

TECHNICAL BULLETIN

IMPERIAL VERSUS METRIC UNITS OF COMPRESSOR CAPACITY

INTRODUCTION

The most common units of industrial gas measurement are ; SCFM (SCFH) and Nm³ / hr. Note, that there is a difference between Normal cubic meters and Standard cubic meters. The difference lies in the reference temperature that each specific unit measured at. Normal meters are measured with respect to the Metric system (0° C, 1atm), and standard meters are measured with respect to the imperial system of standard conditions (60 – 60° F, 1atm).

Following are the reference conditions generally used:

SCFM (GAS INDUSTRY)

Suction Temperature = 60° F (16° C)
Atmos. Press = 14.696 PSIA

SCFM (ASME)

Suction Temperature = 68° F (20° C)
Atmos. Press = 14.7 PSIA
Relative Humidity = 36% (.0750 density)

NORMAL (EUROPEAN)

Suction Temperature = 0° C (32° F)
Atmos. Press = 1 Bar A (14.5 PSIA)

CONVERSION FACTORS:

Nm³/Hr X .5815 = SCFM

Nm³/Hr X 34.89 = SCFH

Nm³/Hr X 1.17 = M3/Hr

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