



Welcome to

EEN-E2002 Combustion Technology

Lecture on 13 Mar 2019

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v. 01 / 11 Mar 2019

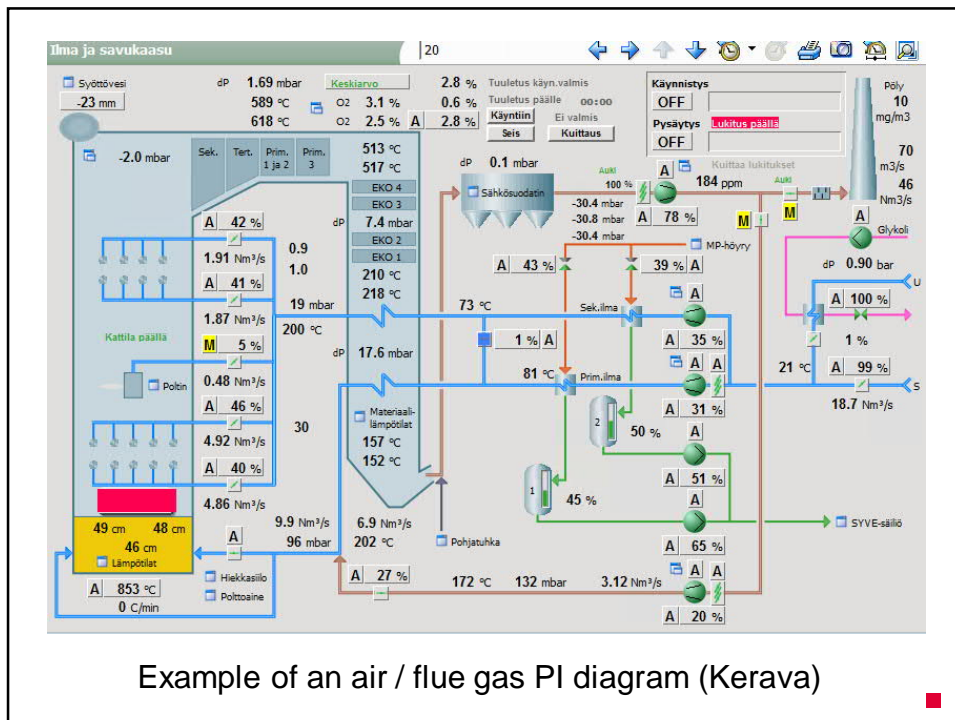


## Today's program

Fuel and air flows in boilers

Fuel flows in burners





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## Energy feedback from the flame



Flame stabilization  
by aerodynamics  
(a "bluff body"  
flame holder)

Oilon heavy fuel oil/gas dual fuel burner

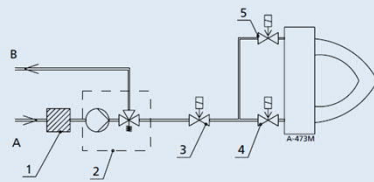


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# Oil burner PI diagram – 1

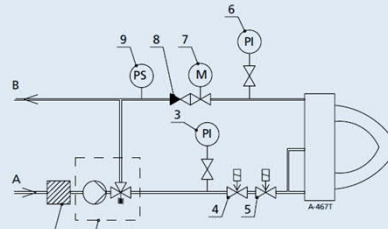
## PI-diagrams

KP-140 H, -150 H



- |                      |                      |
|----------------------|----------------------|
| 1 Oil filter         | 5 Solenoid valve, NC |
| 2 Oil pump, plugged  | A Oil, inlet         |
| 3 Solenoid valve, NC | B Oil, return        |
| 4 Solenoid valve, NC |                      |

KP-130 M...-150 M, -250 M, -280 M



- |                               |                         |
|-------------------------------|-------------------------|
| 1 Oil filter                  | 8 Non-return valve      |
| 2 Oil pump, plugged           | 9 Pressure switch, max. |
| 3 Pressure gauge, gauge valve | A Oil, inlet            |
| 4 Solenoid valve, NC          | B Oil, return           |
| 5 Solenoid valve, NC          |                         |
| 6 Pressure gauge, gauge valve |                         |
| 7 Oil regulator/servomotor    |                         |

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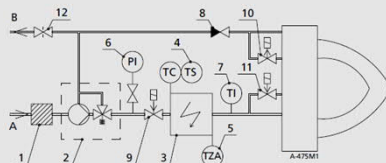


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# Oil burner PI diagram – 2

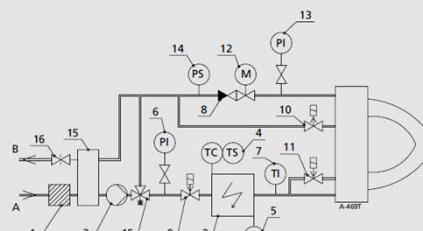
## PI-diagrams

RP-130 H...-150 H



- |                               |                       |
|-------------------------------|-----------------------|
| 1 Oil filter                  | 9 Solenoid valve, NC  |
| 2 Oil pump, without plug      | 10 Solenoid valve, NO |
| 3 Preheater                   | 11 Solenoid valve, NC |
| 4 Temperature regulation/     | 12 Drilled ball valve |
| lower limit                   |                       |
| 5 Limit thermostat            | A Oil, inlet          |
| 6 Pressure gauge, gauge valve | B Oil, return         |
| 7 Thermometer                 |                       |
| 8 Non-return valve,           |                       |
| throttle plug ø 1.2 mm        |                       |

RP-130 M...-150 M, -250 M, -280 M



- |                               |                                |
|-------------------------------|--------------------------------|
| 1 Oil filter                  | 10 Solenoid valve, NO          |
| 2 Oil pump, with plug         | 11 Solenoid valve, NC          |
| 3 Preheater                   | 12 Oil regulator/servomotor    |
| 4 Temperature regulation/     | 13 Pressure gauge, gauge valve |
| lower limit                   | 14 Pressure switch, max.       |
| 5 Limit thermostat            | 15 Deaerator                   |
| 6 Pressure gauge, gauge valve | 16 Drilled ball valve          |
| 7 Thermometer                 | A Oil, inlet                   |
| 8 Non-return valve            | B Oil, return                  |
| 9 Solenoid valve, NC          |                                |

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