200	DP6H-UFKAX8	179
	100	200	DQ6H-UFKA98	224
	110	250	DQ6H-UFKA98	224
	120	250	DR8H-UFKA40	287
	130	315	DR8H-UFKA40	287
	140	315	DR8H-UFKA40	287
	150	315	DR8H-UFKA5G	336
<b>Rated capacity</b>	<b>2000 GPM (454 m3/h)</b>			
<b>CEP 150/630 F 10" x 6"</b>	138	355	DR8H-UFKA5G	336
	140	355	DR8H-UFKA5G	336
	149	355	DS0H-UFKA68	389
<b>Rated capacity</b>	<b>2500 GPM (568 m3/h)</b>			
<b>CEP 150/630 F 10" x 6"</b>	136	400	DS0H-UFKA68	389
	140	400	DT2H-UFAA58	522
	148	400	DT2H-UFAA58	522
<b>Rated capacity</b>	<b>3000 GPM (681 m3/h)</b>			
<b>CEP 150/630 F 10" x 6"</b>	135	450	DT2H-UFAA58	522
	140	450	DT2H-UFAA58	522
	149	500	DT2H-UFAA58	522

## FIRE FIGHTING SETS

### QWZU.EX26604 - Centrifugal Fire Pumps, End Suction Centrifugal Fire Pumps, End Suction

Rated Capacity GPM	Size In.	Model Dsg	Rated Net Pressure Range psi	Approx Speed RPM	Max Working Pressure psi
50	1.2x2	NORM SN 32/250	102-145	3000	204
100	1.2x2	NORM SN 32/250	101-142	3000	204
150	1.2x2	NORM SN 32/250	97-137	3000	204
200	2x3	HD-NORM 50/250	99-138	3000	217
250	2x3	HD-NORM 50/250	95-135	3000	217
300	2.5x4	HD-NORM 65/250	92-139	3000	232
400	2.5x4	HD-NORM 65/250	90-138	3000	232
450	2.5x4	HD-NORM 65/250	87-135	3000	232
450	3x5	HD-NORM 80/250	101-146	3000	203
500	3x5	HD-NORM 80/250	99-146	3000	203
500	3x4	NORM 80/315	152-234	3000	270
500	4x5	NORM 100/315	144-213	3000	247
750	4x5	NORM 100/315	137-210	3000	247
750	6x4	NORM HD 100/315	186-217	3000	290
750	4x5	NORM SN 100/250	79-142	3000	189
750	5x6	HD-NORM 125/315	139-222	3000	260
1000	6x4	NORM HD 100/315	177 - 212	3000	290
1000	4x5	NORM SN 100/250	71-140	3000	189
1250	8x6	NORM 150/315	122-204	3000	246
1250	8x5	NORM HD 125/315-B	157-220	3000	259
1500	8x6	NORM EFF 150/315-B	184-217	3000	321
1500	8x5	NORM HD 125/315-B	153-219	3000	259
2000	8x6	NORM EFF 150/315-B	183-216	3000	321

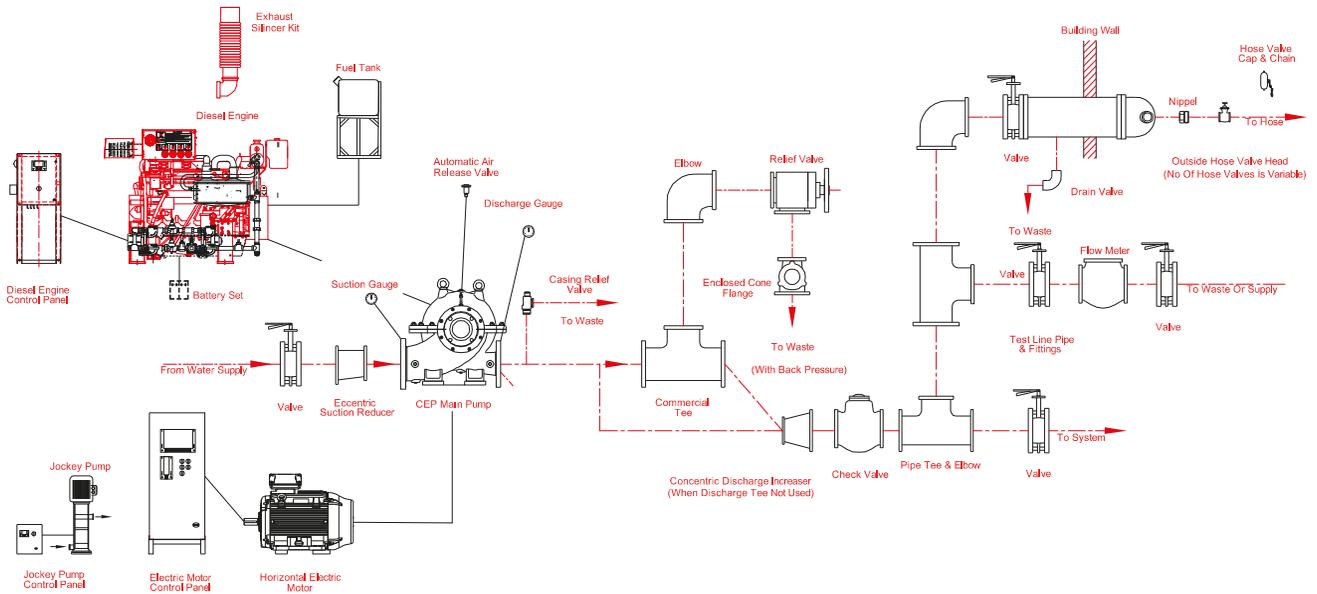
### QXJY.EX26605 - Centrifugal Fire Pumps, Split Case Centrifugal Fire Pumps, Split Case

Rated Capacity (gpm)	Size (in.)	Model Dsg	Rated Net Pressure Range (psi)	Approx Speed (rpm)	Max Working Pressure (psi)
500	4x6	CEP 100/250	112-167	3000	232
750	4x6	CEP 100/250	106-167	3000	232
1000	4x6	CEP 100/250	98-162	3000	232
1000	5x8	CEP-EFF 125/300B	110-190	3000	290
1250	5x8	CEP-EFF 125/300B	107-189	3000	290
1500	5x8	CEP-EFF 125/300B	101-185	3000	290
2000	6x10	CEP 150/630	124-222	1500	246
2000	10x6	CEP 150-630-F	195-213	1500	290
2500	10x6	CEP 150-630-F	188-211	1500	290
3000	10x6	CEP 150-630-F	182-213	1500	290

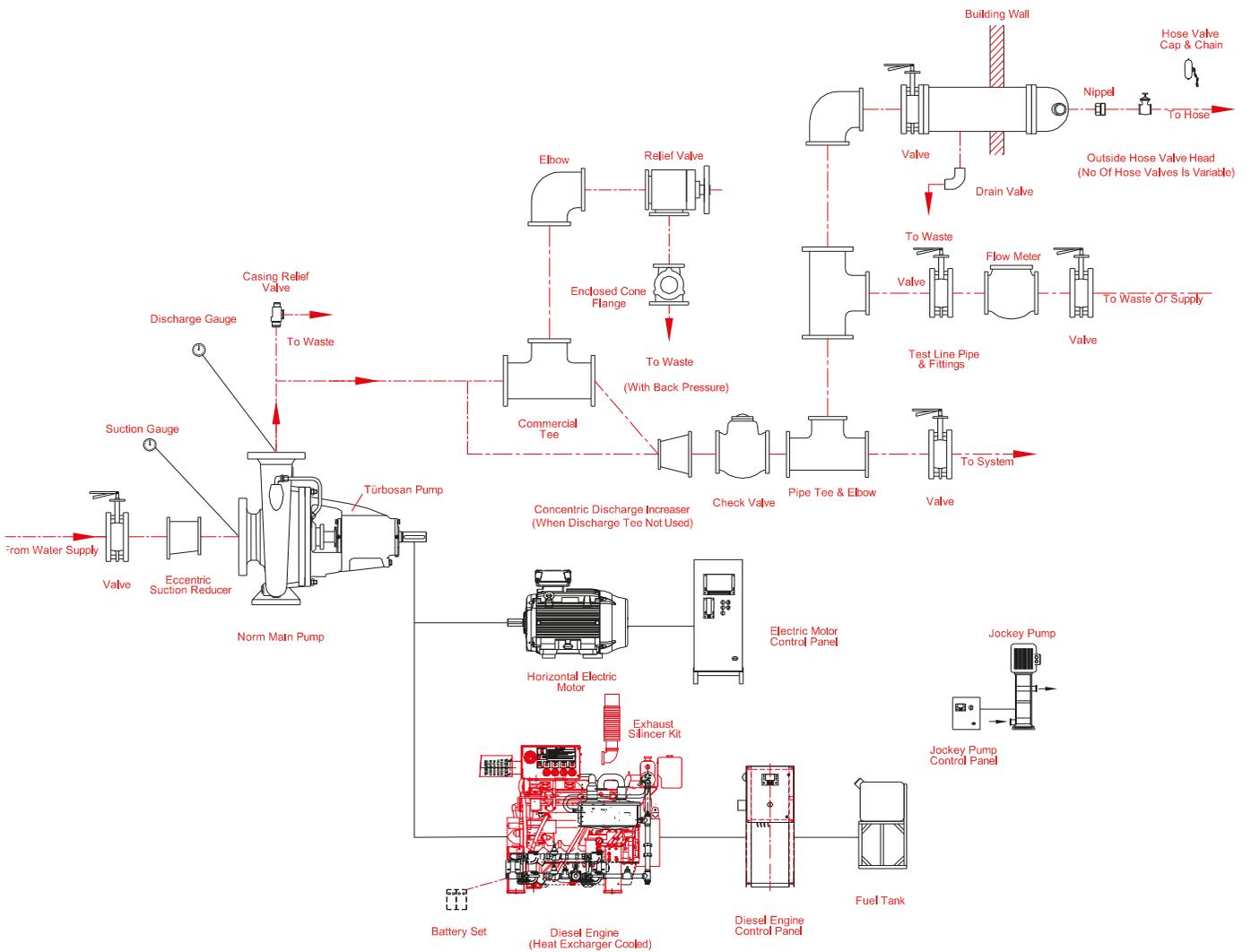


# FIRE FIGHTING SETS

## CEP Split Case Fire Fighting Pump System Accessories

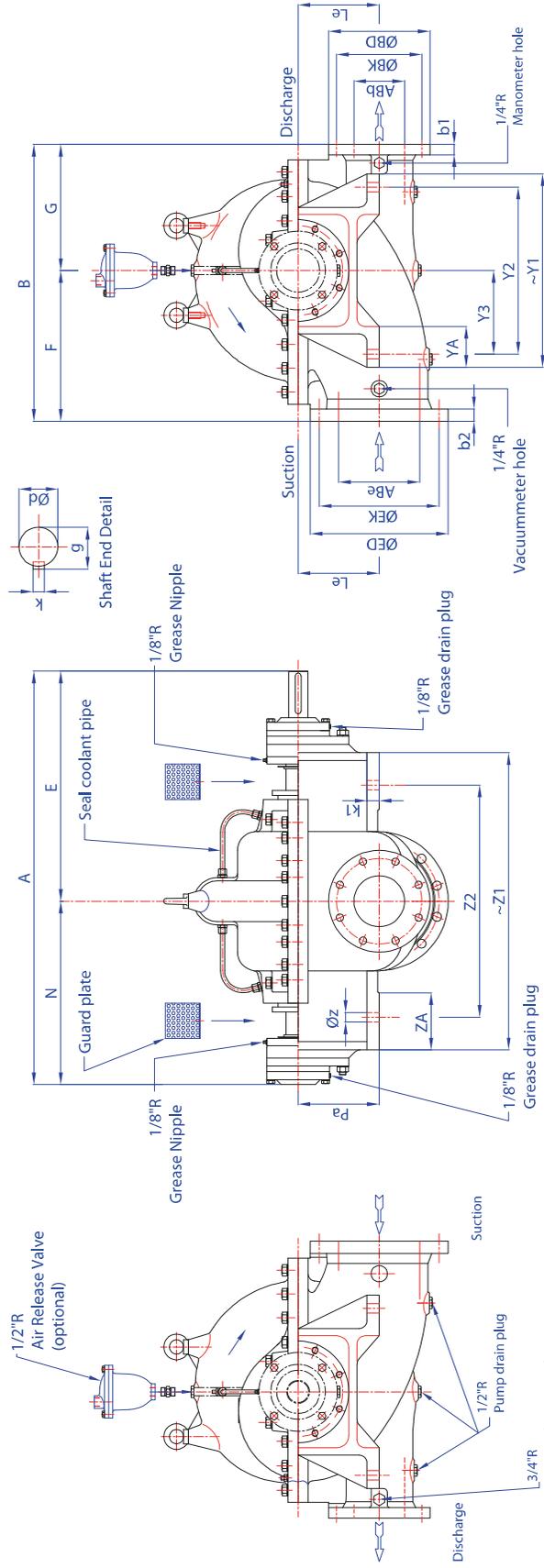


## \* Norm End Suction Fire Fighting Pump System Accessories



## FIRE FIGHTING SETS

### UL LISTED CEP PUMPS DIMENSION TABLE



POMPA MODELİ / PUMP MODEL	Basma Flanşı / Discharge Flange											Emme Flanşı / Suction Flange			Mil ucu / Shaft End														
	ABb	ABe	N	E	A	F	G	B	Pa	Le	Z1	Z2	ZA	Y1		Y2	Y3	YA	k1	Øz	ØBk	ØED	ØEK	Delik / Hole Adet x Ø / Piece x Ø	Delik / Hole Adet x Ø / Piece x Ø	Ød	k	g	
CEP 100/250	100	150	370	485	855	330	218	548	285	190	325	285	-	325	225	150	95	16	23	279.4	234.95	26	8xØ22	26	8xØ22	30	42	12	45
CEP-EFF 125/300B	125	200	450	565	1015	370	310	680	200	200	730	570	140	475	410	205	100	30	23	279.4	234.95	26	8xØ22	26	8xØ22	30	48	14	51.5
CEP 150/630	150	250	555	705	1260	600	450	1050	245	350	864	710	170	500	420	210	115	35	28	318	270	37	12xØ22	37	12xØ26	30	62	18	66
CEP 150/630F	150	250	555	705	1260	600	450	1050	245	350	864	710	170	500	420	210	115	35	28	318	270	37	12xØ22	37	12xØ26	30	65	18	69

NOT: CEP 100/250, CEP -EFF 125/300B Pompaların emme flanşı ANSI/ASME 16.1 Class 125, basma flanşı ANSI/ASME 16.1 Class 250'e göre imal edilir.  
 CEP 150/630, CEP 150/630F Pompaların emme flanşı ANSI/ASME 16.1 Class 150, basma flanşı ANSI/ASME 16.1 Class 300'e göre imal edilir.  
 NOTE: Suction flange of Cep 100/250, Cep-EFF 125/300B pumps are according to ANSI/ASME 16.1 Class 125 , discharge flange are according to ANSI/ASME 16.1 Class 250.  
 Suction flange of Cep 150/630, Cep 150/630F pumps are according to ANSI/ASME 16.1 Class 150 , discharge flange is according to ANSI/ASME 16.1 Class 300.



## FIRE FIGHTING SETS



## TURBOSAN FM APPROVED FIRE PUMP SETS



FM Approved pumps cannot be delivered as bare-shaft pumps. Pump, diesel engine, electric motor and controller should be delivered as a fire fighting pump set.

The controller and the diesel engine have to be FM Approved, the rest of the components of the set can be either FM Approved or not. FM does not have a standard for electric motors used in fire pumps, therefore there is no FM Approved electric motor.



TURBOSAN Model End Suction Pump	Product	Q (Capacity)		Hm (Head)			Speed n rpm	Max Working Pressure psi	Impeller Diameter Maximum / Minimum		Suction Inlet Diameter		Discharge Outlet Diameter	
		GPM	m3/h	psi	min. mwc	max. mwc			mm	mm	inc	mm	inc	mm
1	HD-NORM 65/250	300	68,1	79-139	55,5	97,7	2980	232	Ø268	Ø214	Ø4	Ø100	Ø2,5	Ø65
2	HD-NORM 65/250	400	91	75-137	52,7	96,3	2980	232	Ø268	Ø214	Ø4	Ø100	Ø2,5	Ø65
3	HD-NORM 65/250	450	102	73-136	51,3	95,6	2980	232	Ø268	Ø214	Ø4	Ø100	Ø2,5	Ø65
4	HD-NORM 80/250	400	91	95-149	66,8	104,7	2980	203	Ø268	Ø225	Ø5	Ø125	Ø3	Ø80
5	HD-NORM 80/250	450	102	95-148	66,8	104	2980	203	Ø268	Ø225	Ø5	Ø125	Ø3	Ø80
6	HD-NORM 80/250	500	114	94-148	66,1	104	2980	203	Ø268	Ø225	Ø5	Ø125	Ø3	Ø80
7	NORM SN 100/250	500	114	87-144	61,2	101,2	2980	189	Ø270	Ø220	Ø5	Ø125	Ø4	Ø100
8	NORM SN 100/250	750	170	83-144	58,3	101,2	2980	189	Ø270	Ø220	Ø5	Ø125	Ø4	Ø100
9	NORM SN 100/250	1000	227	79-141	55,5	99,1	2980	189	Ø270	Ø220	Ø5	Ø125	Ø4	Ø100

## TURBOSAN FUEL TANKS

### FUEL TANKS KEY FEATURES;

Türbosan diesel fuel tanks are authorized as **UL Listed** under File number **MH63963**.



- In compliance with UL 142 and NFPA 30 standards.
- Sized as specified by NFPA 20 for fire pump applications.
- Designed and manufactured in accordance with UL 142 (Steel Aboveground Tanks for Flammable and Combustible Liquids) standard.
- Manufactured, inspected and tested against leakage before the shipment.
- Top quality fittings and fabrication materials.
- Sturdy lifting lug and support legs.
- Carbon steel body
- Carbon steel tanks with RAL 3020 painted surface.
- High grade of welding process to sustain the quality of each tank.
- Fuel level can be viewed with tank level indicator.
- Vent opening to prevent build-up of pressure or vacuum inside the tank during filling, emptying or due to atmospheric temperature changes.

TANK DIMENSIONS			
CAPACITY (LITERS)	DIA (D) mm	LENGTH (L) mm	WIDTH (W) mm
300	600	1120	430
610	800	1270	560
910	1000	1220	750
1260	1000	1650	750

ACCESORIES			
ITEM	DESCRIPTION	MATERIAL	QTY
1	1 1/2" TANK LEVEL INDICATOR	PLASTIC	1
2	2 1/4" FILLING COVER	CARBON STEEL	1
3	1" AIR VENTILLATION COVER	CARBON STEEL	1
4	1/4" FUEL RETURN PIPE CONNECTION JOINT	CARBON STEEL	1
5	3/8" NPT BALL VALVE	BRASS	1
6	1/2" NPT PLUG	CARBON STEEL	1