

# MAXIMUS MHX

EXPLOSION-PROOF HOUSING



- Certifications Ex d for use in Zone 1 and 2, Group IIC (Gas), and in Zone Ex tb 21 and 22 (Dust)
- Made of AISI 316L electropolished stainless steel
- 2 threaded holes 3/4" NPT for use of cable glands or conduit
- Versions with wiper
- Integrated telemetry receiver for version with wiper
- Ambient temperature: from -40°C (-40°F) up to +60°C (140°F)



## MAXIMUM RESISTANCE IN THE MOST CRITICAL ENVIRONMENTS

These explosion-proof housings for the MAXIMUS range have been certified and designed to meet the strictest standards regarding installation in potentially explosive environments, i.e. where there is the presence of gas and flammable dusts.

The MAXIMUS range ensures excellent performance for monitoring critical processes in areas that carry a risk of explosion, such as refineries, gas pipelines, oil tankers, offshore platforms, industrial processes, chemical industries, etc.

Equipped with heating, the housing has the same installation and operating temperatures, of between -40° C and + 60° (-40°F / +140°F).

In the version with wiper, MHX is equipped with an integrated telemetry receiver that allows, through the RS485 serial interface, to receive data from the remote control for the activation of the wiper / washer and for switching an eventual external illuminator.

The wiring is made easier thanks to the removable connectors on the circuit board.

The control board, with removable connectors, is also equipped with an input for the wiper activation through a dry contact.

The housing can eventually be controlled by VMS through a video encoder with RS485 serial port.

## TECHNICAL DATA

### GENERAL

AISI 316L stainless steel construction  
Passivated and electropolished external surfaces  
Silicone O-ring seals

### MECHANICAL

2 holes 3/4" NPT for cable entry  
Sunshield  
Unit weight: 16.5kg (36lb)

### HOUSING'S WINDOW

Tempered window glass

- Usable diameter: 75mm (3.0in)
- Thick: 12mm (0.47in)

### ELECTRICAL

Supply voltage/Current consumption/Power:

- 230Vac, 0.34A, 50/60Hz, 80W
- 120Vac, 0.5A, 50/60Hz, 60W
- 24Vac, 2.2A, 50/60Hz, 53W

Heater (Ton 15°C±4°C (59°F±7°F), Toff 22°C±3°C (72°F±5°F))

### COMMUNICATIONS

Serial interface: 1 RS-485 line, half-duplex  
Addressable units: Up to 31, via dip-switch  
Protocols:

- PELCO D: 2400baud, 9600baud
- VIDEOTEC MACRO: 9600baud, 38400baud

*PELCO is registered trademark.*

*The product may be interfaced with devices not manufactured by VIDEOTEC. It is possible that the interface protocols have changed or are in a different configuration from earlier tested units by VIDEOTEC. VIDEOTEC recommends a test prior to installation. VIDEOTEC will not be liable for any installation costs or lost revenues in the event a compatibility problem will occur.*

### I/O INTERFACE

Version with wiper

- Remote wiper activation: 1 input, dry contact NO
- Day/Night camera status: 1 input
- Wash system activation relay: 1 output, 60Vdc max or 30Vac max, 1A
- Illuminator activation relay: 1 output, 60Vdc max or 30Vac max, 1A

## CAMERAS

Compatible cameras:

- Power consumption (assembly, camera and lens): 13W max
- Cameras dimensions/Lenses that can be installed (WxHxL): 80x82x245mm (3.1x3.2x9.6in) max
- Minimum distance between camera and housing's window: 10mm (0.4in)

## ENVIRONMENT

For indoors and outdoors installation  
Operating temperature/Installation temperature: from -40°C (-40°F) up to +60°C (140°F)  
Relative humidity: from 5% up to 95%

## CERTIFICATIONS

Electrical safety (CE): EN60950-1, IEC60950-1, EN62368-1, IEC62368-1  
Electromagnetic compatibility (CE): EN61000-6-4, EN61000-3-2, EN61000-3-3, EN50130-4, EN55032 (Class A)  
RoHS (CE): EN IEC 63000  
Outdoor installation (CE): EN60950-22, IEC60950-22  
IP protection degree (EN/IEC60529): IP66, IP67  
Vibration test: EN50130-5, EN60068-2-6  
Electromagnetic compatibility (North America): FCC part 15 (Class A)

## CERTIFICATIONS - EXPLOSION-PROOF APPLICATIONS

ATEX (EN IEC 60079-0, EN 60079-1, EN 60079-31)  
IECEX (IEC 60079-0, IEC 60079-1, IEC 60079-31)  
EAC EX (TR CU 012/2011)  
KCs (Employment and labor department 2021-22)  
UK Ex (EN IEC 60079-0, EN 60079-1, EN 60079-31)

*For further details on certifications and markings, consult the relevant table.*

**ACCESSORIES**

WASEX2T4AT	10l tank with integrated manual pump, controlled by a certified solenoid valve (ATEX), delivery head up to 30m (98ft), with 20m (66ft) antistatic water delivery pipe, IN 24Vac/24Vdc
WASEX2T4GOR	10l tank with integrated manual pump, controlled by a certified solenoid valve (EAC Ex), delivery head up to 30m (98ft), with 20m (66ft) antistatic water delivery pipe, IN 24Vac/24Vdc
WASEX2T4IN	10l tank with integrated manual pump, controlled by a certified solenoid valve (INMETRO), delivery head up to 30m (98ft), with 20m (66ft) antistatic water delivery pipe, IN 24Vac/24Vdc
WASEX2T4IC	10l tank with integrated manual pump, controlled by a certified solenoid valve (ATEX, IECEx), delivery head up to 30m (98ft), with 20m (66ft) antistatic water delivery pipe, IN 24Vac/24Vdc
WASEX2T4UL	10l tank with integrated manual pump, controlled by a certified solenoid valve (cULus), delivery head up to 30m (98ft), with 20m (66ft) antistatic water delivery pipe, IN 24Vac/24Vdc
MBX1MAA	Explosion-proof communication box in stainless steel, IN 230Vac, with EMC filter for marine certification
MBX2MAA	Explosion-proof communication box in stainless steel, IN 24Vac, with EMC filter for marine certification
MBX3MAA	Explosion-proof communication box in stainless steel, IN 120Vac, with EMC filter for marine certification
MBA1SSA	Explosion-proof communication box in aluminium, IN 230Vac
MBA2SSA	Explosion-proof communication box in aluminium, IN 24Vac
MBA3SSA	Explosion-proof communication box in aluminium, IN 120Vac
OCTEX3/4C	Cable gland in nickel-plated brass with gasket EX 3/4" NPT unarmoured cable IECEx-ATEX-EAC Ex
OCTEXA3/4C	Cable gland in nickel-plated brass with gasket EX 3/4" NPT, armoured cable IECEx-ATEX-EAC Ex
OCTEXB3/4P	Barrier cable gland in nickel-plated brass EX 3/4" NPT, unarmoured cable IECEx-ATEX-EAC Ex
OCTEXBA3/4P	Barrier cable gland in nickel-plated brass EX 3/4" NPT, armoured cable IECEx-ATEX-EAC Ex
OCTEX3/4	Cable gland in nickel-plated brass with gasket EX 3/4" NPT, unarmoured cable ATEX
OCTEXA3/4	Cable gland in nickel-plated brass with gasket EX 3/4" NPT, armoured cable ATEX
OCTEXB1/2C	Barrier cable gland in nickel-plated brass EX 1/2" NPT unarmoured cable IECEx-ATEX-EAC Ex

OCTEXB1/2P	Barrier cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEx-ATEX-EAC Ex
OCTEXBA1/2P	Barrier cable gland in nickel-plated brass EX 1/2" NPT, armoured cable IECEx-ATEX-EAC Ex
OCTEX1/2C	Cable gland in nickel-plated brass EX 1/2" NPT unarmoured cable IECEx-ATEX-EAC Ex
OCTEXS1/2C	Cable gland in nickel-plated brass EX 1/2" NPT, unarmoured cable IECEx-ATEX-EAC Ex
OCTEXA1/2C	Cable gland in nickel-plated brass EX 1/2" NPT armoured cable IECEx-ATEX-EAC Ex
OCTEX1/2-3/4P	Cable glands reduction in nickel-plated brass EX 3/4" - 1/2" NPT IECEx-ATEX-EAC Ex
OCTEXP3/4C	Conduit cable gland nickel-plated brass 3/4" NPT IECEx-ATEX-c CSA us-EAC Ex (operating temperature: from -60°C (-76°F) up to +80°C (+176°F))
OEXPLUG1/2P	Plug EX 1/2" NPT IECEx-ATEX-EAC Ex
OEXPLUG3/4P	Plug EX 3/4" NPT IECEx-ATEX-EAC Ex
USB485	USB-RS485 converter

For further details about cable glands part numbers, please refer to the relevant table.

**BRACKETS AND ADAPTORS**

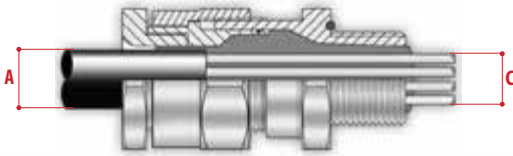
MHXWBS	AISI 316L stainless steel wall bracket
MPXCW	AISI 316L stainless steel corner adapter module
MPXCOL	AISI 316L stainless steel pole adapter module
MHXWFWCA	AISI 316L stainless steel ball joint
NXFWBT	AISI 316L stainless steel parapet mounting bracket

**PACKAGE**

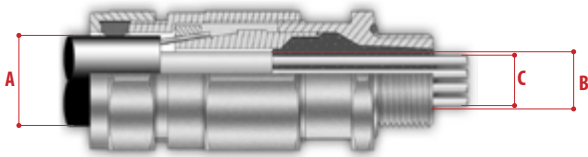
Model Number	Weight	Dimensions (WxHxL)	Master carton
MHX	19kg (42lb)	58x34x22cm (23x13.4x8.7in)	-

**CABLE GLANDS AND ACCESSORIES 1/2" NPT**

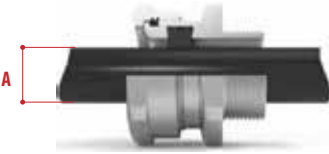
Type	Certification	Operating temperature	Cable	Model Number	Maximum diameter of the external sheath (A)	Maximum diameter of the internal sheath (B)	Maximum diameter of the conductors bundle (C)
Barrier cable gland	IECEX/ATEX/EAC Ex	-60°C (-76°F) / +135°C (+275°F)	Unarmoured cable	OCTEXB1/2P	14.0mm (0.55in)	-	12.5mm (0.5in)
			Armoured cable	OCTEXBA1/2P	15.5 - 21.1mm (0.61-0.83in)	14mm (0.6in) max	12.5mm (0.5in)
Cable gland with gasket	IECEX/ATEX/EAC Ex	-60°C (-76°F) / +100°C (+212°F)	Unarmoured cable	OCTEX1/2C	3.2 - 8.0mm (0.12-0.31in)	-	-
			Unarmoured cable	OCTEXS1/2C	6.5 - 11.9mm (0.26 - 0.47in)	-	-
			Armoured cable	OCTEXA1/2C	12.5 - 20.5mm (0.49 - 0.8in)	10 - 14.3mm (0.4 - 0.56in)	-
Plug EX 1/2"NPT	IECEX/ATEX/EAC Ex	-100°C (-148°F) / +400°C (+752°F)	-	OEXPLUG1/2P	-	-	-



Barrier cable gland with unarmoured cable



Barrier cable gland with armoured cable



Cable gland with gasket with unarmoured cable

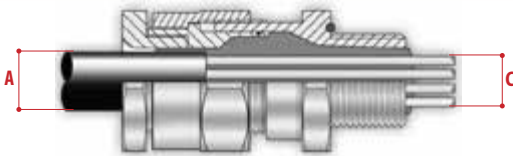


Cable gland with gasket with armoured cable

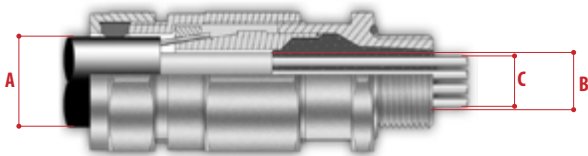
*For a correct installation of the MHX/MHXT housing, cable entries and field wiring must be suitable for an operating temperature of at least +30°C above ambient.*

**CABLE GLANDS AND ACCESSORIES 3/4" NPT**

Type	Certification	Operating temperature	Cable	Model Number	Maximum diameter of the external sheath (A)	Maximum diameter of the internal sheath (B)	Maximum diameter of the conductors bundle (C)
Barrier cable gland	IECEX/ATEX/EAC Ex	-60°C (-76°F) / +135°C (+275°F)	Unarmoured cable	OCTEXB3/4P	20.0mm (0.78in)	-	17.8mm (0.7in)
			Armoured cable	OCTEXBA3/4P	16.8 - 23.9mm (0.66-0.94in)	20mm (0.79in) max	17.8mm (0.7in)
Cable gland with gasket	IECEX/ATEX/EAC Ex	-60°C (-76°F) / +100°C (+212°F)	Unarmoured cable	OCTEX3/4C	13.0 - 20.2mm (0.51-0.79in)	-	-
			Armoured cable	OCTEXA3/4C	16.9 - 26.0mm (0.66-1.02in)	11.1 - 19.7mm (0.44 - 0.78in)	-
	ATEX	-40°C (-40°F) / +100°C (+212°F)	Unarmoured cable	OCTEX3/4	14.0 - 17.0mm (0.55-0.67in)	-	-
			Armoured cable	OCTEXA3/4	18.0 - 23.0mm (0.71-0.91in)	14.0 - 17.0mm (0.55-0.67in)	-
Plug EX 3/4"NPT	IECEX/ATEX/EAC Ex	-100°C (-148°F) / +400°C (+752°F)	-	OEXPLUG3/4P	-	-	-
Conduit sealing fitting	IECEX/ATEX/c CSA us/EAC Ex	-60°C (-76°F) / +80°C (+176°F)	-	OCTEXP3/4C	-	-	11.0mm (0.43in)
Reduction 3/4" NPT x 1/2" NPT	IECEX/ATEX/EAC Ex	-100°C (-148°F) / +400°C (+752°F)	-	OCTEX1/2-3/4P	-	-	-



Barrier cable gland with unarmoured cable



Barrier cable gland with armoured cable



Cable gland with gasket with unarmoured cable



Cable gland with gasket with armoured cable



Conduit sealing fitting

For a correct installation of the MHX/MHXT housing, cable entries and field wiring must be suitable for an operating temperature of at least +30°C above ambient.

## MAXIMUS MHX - CERTIFICATIONS AND MARKINGS

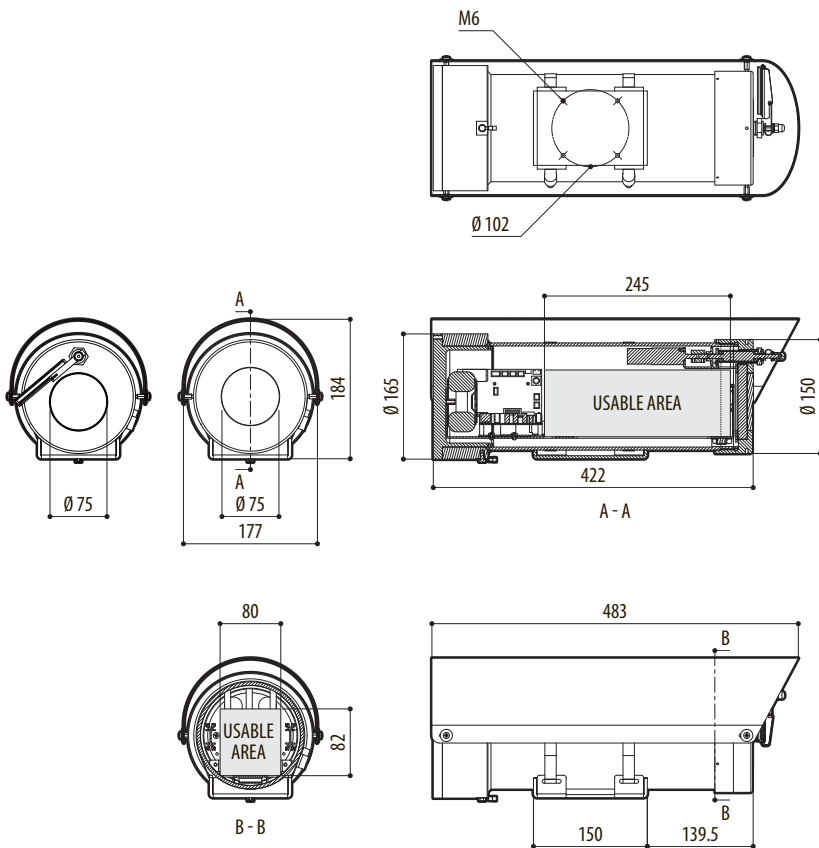
Certification	Marking	Ambient temperature	Cable entry temperature
ATEX	Ⓜ II 2G Ex db IIC T6 Gb Ⓜ II 2D Ex tb IIIC T85°C Db	-40°C ≤ Ta ≤ +60°C	+90°C
IECEX	Ex db IIC T6 Gb Ex tb IIIC T85°C Db		
EAC Ex	1Ex db IIC T6 Gb X Ex tb IIIC T85°C Db X		
KCs	Ex db IIC T6 Gb Ex tb IIIC T85°C Db		
UK Ex	Ⓜ II 2G Ex db IIC T6 Gb Ⓜ II 2D Ex tb IIIC T85°C Db		

## MAXIMUS MHX - CONFIGURATION OPTIONS

	Voltage	Certification	Options			
<b>MHX</b>	<b>1</b> 230Vac	<b>C</b> IIC -40°C	<b>S</b> Without wiper	<b>0</b> With sunshield	<b>00</b> Without camera	<b>A</b>
	<b>2</b> 24Vac		<b>W</b> With wiper			
	<b>3</b> 120Vac					

## TECHNICAL DRAWINGS

The indicated measurements are expressed in millimetres.



MAXIMUS MHX