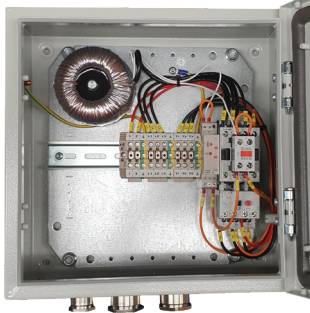
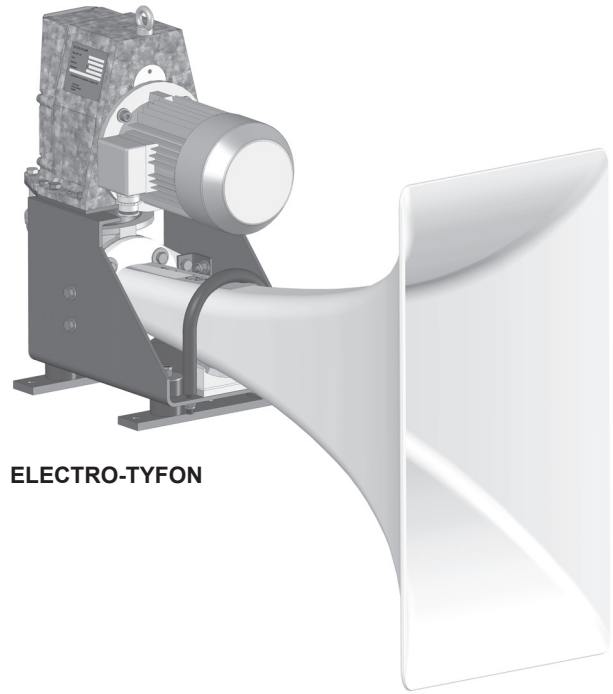


ELECTRO-TYFON[®] MTX 150/130

For vessels of 200 m or more in length



Contactor Unit TK 80
See separate leaflet KSM742



ELECTRO-TYFON

General Information

ELECTRO-TYFON[®] MTX 150/130 is an electrically driven piston ship's whistle. It is built up of comparatively few moving parts as the "swinging piston", no lubricated cylinder and an oil free gearbox.

Important features:

- unsymmetrical sound distribution
- operates in all ambient temperatures without any additional measures
- unaffected by voltage and frequency fluctuations
- oil free, maintenance free and non-corrosive
- easy to install
- complies fully with the International Regulations IMO 1972

Operates in all temperatures without any additional measures

ELECTRO-TYFON[®] MTX 150/130 will give a high performance in both arctic and tropical climates. A patented system with a high efficiency rectangular horn and a specially designed motor will match the motor speed to the acoustic resonance of the horn at any ambient temperature without any additional measures. This system also prevents the whistle from being affected by voltage and frequency fluctuations in onboard mains.

Unsymmetrical Sound Distribution

The IMO Regulations stipulate a very high Sound Pressure Level for efficient signaling, yet the sound level of the vessel's own signal at the listening posts shall not exceed 110 dBA.

A common way to solve this "paradox" is to place the whistle very high above deck. But what if the highest point is not high enough? For example: to reduce the noise from the signal by 6 dB, the distance between the listening post and the whistle must be doubled!

ELECTRO-TYFON[®] MTX 150/130 with Unsymmetrical Sound Distribution is the solution. The horn with its unique vertically extended front, and a specially created sound spectrum will reduce the noise on deck with 6–8 dB compared to a conventional whistle with circular orifice.

Technical Data

| Type | Power Supply | Rated current | Ref. No. |
|-------------|------------------------|---------------|----------|
| MTX 150/130 | 3 ph 440V 60Hz (+-10%) | 12 A | 24800287 |
| | 3 ph 380V 50Hz (+-10%) | 12,5 A | 24800534 |
| | 3 ph 690V 60Hz (+-10%) | 8,5 A | 24800535 |
| | 3 ph 690V 50Hz (+-10%) | 9 A | 24800536 |

| | |
|---|-----------------|
| Sound frequency (basic): | 130 Hz |
| Sound Pressure Level acc to IMO (1/3 oct band): | >143 dB/1m |
| Sound Level A-weighted: | 146 dBA/1m |
| Electrical protection class: | IP 56 |
| Colors: | |
| Body | Galvanized nat. |
| Motor | Grey RAL 7030 |
| Horn | White RAL 9003 |
| Weight (approx.): | 84 kg |

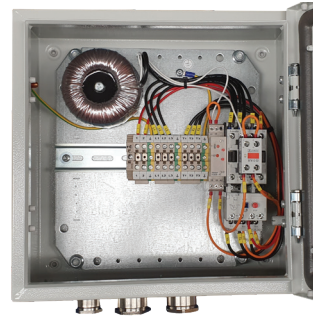
Motor Control

Kockum Sonic's Contactor Unit TK 80 is especially developed to control the **ELECTRO-TYFON® MT / MTX series**

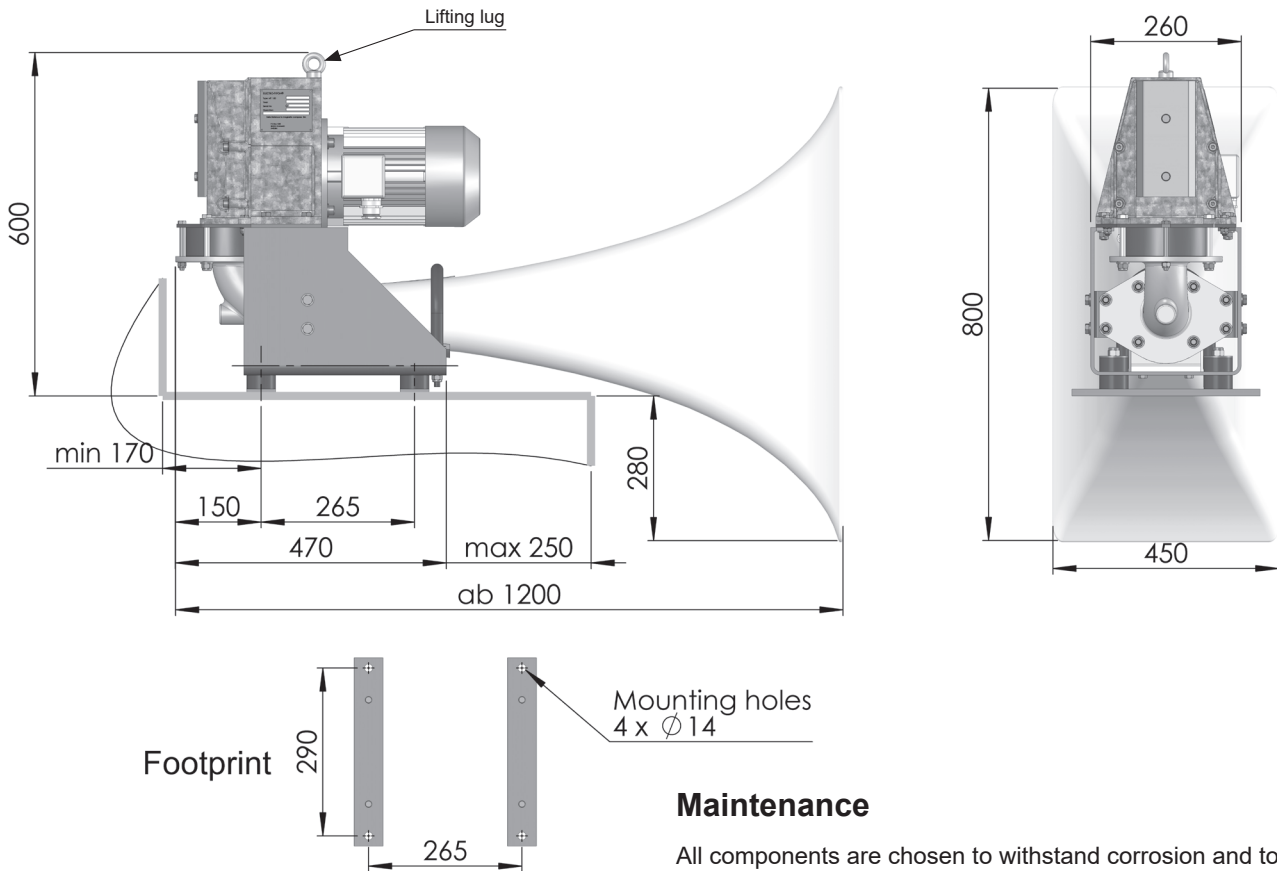
Functions:

- Motor start
- Motor overload protection
- Winding heating of motor for anti-condensation purpose.

For full description see data sheet KSM742.



Dimensions, Installation and Maintenance



Installation

ELECTRO-TYFON® MTX 150/130 shall be fixed with four M12 screws that must be firmly tightened and locked.

Mount the whistle on a platform supplied with a safety rail. As the whistle is subject to vibration on starting and stopping, flexible electric cables should be used nearest the motor. The gland on the electric Motor Terminal Box is M 32 for cable Ø 17 - 28 mm. Optional: M 25 for cable Ø 9-20 mm.

Maintenance

All components are chosen to withstand corrosion and to give a minimum of maintenance. The crankcase and foundation is hot galvanized. The motor is marine coated - Marine C4 class. The horn is made of glass fiber armed polyester (white). The cylinder is non lubricated and the gearbox is entirely oil free.

ELECTRO-TYFON® MTX 150/130 is designed to give long reliable service without routine maintenance, but a periodic inspection always gives early warning of any faults that may develop. At least annual inspection is advisable. In very harsh conditions, and high running time, increase frequency accordingly.

See "Inspection, troubleshooting and refurbishing".

Inspection, Troubleshooting and Refurbishing

Inspection

The MT/MTX-series Electro-Tyfon is a maintenance free design, but periodic inspection is advisable to get an early indication of faults that might develop.

At least annually, but in conditions with high/very high signaling frequency, increase inspection rate accordingly.

See below instruction:

Remove cover (figure 1 below)

1. Rotate crank shaft / piston rod / piston assembly by the counter weight. It should rotate smoothly, with little friction.
2. Inspect mechanical parts; Piston, counterweight bolts, piston rod lid / screws. Is everything in place and secured?
3. Inspect for grease leakage. Mainly piston rod radial seal, but also crankshaft bearing.

Troubleshooting

Eliminate possible power failure. Check all 3 phases.

- Low insulation? Check junction box for water ingress. Check motor windings.
- Motor is not running? Check motor windings for interruption, short circuitry (insulation error).
- Motor running but no sound? Check mechanical parts.
- Motor is running but weak sound? If newly installed; Check spec./ mains correlation. Check motor windings, all 3 OK? Check mechanical parts. All parts ok and secured? Crank/rod/piston assembly rotating smoothly?
- Abnormal noise, rattling? Inspect mechanical parts, mainly piston / rod. Ok and secured?
- Abnormal vibration? Check dampers. Stud bolts and nuts secured, and damper slightly compressed? Check mechanical parts, mainly counter weight.

Refurbishing / mechanical work

To access some of the refurbishing points, such as piston, piston rod, motor, it's necessary to dismount the "compressor unit".

1. Dismount screws and remove cover.
2. Dismount screws and remove complete "compressor unit". Now you have access to the piston.
3. Dismount piston bolt, counter holding piston rod (to avoid stressing rod bearing), and remove piston.
4. Dismount screw and remove base plate. At this state you have access to the piston rod.
5. Dismount motor bolts and remove motor. At this state you have access to the gearbox, enabling change of crankshaft / gearwheel or bearings, and to the motor, enabling changing motor and/or gearwheel.

It's advisable to replace used locking nuts. All other bolt and screw joints shall be re-secured with locking liquid.

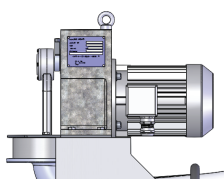


Fig 1

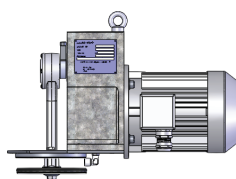


Fig 2

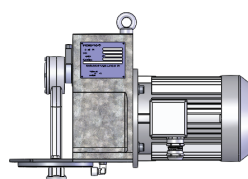


Fig 3

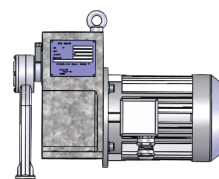


Fig 4

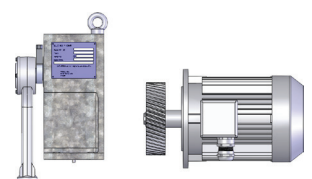
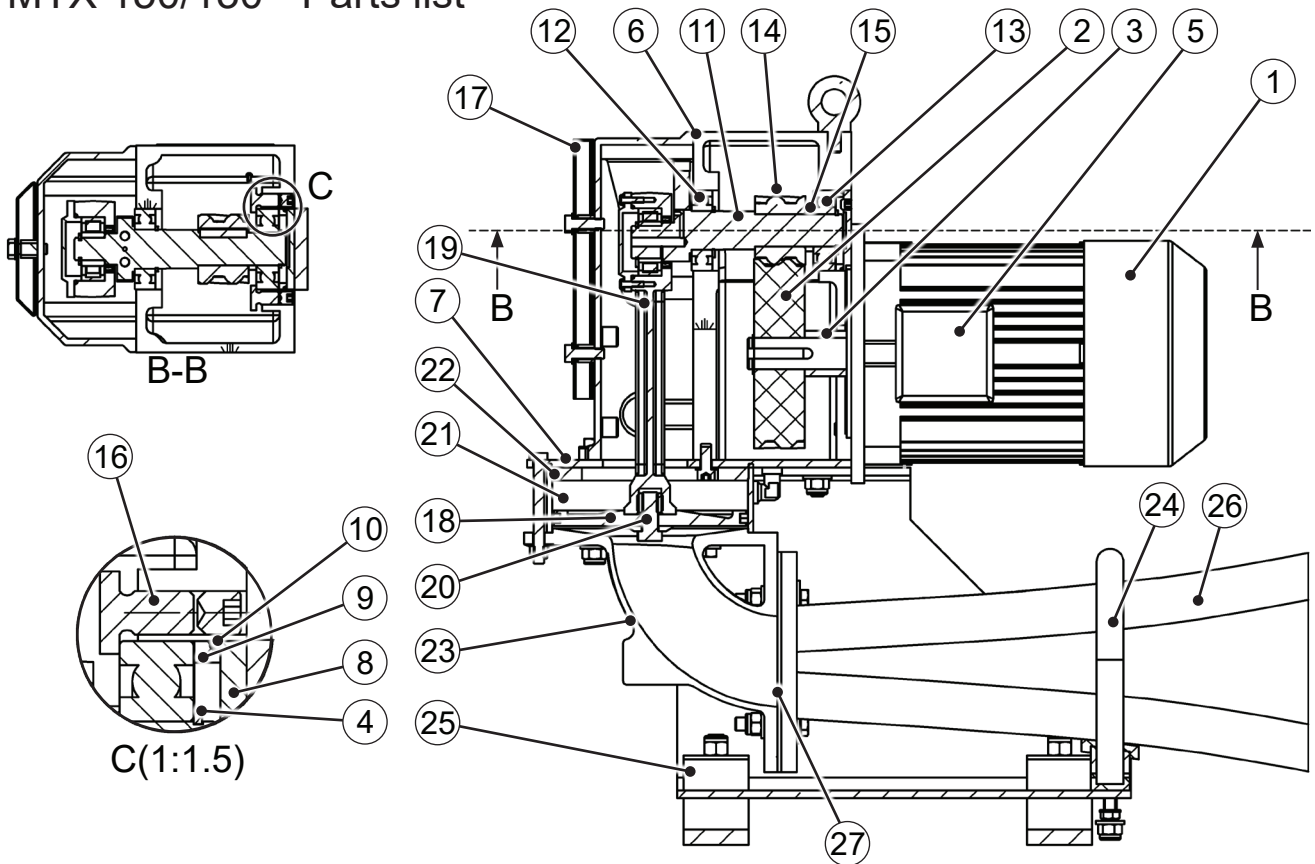


Fig 5

MTX 150/130 - Parts list



| Item | Description | Data/remarks | Ref. No. |
|------|----------------------|---|----------------------|
| 1 | Motor set | 380-440V/50-60Hz Motor, shaft circlip, cable glands, drain Plinth jumpers pre set for Y-config. | 24800703 |
| | | 660-690V/50-60Hz Motor, shaft circlip, cable glands, drain Plinth jumpers pre set for Y-config. | 24800704 |
| *2 | Motor gear wheel | 60Hz 50Hz | 21768360 21768358 |
| 3 | Spacer | | 21768373 |
| 4 | Circlip | SMS 1581 | 32470024 |
| 5 | Connection box | Incl. terminals. Please state Tyfon serial no. for correct revision | |
| 6 | Crank case | | 21769057 |
| 7 | Base plate | | 21768365 |
| 8 | Cap | | 21768399 |
| 9 | Spacer | | 21768404 |
| 10 | O-ring | 57,6 x 2,4 | 20862066 |
| 11 | Crank shaft set | Incl. Crankshaft, flat key screws and circlips | 24530292 |
| *12 | Bearing rear | | 20880005 |
| *13 | Bearing front | | 20880003 |
| 14 | Gear wheel | 60 Hz | 21768359 |
| | | 50 Hz | 21768357 |
| 15 | Spacer | | 21768376 |
| 16 | Fixing screw | 2 pcs | 21769060 |
| 17 | Cover complete set | | 24800077 |
| *18 | Piston complete set | Incl piston, rings (x2) , pin | 24530296 |
| *19 | Piston rod set | Incl rod, cap, nut, bearing, radial seal, O-ring, screws, washers, circlip | 24530291 |
| *20 | Mounting details | Piston / Piston rod MT/MTX | 24530297 |
| *21 | Cylinder | | 21769402 |
| 22 | Ring | | 21768368 |
| 23 | Outlet | | 21768984 |
| 24 | Clamp set | Incl clamp, slang, support, spacer, rubberpacking | 24530294 |
| 25 | Vibration damper set | Incl dampers, bushings washers and nuts | 24530293 |
| 26 | Horn | | 21750123 |
| 27 | Packing | | 21765049 |

* Spare parts recommended to keep on ship

Subject to alteration without notice.