

YANGIN POMPALARI

Fire Pumps

26,05,2004

Sunum : Levent KARAKOÇ

A. Yangın Pompaları Tipleri

Types of Fire Pumps

- Yatay Bölünebilir Tip
Horizontal Split Case "HSC"
- Sondan Emişli
End Suction
- Dikey Hat Tipi
Vertical In-Line
- Dikey Çok Kademeli Turbin Tip
Vertical Turbine

B. Motor Tipleri Types of Motors

- Elektrikli

Electric Driven

- Dizel

Diesel Driven

C.Pompa Kapasiteleri

Capacity of Fire Pumps

■ Minimum

25 GPM

95 L / min

6 m³ / h

■ Maximum

5.000 GPM

18.925 L / min

1.135 m³ / h

D.Kontrol Panelleri

Controller

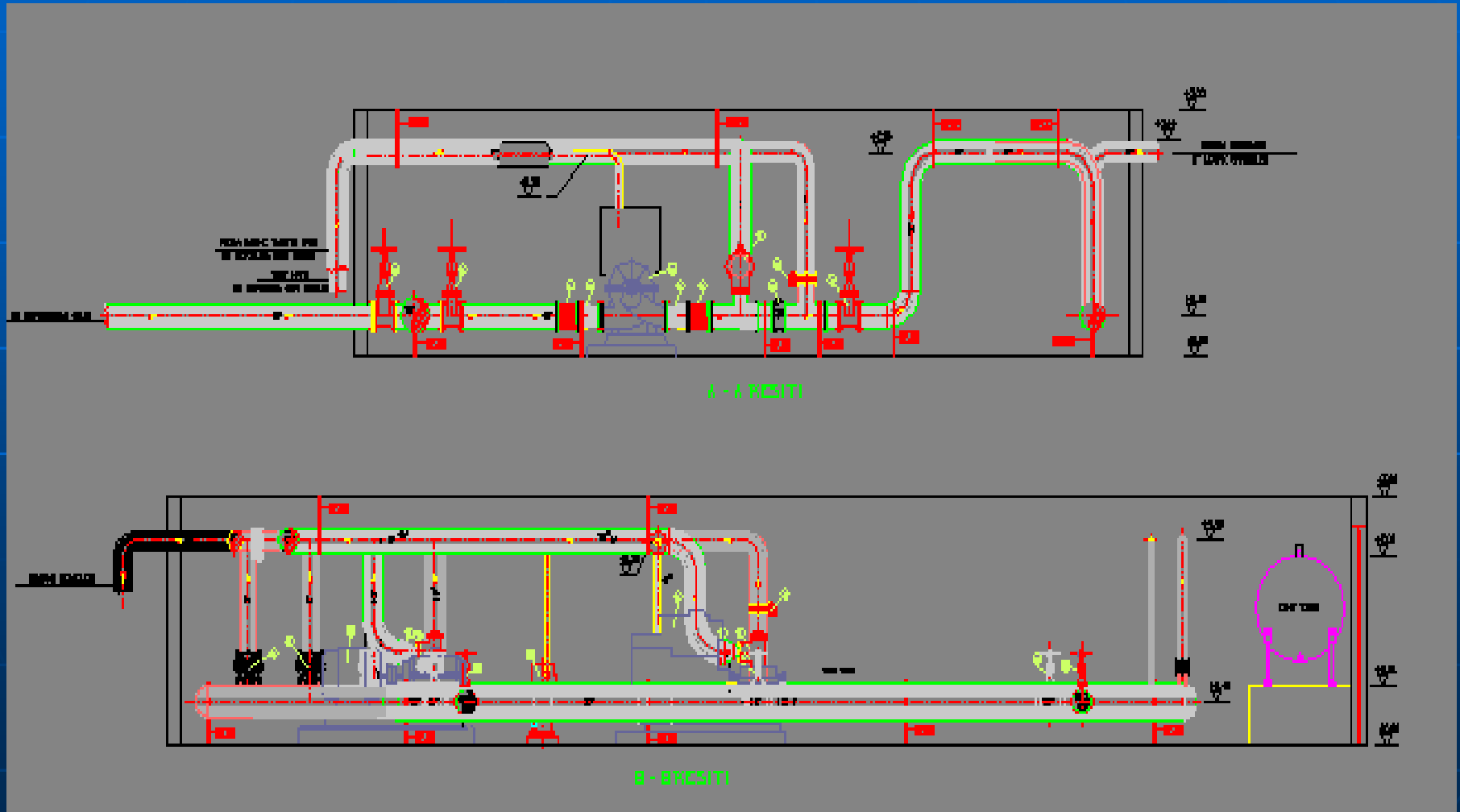
- Direct On-Line
- Wye-Delta
- Soft Start

E.Pompa Aksesuarları

Accessory of Pumps

- Vortex Plaka
- Emiş Vanaları
- Basış Vanaları
- Çek Vana
- Basınç Tahliye Vanası + Waste Cone
- Akışölçer
- Yakıt Tankı
- Geri Akış Önleme Vanası
- Otomatik Transfer Şalteri
- Vortex Plate
- OS&Y Gate Valve
- OS&Y – Butterfly Valve
- Check Valve
- Relief Valve + Waste Cone
- Flow Meter
- Fuel Tank
- Back Flow Preventer
- Transfer Switch

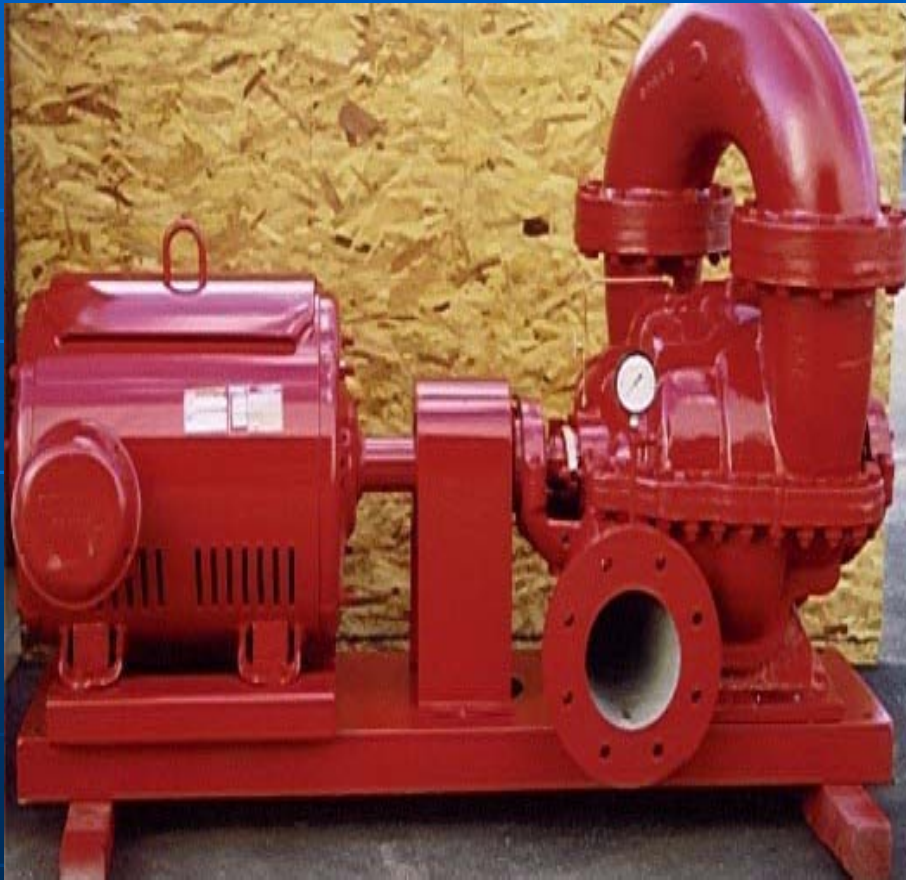
Pompa İstasyonu Kesit Sunum



End Suction



Horizontal Split Case

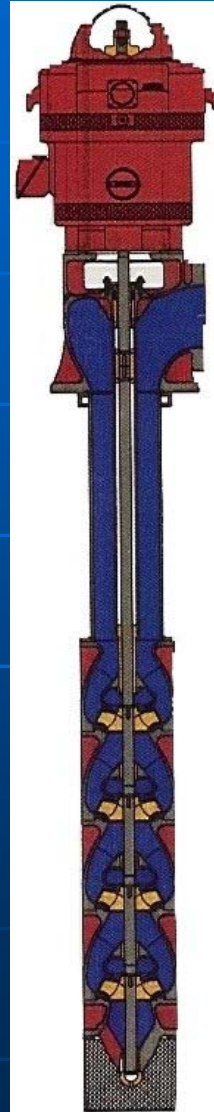




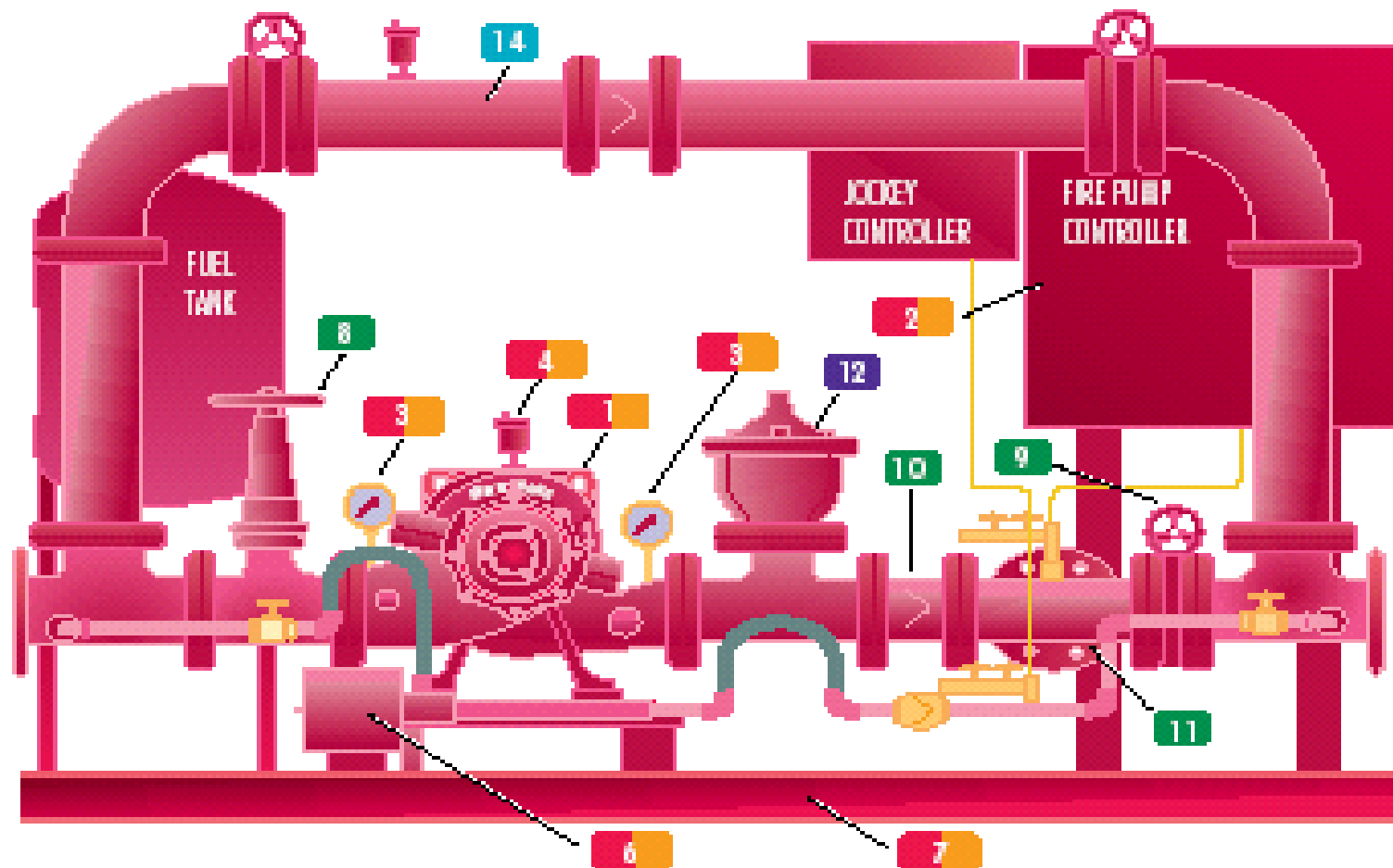
Vertical In-line



Vertical Turbine



HSC



HSC

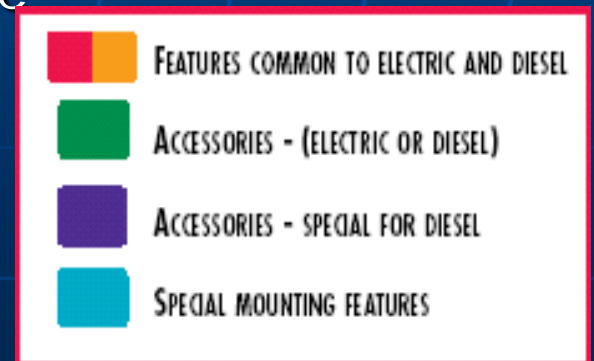
- Fire Pump / Electric Driven

1. Pump / Motor
2. Fire pump controller
3. Suction and discharge gauges
4. Air release valve
5. Casing relief valve
6. Jockey pump
7. Common base

- Fire Pump – Diesel Engine Driven

1. Pump/engine assembled with
 - *Cooling System
 - *Fuel System
 - *Battery System
 - *Exhaust System
2. Fire pump controller
3. Suction and discharge gauges
4. Air release valve
5. Jockey pump
6. Common base

- Accessories /Additional(Electric or Diesel)
 - 8.Section OS&Y gate valve
 - 9.Discharge butterfly valve
 - 10.Silent check valve
 - 11.Test tee
- Accessories - Special for Diesel
 - 12.Main relief valve
 - 13.endorsed cown(not shown)
- Special Mounting Features
 - 14.By-pass line
 - City by-pass with check valve
 - Flowmeter by-pass



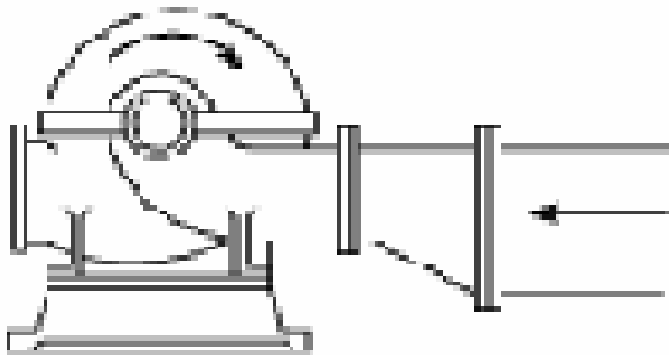
Summary of Fire Pump Data

<u>Pump Rating</u>		<u>Suction</u> 1,2	<u>Discharge</u> 1	<u>Relief</u>	<u>Relief Valve</u>	<u>Meter</u>	<u>Number and Size</u>	<u>Hose Header</u>
<u>GPM</u>	<u>L/min</u>			<u>Valve</u>	<u>Discharge</u>	<u>Device</u>	<u>of Hose Valves</u>	
<u>Supply</u>								

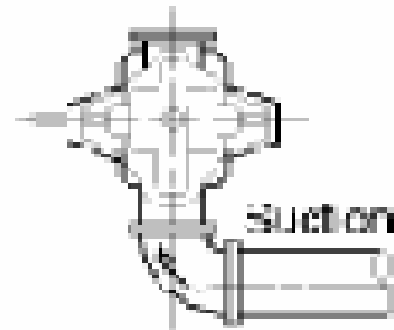
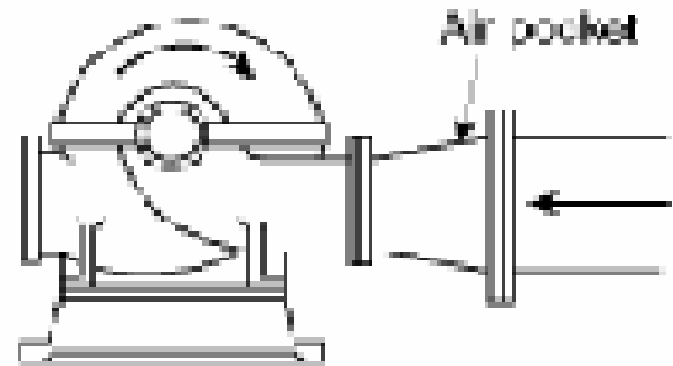
25	95	1	1	3/4	1	1 1/4	1 - 1 1/2	1
50	189	1 1/2	1 1/4	1 1/4	1 1/2	2	1 - 1 1/2	1 1/2
100	379	2	2	1 1/2	2	2 1/2	1 - 2 1/2	2 1/2
150	568	2 1/2	2 1/2	2	2 1/2	3	1 - 2 1/2	2 1/2
200	757	3	3	2	2 1/2	3	1 - 2 1/2	2 1/2
250	946	3 1/2	3	2	2 1/2	3 1/2	1 - 2 1/2	3
300	1,136	4	4	2 1/2	3 1/2	3 1/2	1 - 2 1/2	3
400	1,514	4	4	3	5	4	2 - 2 1/2	4
450	1,703	5	5	3	5	4	2 - 2 1/2	4
500	1,892	5	5	3	5	5	2 - 2 1/2	4
750	2,839	6	6	4	6	5	3 - 2 1/2	6
1,000	3,785	8	6	4	8	6	4 - 2 1/2	6
1,250	4,731	8	8	6	8	6	6 - 2 1/2	8
1,500	5,677	8	8	6	8	8	6 - 2 1/2	8
2,000	7,570	10	10	6	10	8	6 - 2 1/2	8
2,500	9,462	10	10	6	10	8	8 - 2 1/2	10
3,000	11,355	12	12	8	12	8	12 - 2 1/2	10
3,500	13,247	12	12	8	12	10	12 - 2 1/2	12
4,000	15,140	14	12	8	14	10	16 - 2 1/2	12
4,500	17,032	16	14	8	14	10	16 - 2 1/2	12
5,000	18,925	16	14	8	14	10	20 - 2 1/2	12

Right and Wrong Pump Suction

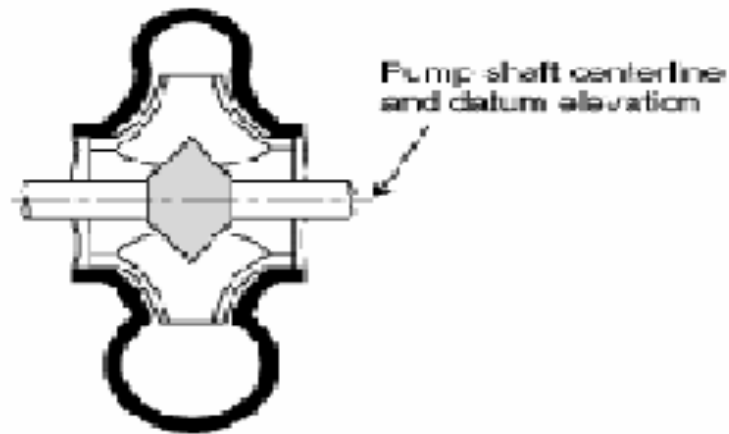
Right:



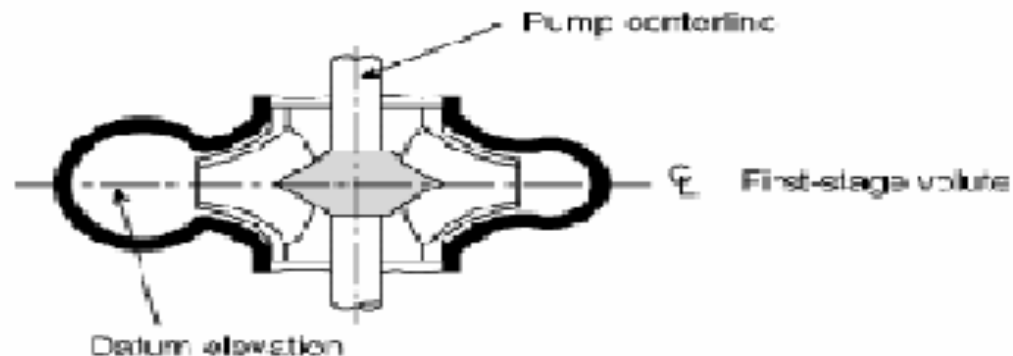
Wrong



Datum Elevation of Various Stationary Pump Design

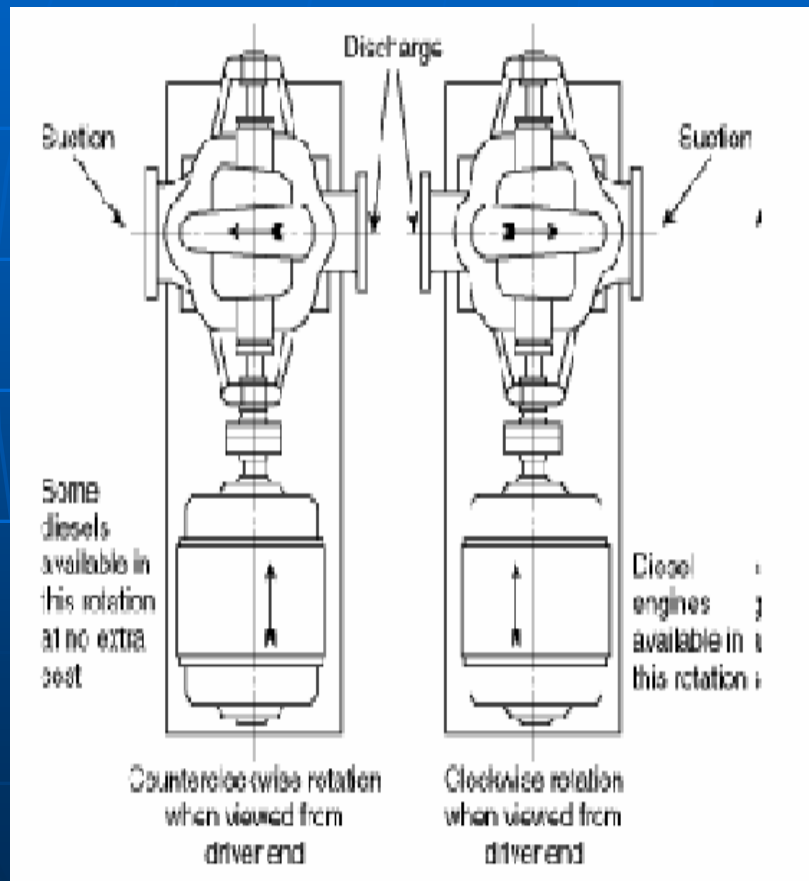


(a) Horizontal double-suction pump

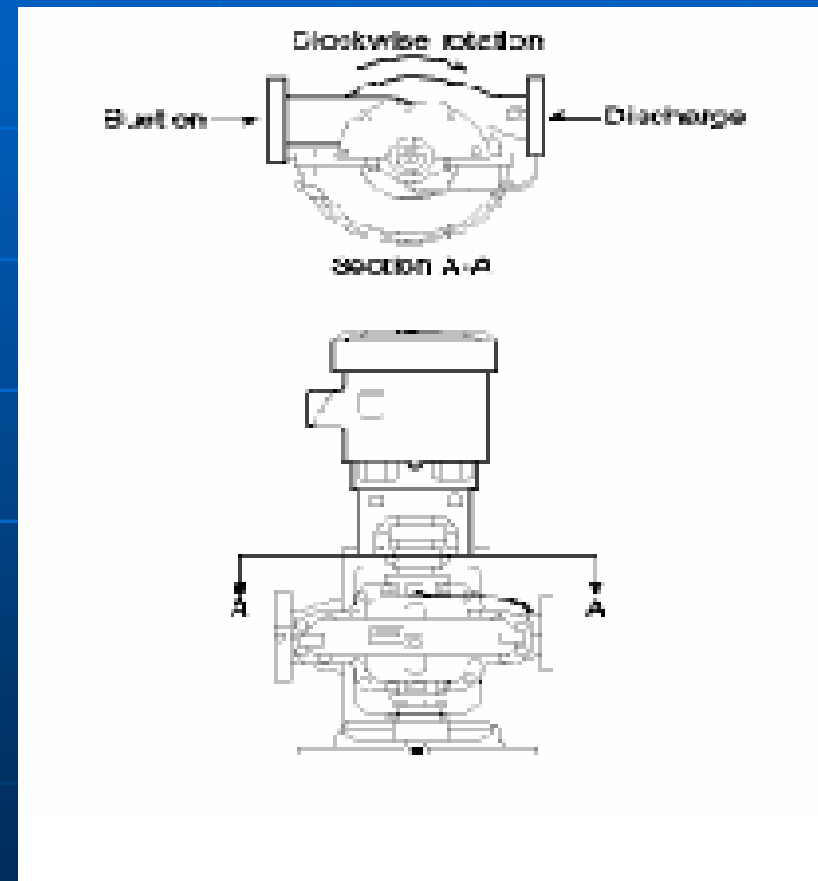


(b) Vertical double-suction pump

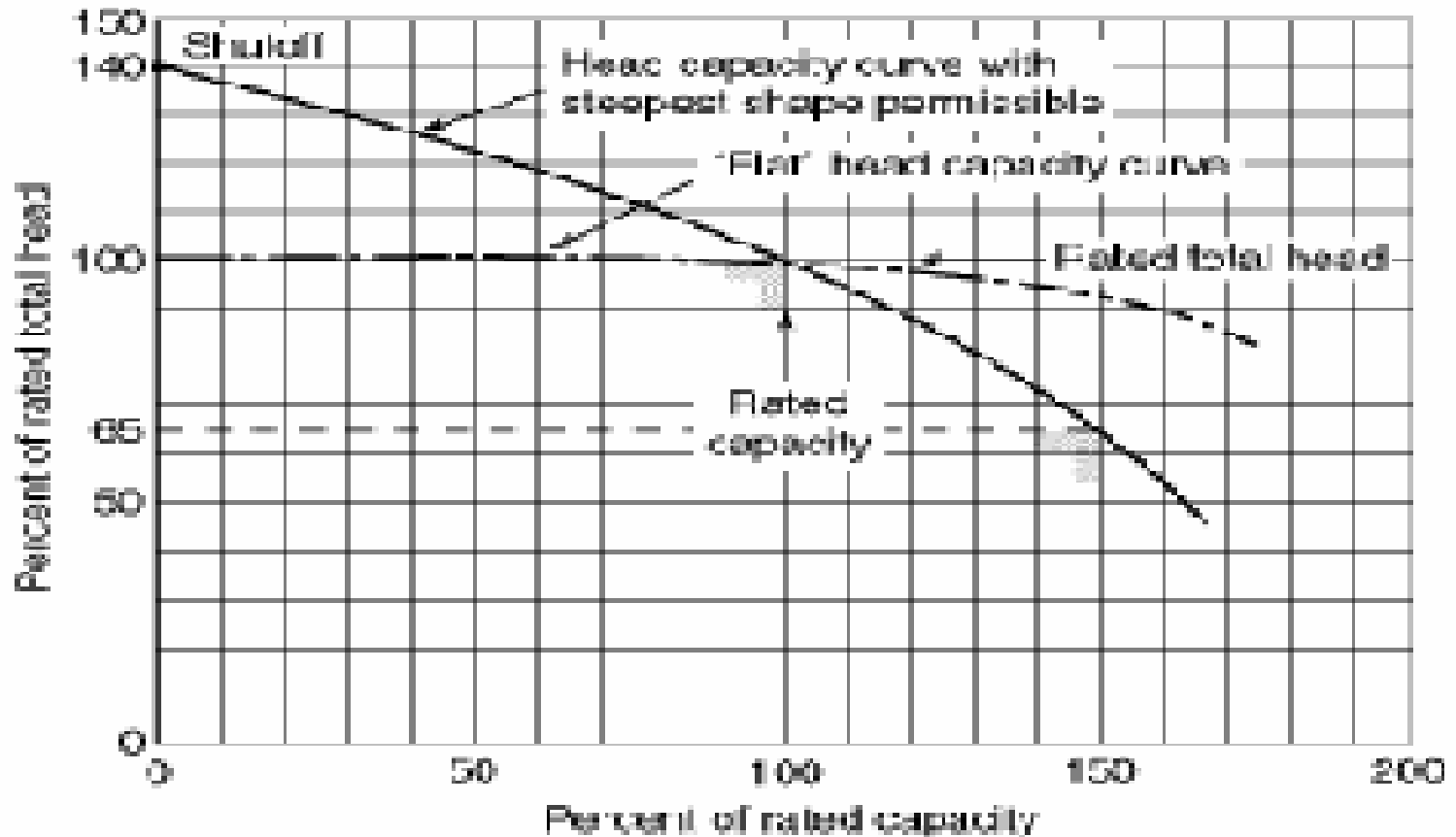
Horizontal Pump Shaft Rotation



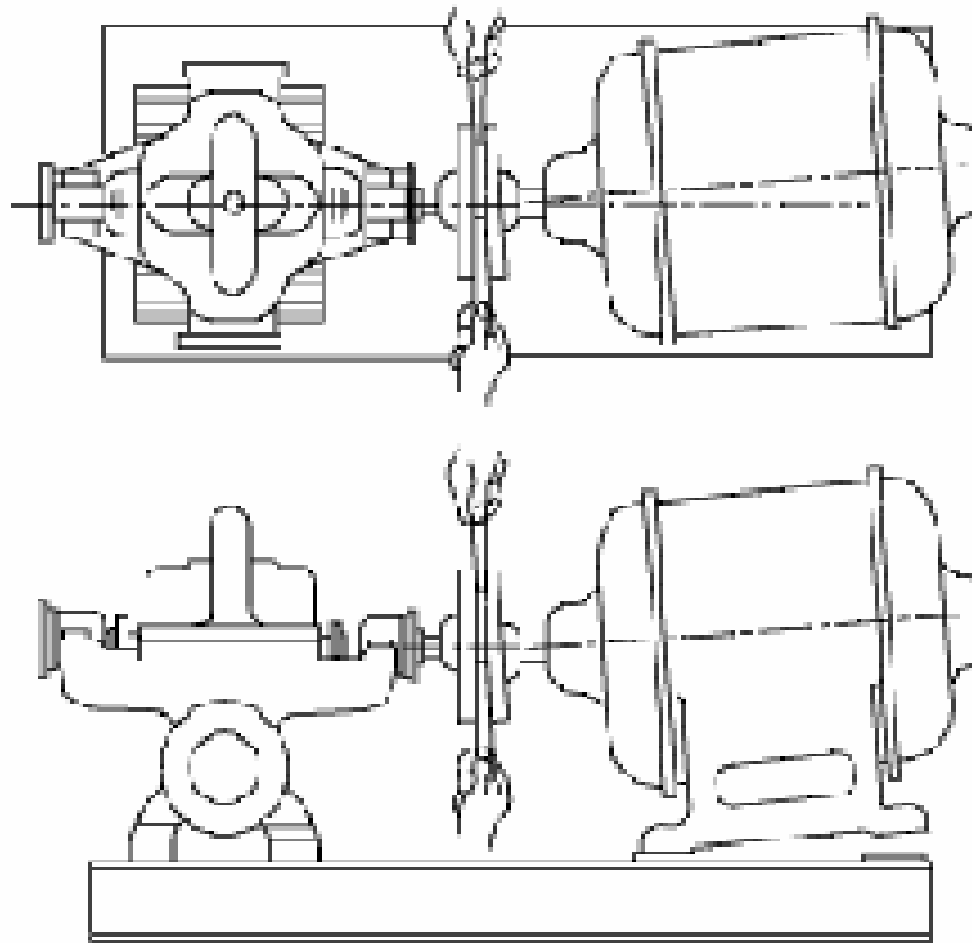
Vertical Pump Shaft Rotation



Pump Characteristics Curves



Checking Angular Alignment



Checking Parallel Alignment

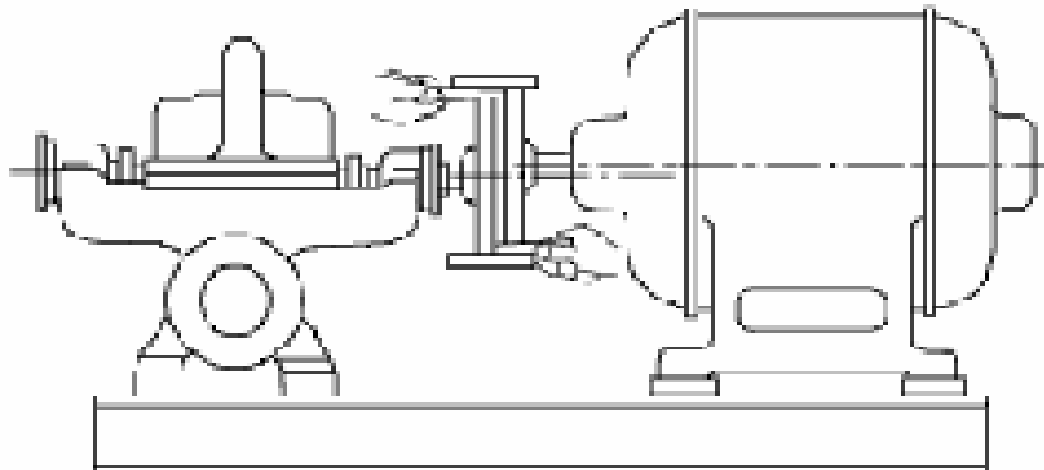
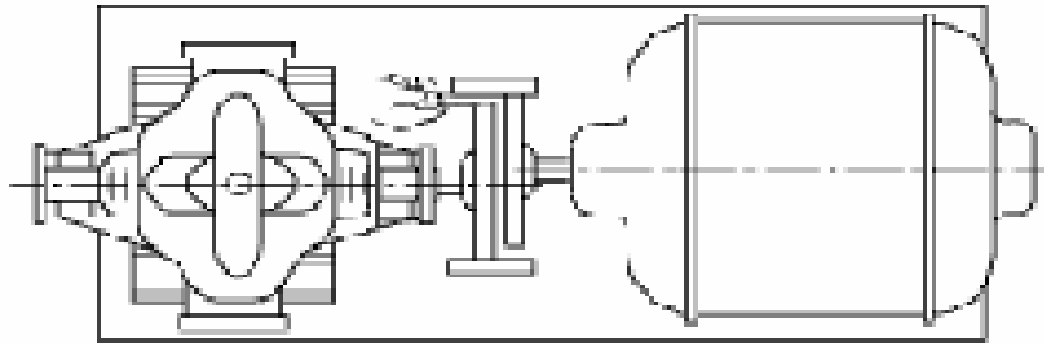
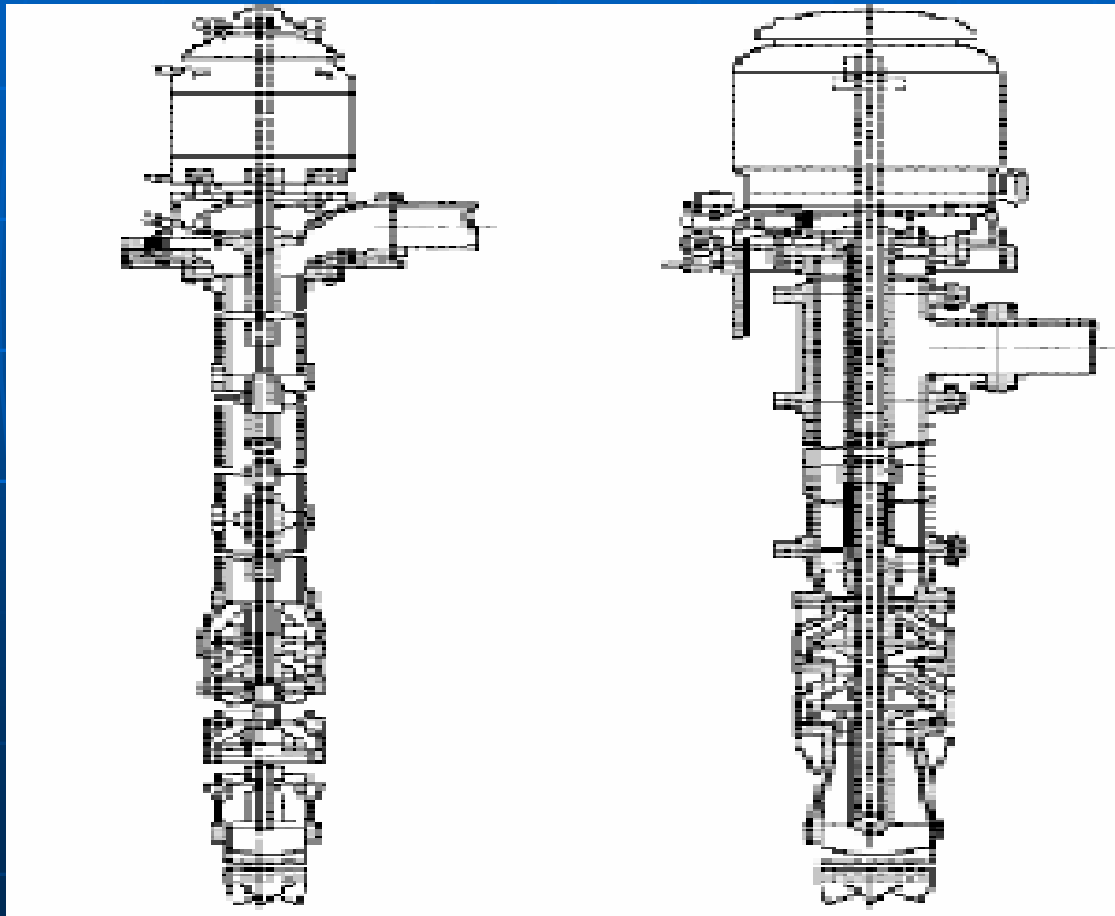
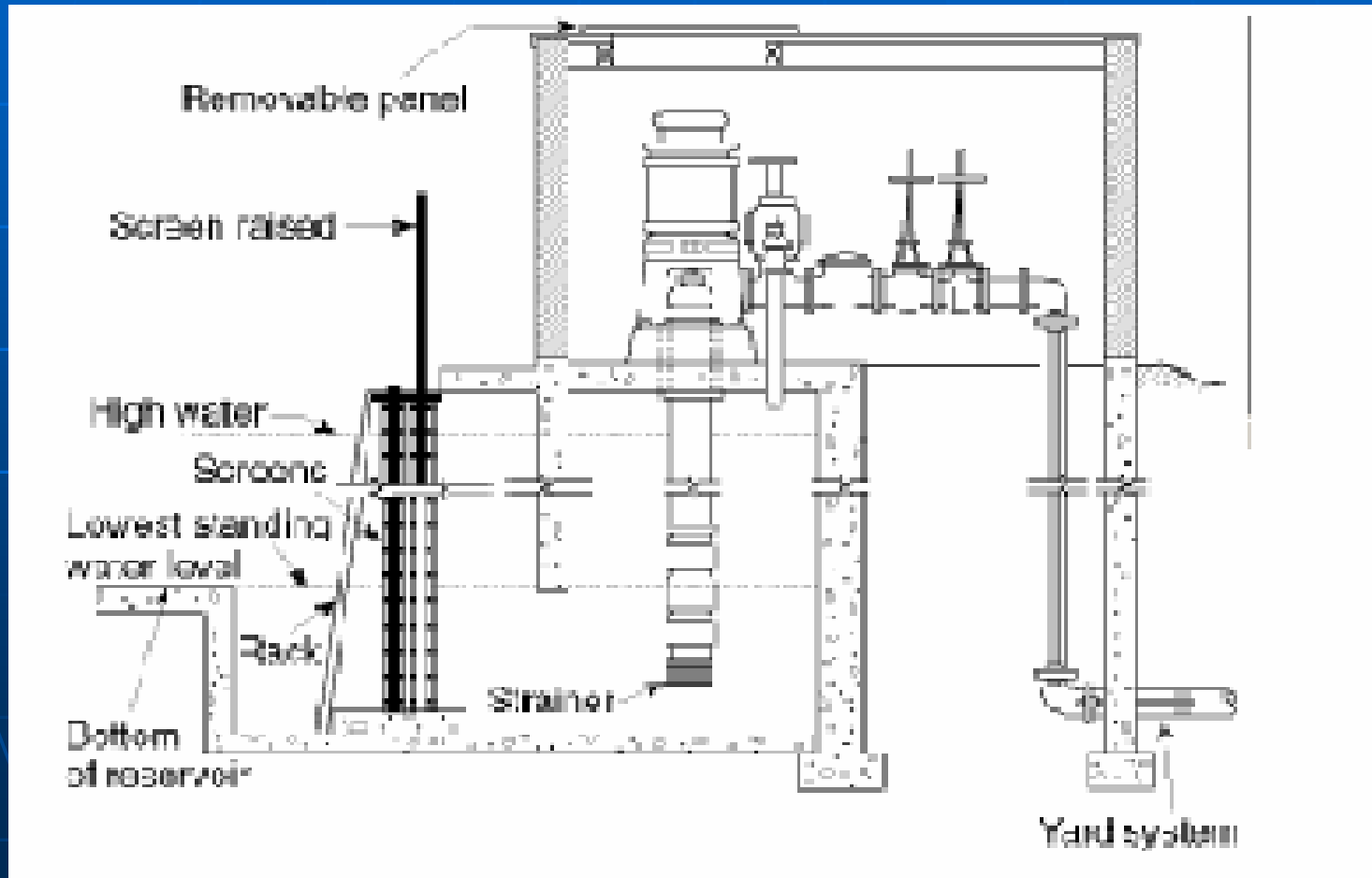


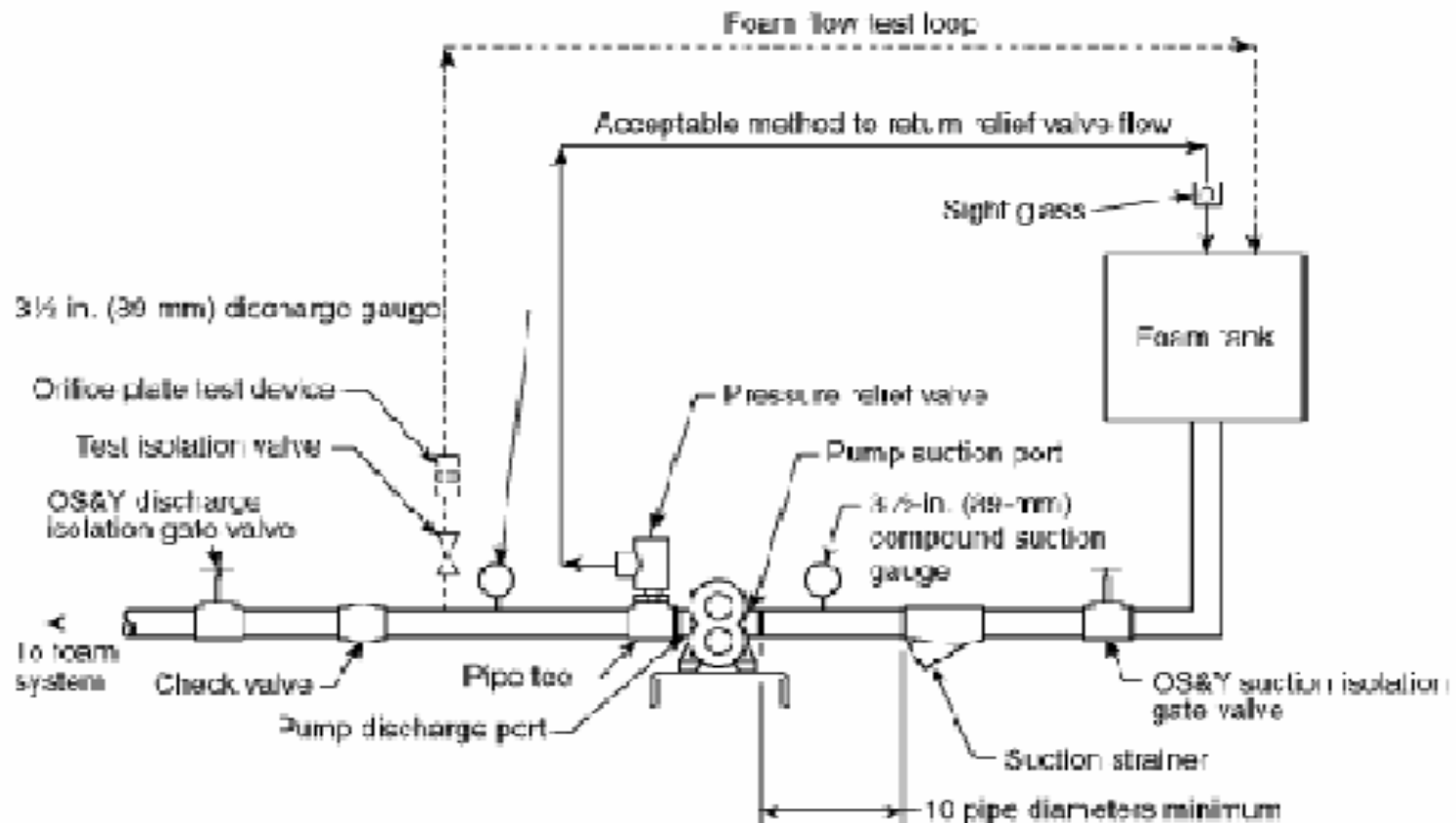
Illustration of Water



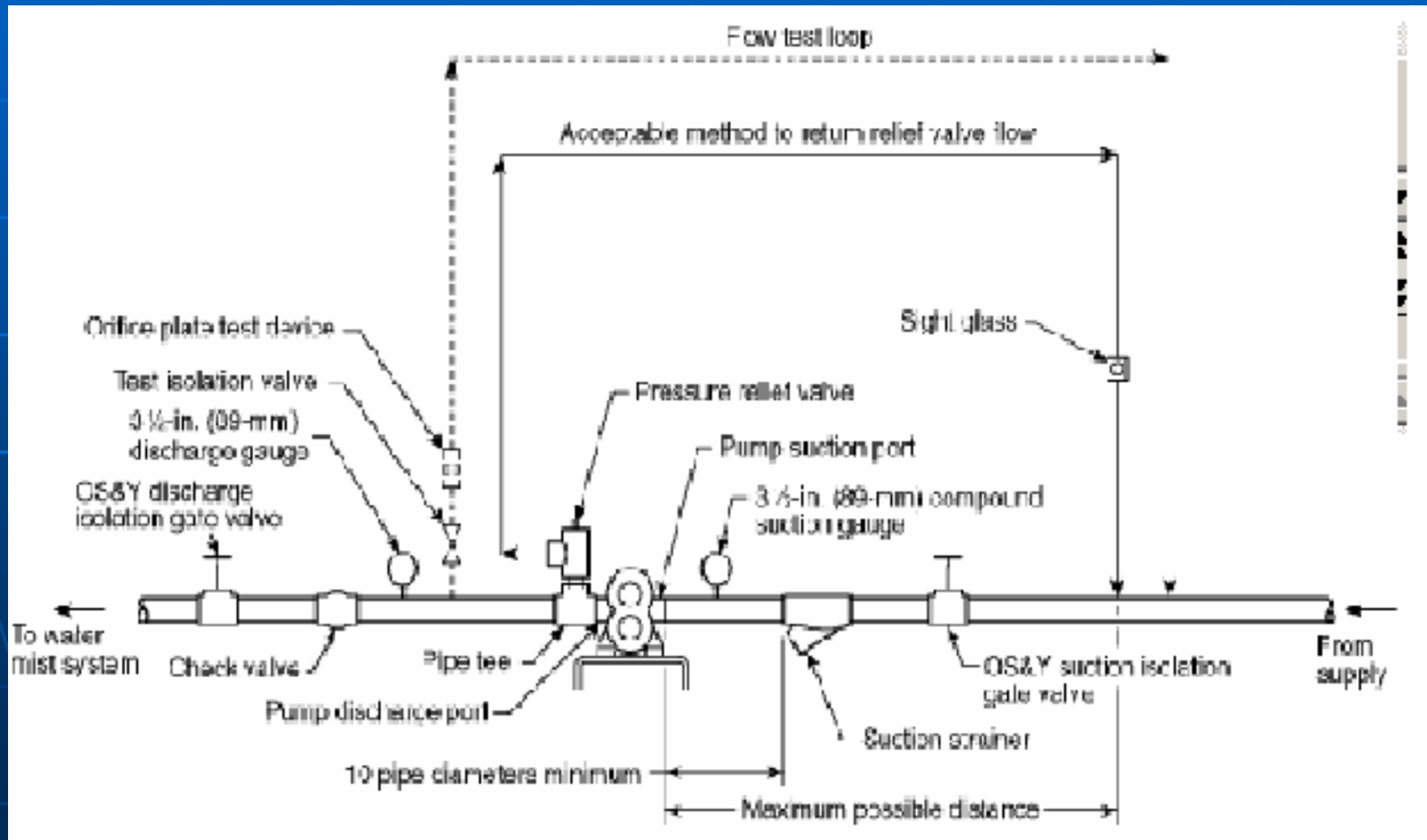
Vertical Shaft Turbine-Type Pump Installation in a Wet-Pit



Typical Foam Pump Piping and Fittings



Typical Water Mist System Pump Piping and Fittings



Typical Vantilation System for a heat Exchancer-cooled diesel-driven Pump

