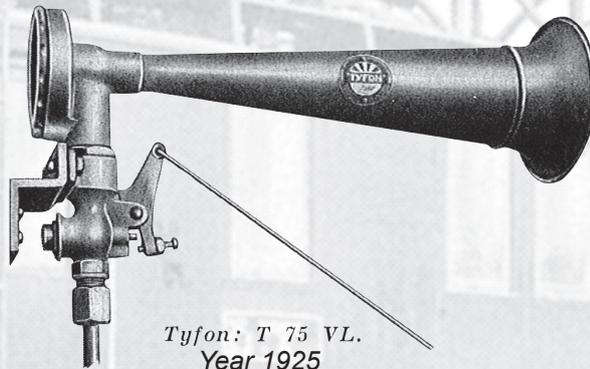
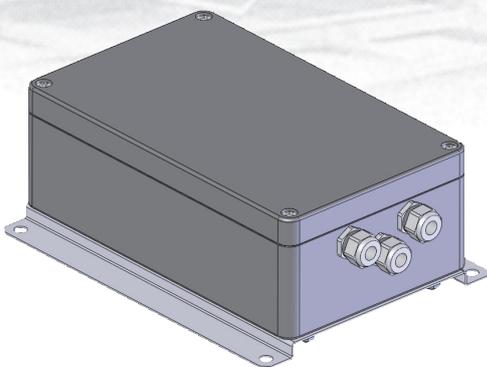


Leaders in audible warning devices for rolling stock since the 1920's

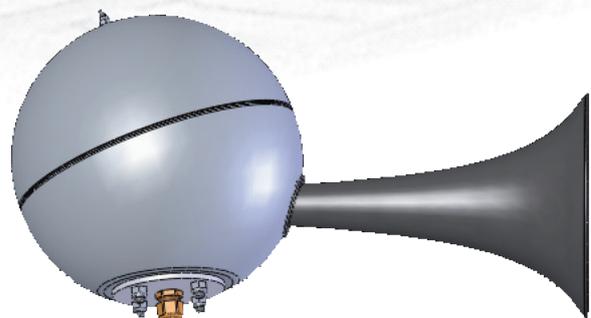
As technology pioneers for over 90 years now, Kockum Sonics have been a major driving force in the development, design and production of leading edge signal horns used in an unrivalled variety of rail vehicle applications.



Our focused commitment to ongoing development has resulted in the introduction of the world's first electronic train horn with integrated speech capability. Without compromise to sound quality and reliability, TYFON® continues to be the perfect audible rail warning device.



Amplifier TK 251



TYFON TW 370/2

TSI and EN compliant TYFON® - adaptable warning devices with accessories for any rolling stock vehicle

In some areas sub-zero temperatures are not unusual in winter and the mercury can plummet to -40C. Even in these extremely harsh operating conditions TYFONs still function thanks to a unique integrated heating device that ensures snow and ice do not interfere with perfect airflow and resonance



TYFON MKT 75/460



TYFON MKT 75/350-390

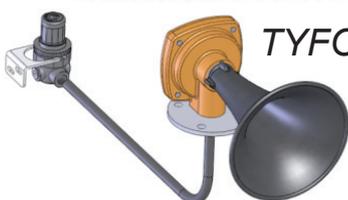


Protection grid



TYFON MKTH 75/311

A wide range of tailor made designs and product accessories are available such as particle protectors, angle brackets and round mounting flanges.



TYFON MKT 75/660 ND

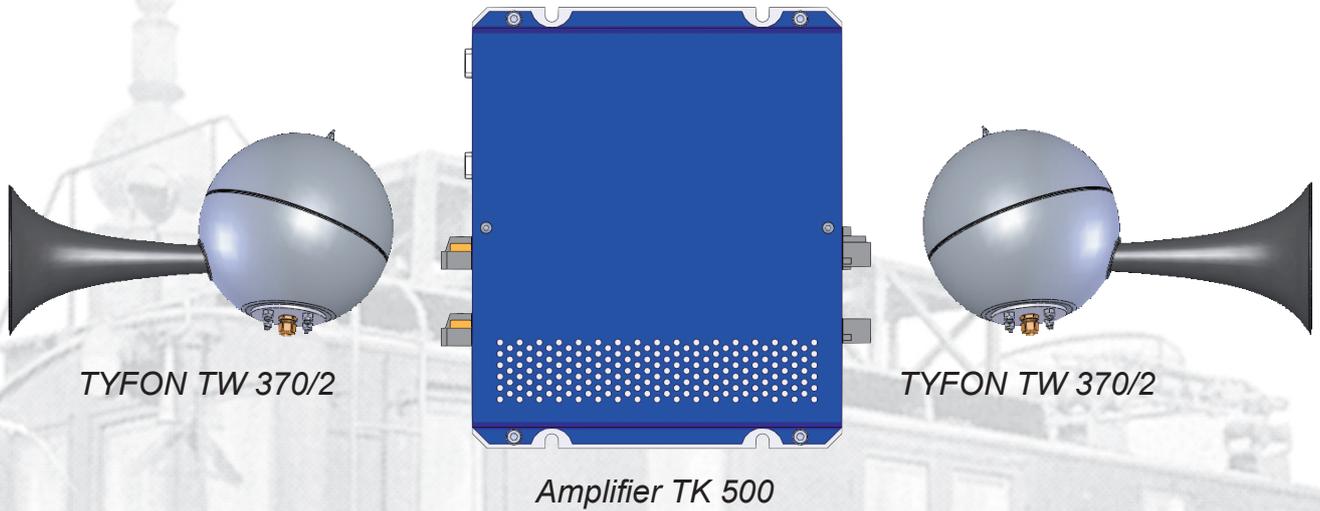


TYFON MKT 75/370 ND

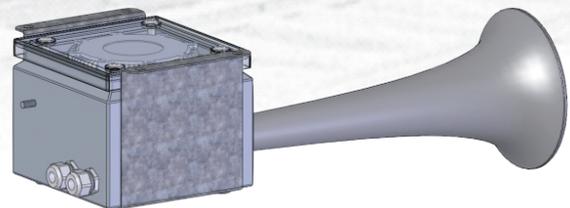
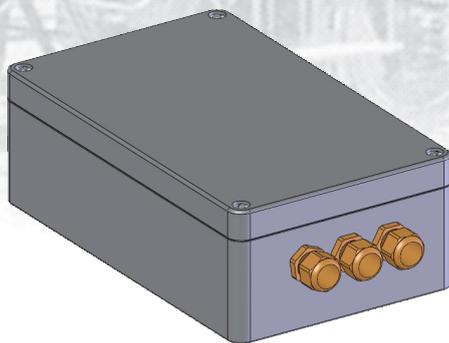
Low sound pressure level versions compliant to Rail Group Standards, GM/RT2484.

These new horns are designed to operate on existing air supplies and can directly replace current non-compliant horns with the absolute minimum of installation inconvenience.

Continuous investment in the development of new technology has resulted in the growth and on-going success of the TYFON line of products which includes some of the most sophisticated and specialized horns in the world.



The latest in a long line of reliable high-performance warning horns, TYFON delivers superior performance over traditional horns while improving safety through improved responsiveness, enhanced monitoring capabilities and simplified installation. Real Time monitoring capability is included in the amplifier as standard.



Certificate

ID-Number: 1638/1/B/2010/RST/EN/DK128, Rev. 1

EC-Type examination Certificate

for an interoperability constituent of a subsystem of the trans-European Rail System

Notified Body TÜV InterTraffic, filial af TÜV Rheinland InterTraffic GmbH, Tyskland
EC Ident-No. 1638

Owner of Certificate Kockum Sonics
Industrigatan 39
SE-212 10 Malmö, Sweden



Type designation /
Product tested

Horn with pneumatic sound generation device	TYFON® MKT 75 311/370/470/622/660
Horn with pneumatic sound generation device and heating device	TYFON® MKTH 75 311/370/470/622/660
Horn with electronic sound generation device TW660 and amplifiers TK 660	TYFON® TW 660 Amplifier TK 660
Horn with electronic sound generation device TW660 and amplifiers TK 500	TYFON® TW 660 Amplifier TK 500

Constituent / Module Signalling Horn / B
Manufacturer Kockum Sonics
Industrigatan 39
SE-212 10 Malmö, Sweden

Bases of Assessment¹⁾ Directive 2008/57/EC as amended by 2009/131/EC (Recast for Directives 96/48/EC, 2001/16/EC incl. amendments)
TSI RST HS of 21. February 2008 (2008/232/EC),
EN 15153-2:2007
UIC 644:1980,
EN ISO 9001: 2008 Quality Management System

Assessment Report / Date²⁾ DK/B 10/128 / 2010-04-23

Assessment Result³⁾ No deviations from Interoperability Requirements have been revealed.
This certificate is only valid for the frequencies contained in 2008/232/EC, chapter 4.2.7.4.2.5.

Validity This Certificate stays valid as long as the type of constituent and the relevant parts of the technical documentation are not modified, however latest by 2015-04-22. Any modifications have to be communicated to the Notified Body immediately.

This Rev. 1 is a formal correction of the original Certificate dated 23.04.2010.

¹⁾ Further codes and standards to be applied are contained in the referenced assessment report.

²⁾ This assessment report is an integral part of the certificate.

³⁾ The assessment result is justified in detail in the assessment report.

Copenhagen, 2010-08-12

TÜV InterTraffic
filial af TÜV Rheinland InterTraffic GmbH, Tyskland
Larsbjørnsstraede 3
DK 1454 Copenhagen, Denmark

Certification Office
(Maik Wuttke)

www.tuv.com



Precisely Right.