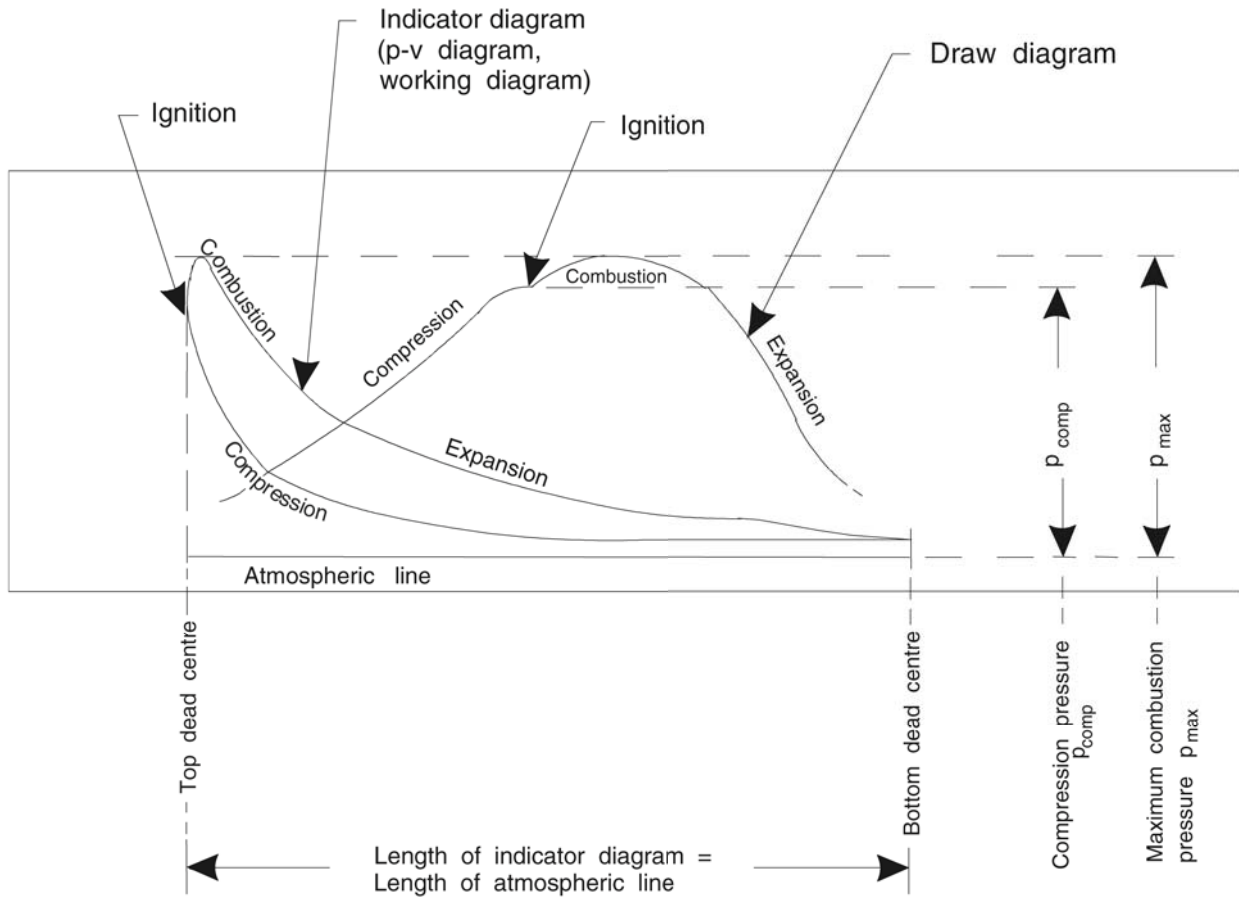


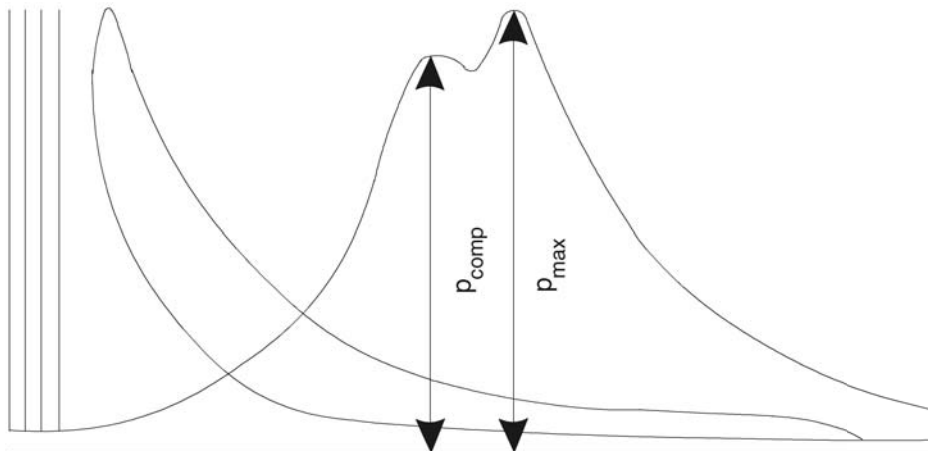
K/L-MC Engines:



S-MC Engines:

For this type of engine it has been necessary to delay the point of ignition to 2-3° after TDC, in order to keep the pressure rise, $p_{comp} - p_{max}$, within the specified 35 bar, while still maintaining optimum combustion and thereby low SFOC.

Due to this delay in ignition, the draw diagram will often show two pressure peaks, as shown in the figure below.



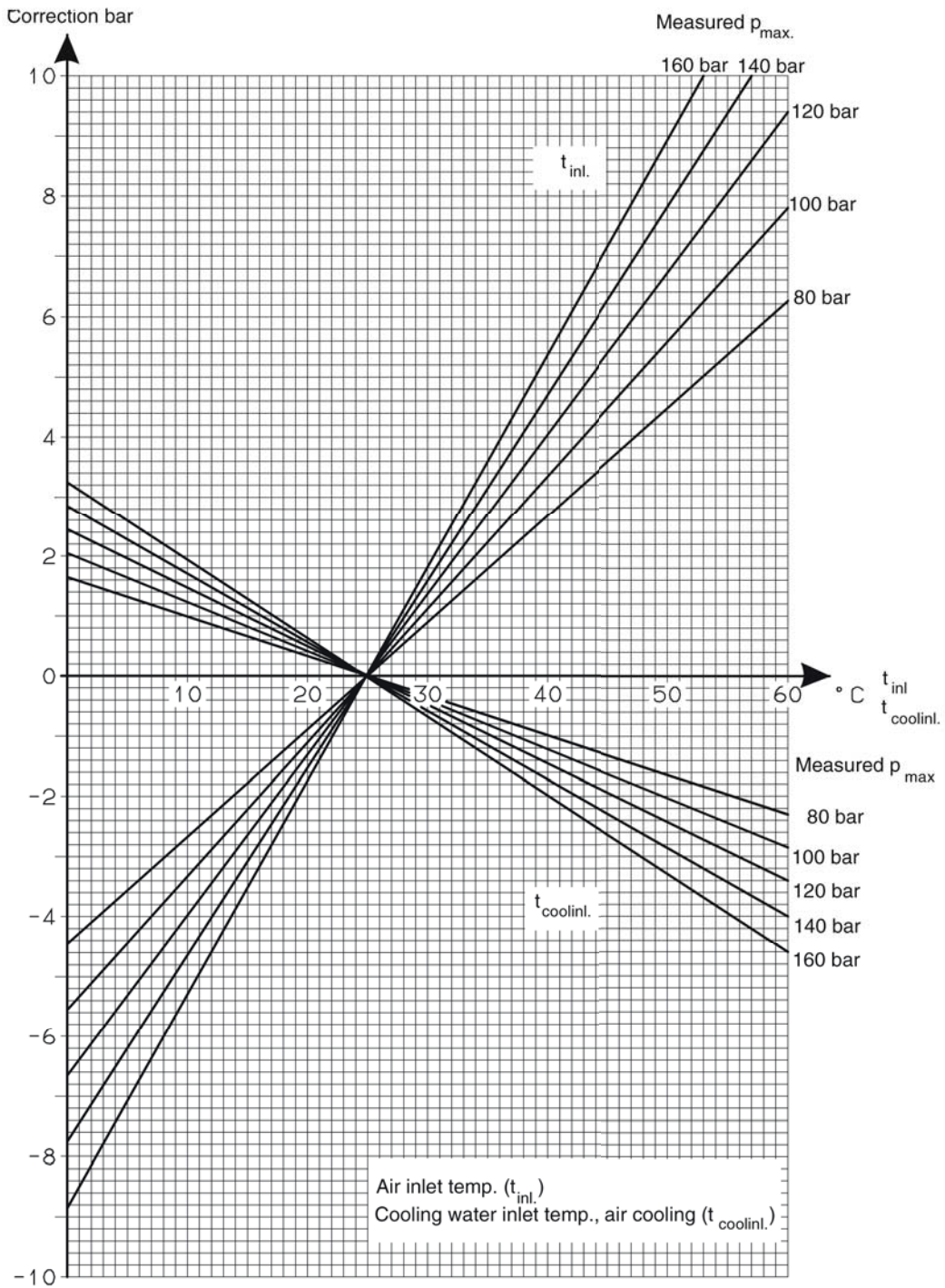
Correction to ISO Reference Ambient Conditions

MAN B&W

Plate 70620

Maximum Combustion Pressure

Correction of measured p_{max} because of deviations between $t_{inl} / t_{coolinl}$ and standard conditions



Calculating the corrections:

$$t_{intl} : A_{corr} = (t_{meas} - 25) \times 2,198 \times 10^{-3} \times (1 + A_{meas}) \text{ Bar:}$$

$$t_{coolinl} : A_{corr} = (t_{meas} - 25) \times -0,810 \times 10^{-3} \times (1 + A_{meas}) \text{ Bar:}$$

See also Plate 70624.

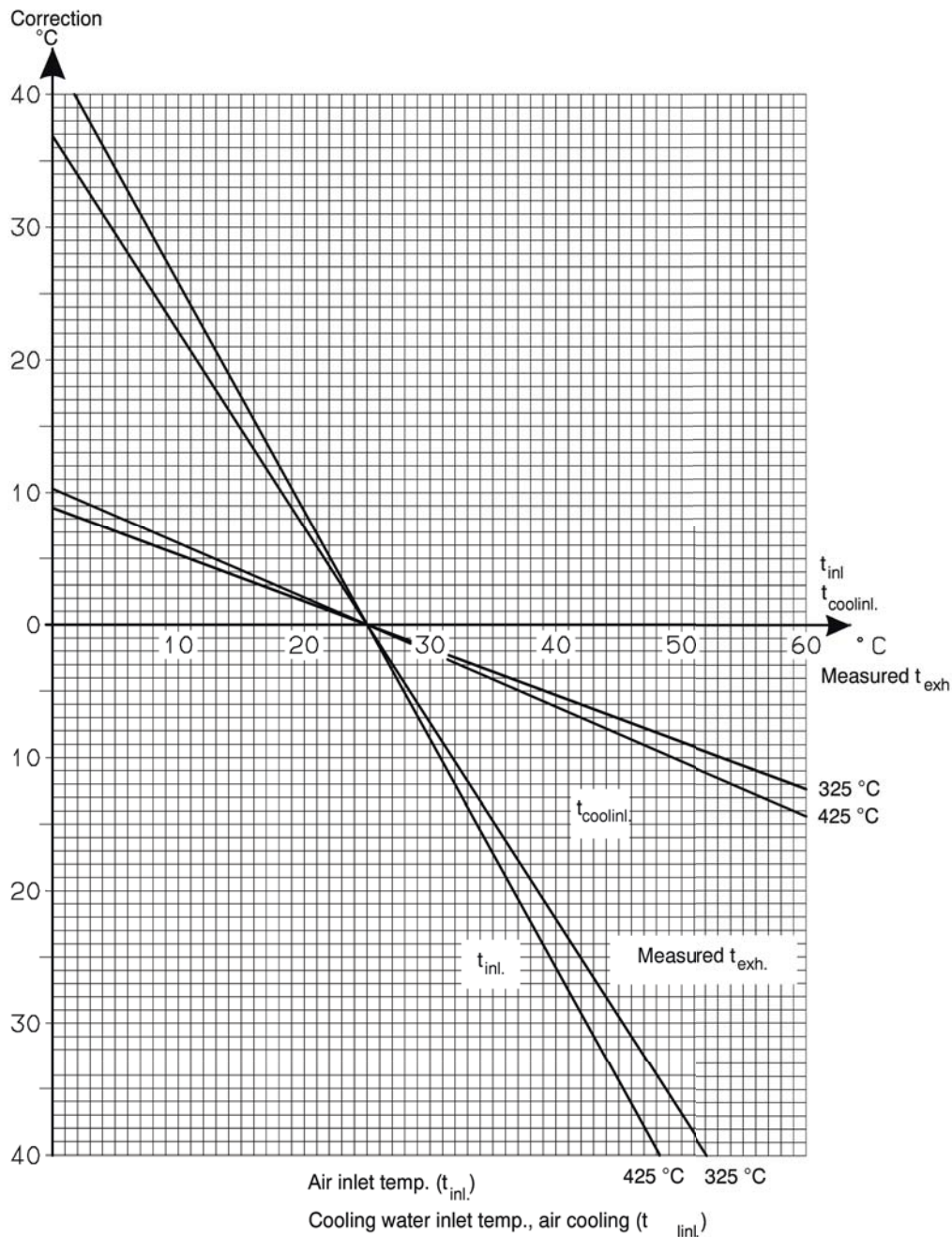
Correction to ISO Reference Ambient Conditions

MAN B&W

Plate 70621

Exhaust Temperature (after exhaust valves)

Correction of measured exhaust temperature (t_{exh}) because of deviations between t_{inl} / $t_{coolinl}$ and standard conditions



Calculating the corrections:

$$t_{inl} : A_{corr} = (t_{meas} - 25) \times 2,466 \times 10^{-3} \times (273 + A_{meas}) \text{ } ^\circ\text{C}$$

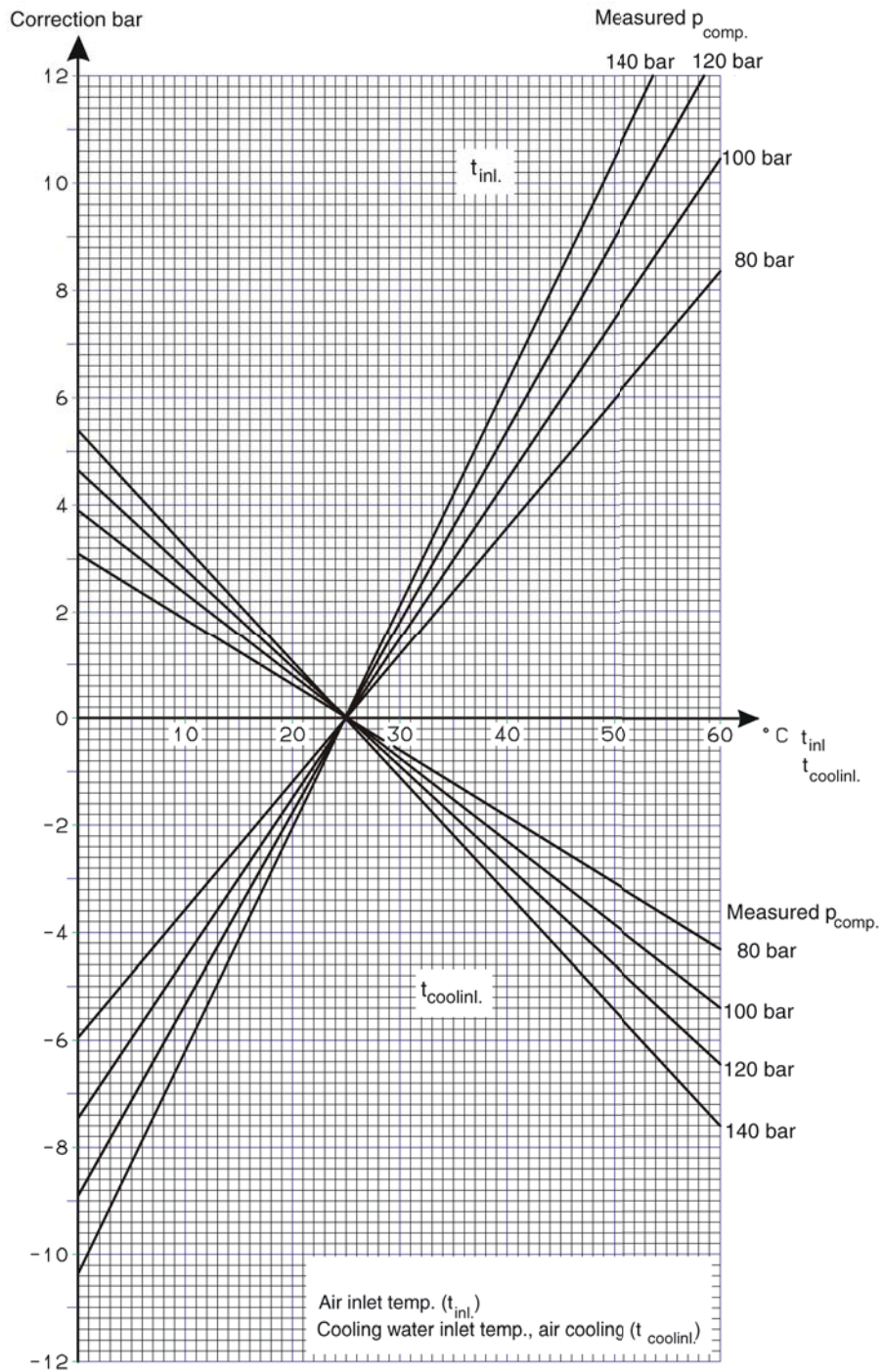
$$t_{coolinl} : A_{corr} = (t_{meas} - 25) \times -0,590 \times 10^{-3} \times (273 + A_{meas}) \text{ } ^\circ\text{C}$$

See also Plate 70624.

Correction to ISO Reference Ambient Conditions

Compression Pressure

Correction of measured compression pressure because of deviations between t_{inl} / $t_{coolinl}$ and standard conditions



Calculating the corrections:

$$t_{inl} : A_{corr} = (t_{meas} - 25) \times 2,954 \times 10^{-3} \times (1 + A_{meas}) \text{ Bar}$$

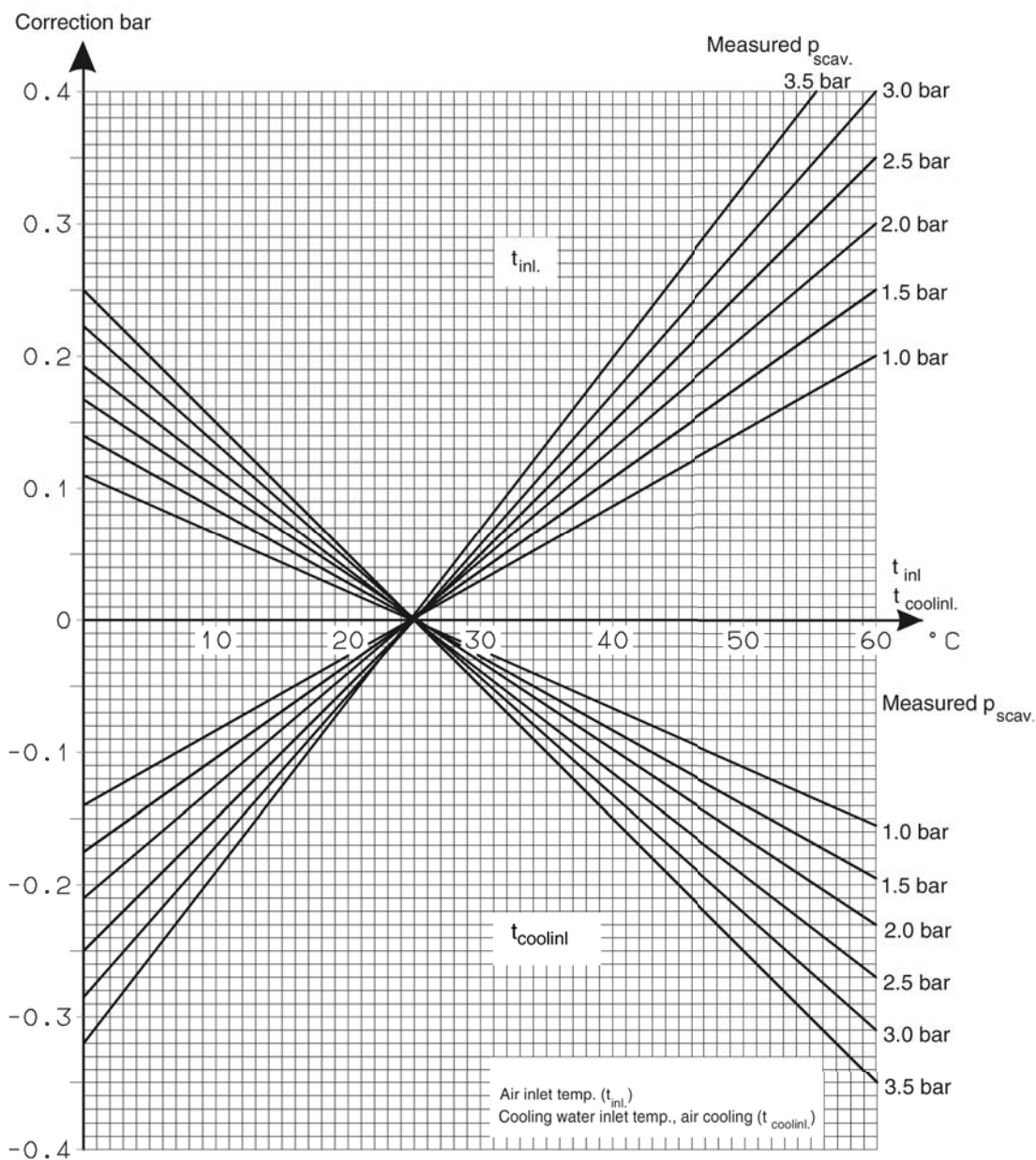
$$t_{coolinl} : A_{corr} = (t_{meas} - 25) \times -1,530 \times 10^{-3} \times (1 + A_{meas}) \text{ Bar}$$

See also Plate 70624.

Correction to ISO Reference Ambient Conditions

Scavenge Pressure

Correction of measured scavenge pressure because of deviations between t_{inl} / $t_{coolinl}$ and standard conditions



Calculating the corrections:

$$t_{inl} : A_{corr} = (t_{meas} - 25) \times 2,856 \times 10^{-3} \times (1 + A_{meas}) \text{ Bar}$$

$$t_{coolinl} : A_{corr} = (t_{meas} - 25) \times -2,220 \times 10^{-3} \times (1 + A_{meas}) \text{ Bar}$$

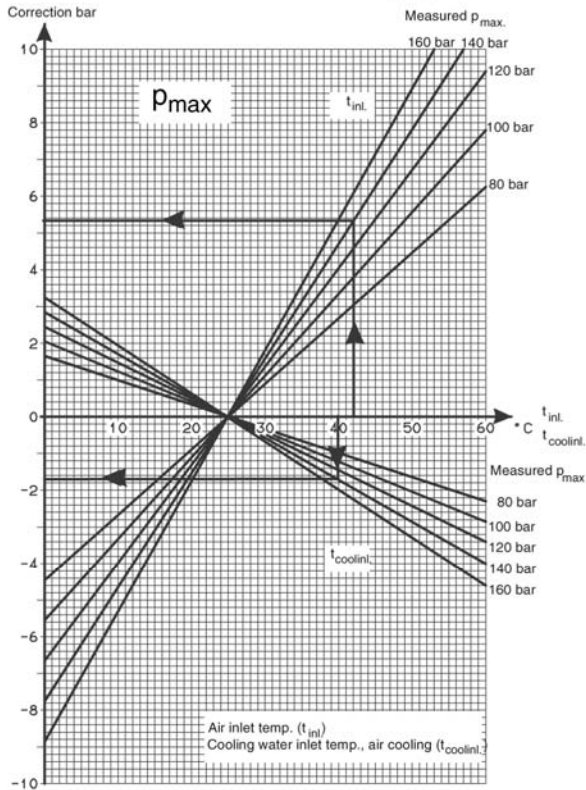
See also Plate 70624.

Correction to ISO Reference Ambient Conditions

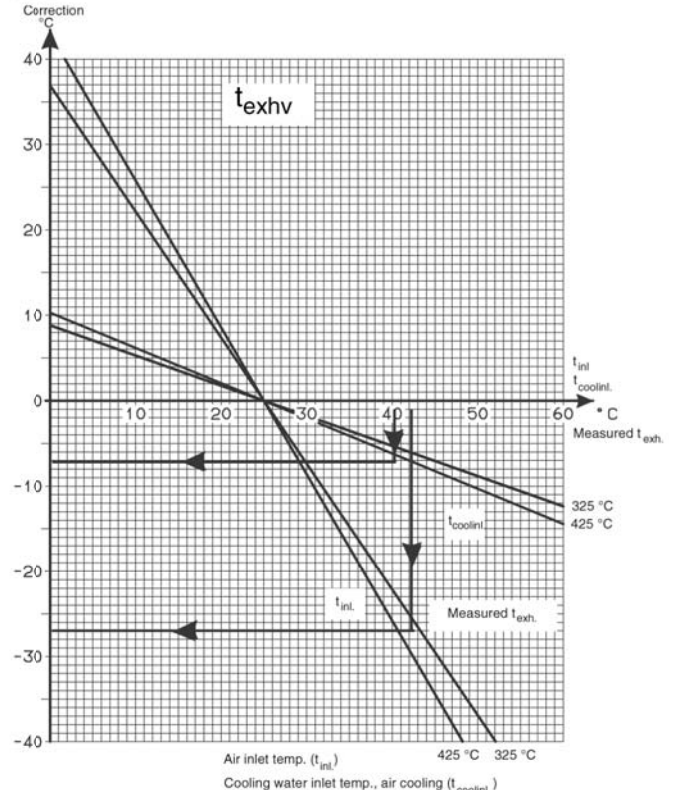
MAN B&W

Plate 70624

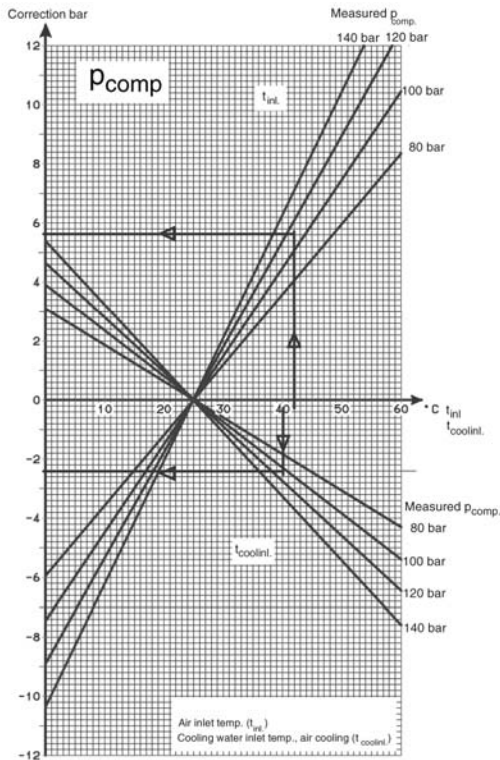
Example of readings: p_{max} : 140 bar p_{scav} : 2.0 bar
 t_{exhv} : 425 °C t_{inl} : 42 °C
 p_{comp} : 110 bar $t_{coolinl}$: 40 °C



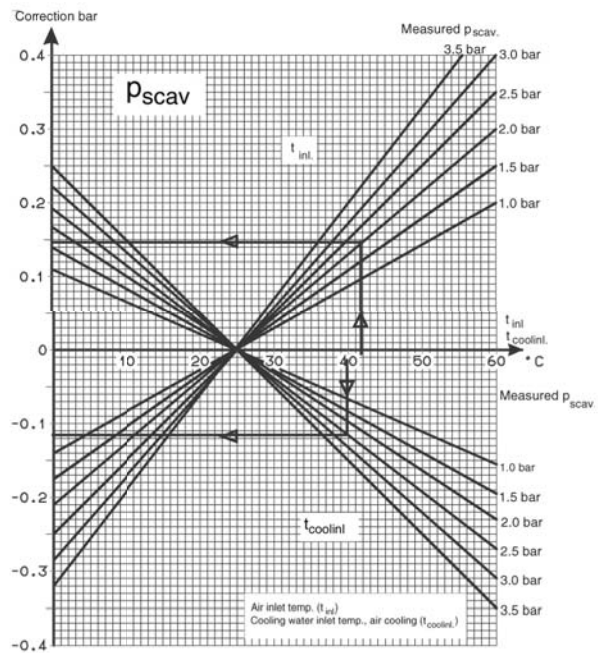
Correction for t_{inl} : +5.3 bar
 Correction for $t_{coolinl}$: -1.7 bar
 Correction 5.3-1.7 : +3.6 bar



Correction for t_{inl} : -27 °C
 Correction for $t_{coolinl}$: -6 °C
 Correction -29 -6 : -33 °C

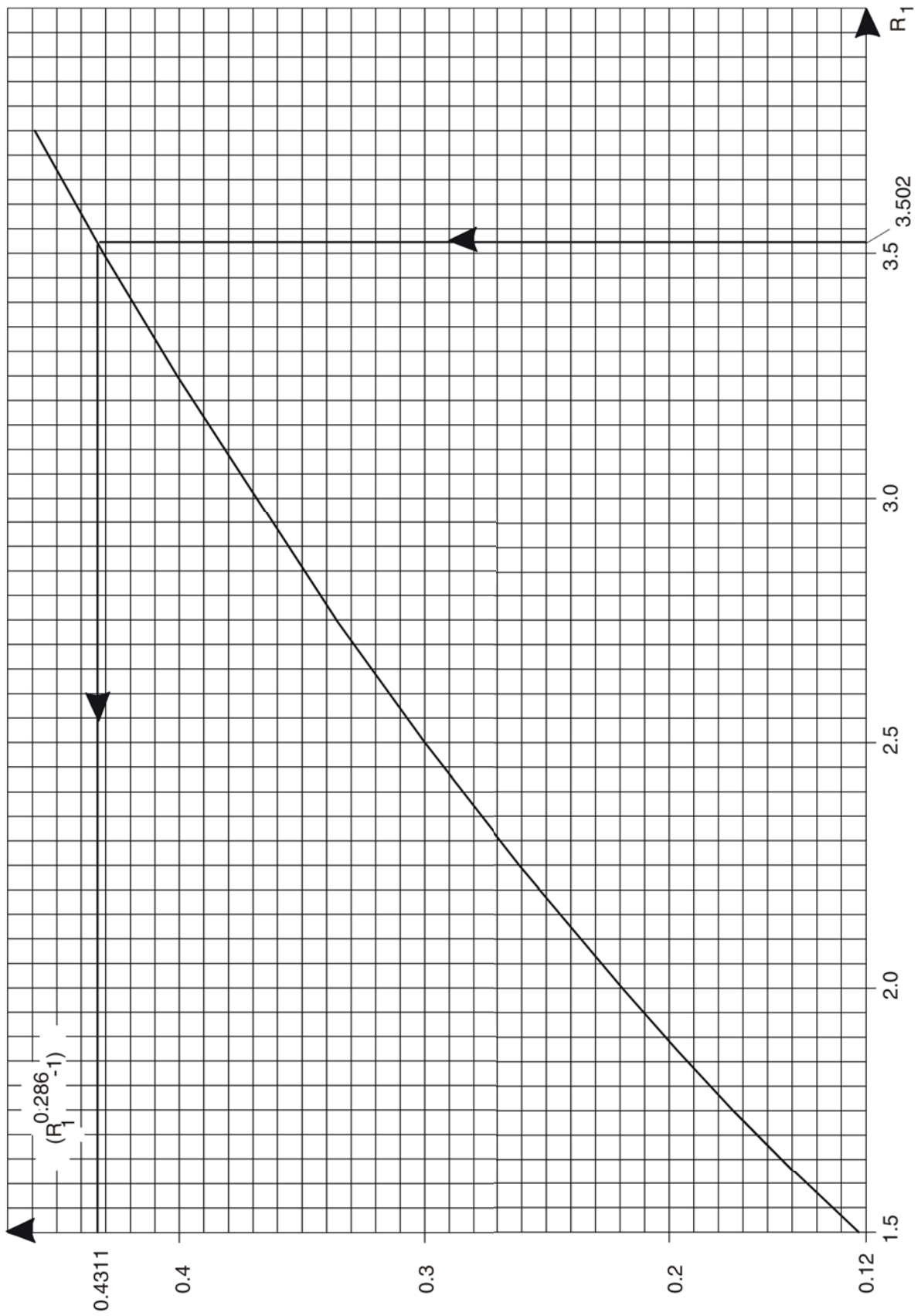


Correction for t_{inl} : +5.6 bar
 Correction for $t_{coolinl}$: -2.5 bar
 Correction 5.6-2.5 : +3.1 bar



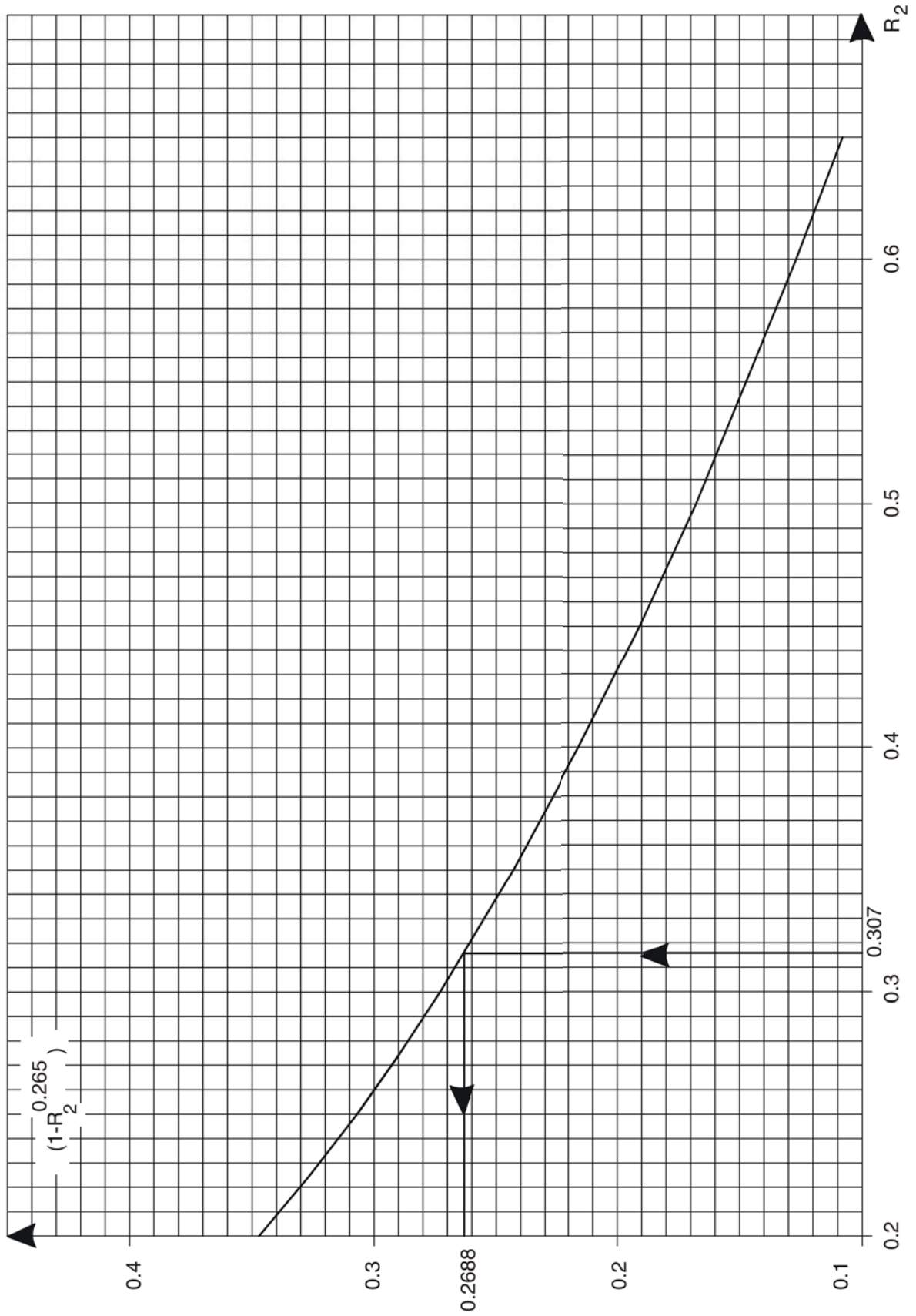
Correction for t_{inl} : +0.145 bar
 Correction for $t_{coolinl}$: -0.1 bar
 Correction 0.145-0.1 : +0.045 bar

Curve for the factor $(R_1^{0.286}-1)$



Calculation of Total Turbocharger Efficiency

Curve for the factor $(1-R_2^{0.265})$



Estimation of Effective Engine Power for 7L60MC

