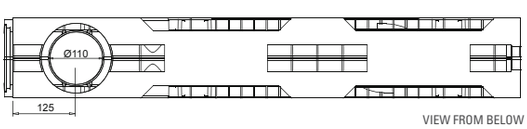
# wing

The system:

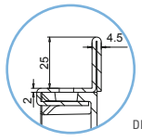
- it supports 4 load classes (C250, D400, E600, F900) in compliance with Standard EN 1433
- it is made up of a HD-PE channel with a strengthening frame
- it is very compact, since the frame is perfectly anchored to the channel body. The frame is made from materials able to resist corrosion due to contact with the surrounding environment and the gratings. The anchoring system was designed to withstand any deformation due shearing or torsional stress
- it is wearproof and very solid thanks to the frame, which ensures a 4 mm - thick drive-over edge and a 2 mm - thick contact surface in compliance with Standard EN 1433 on classes subject to heavy loads
- it comprises a wide range of standard gratings (with slots, square mesh, anti-heel mesh) made from galvanised steel, stainless steel and ductile iron, as well as galvanised-steel and ductile iron blind covers, and a cover specially designed for composting systems
- it comes complete with an innovative grating for draining asphalt in D400 which has slots in the upper and side sections in order to receive the liquids from the road surface - both surface liquids and liquids absorbed by the draining asphalt
- it has tie-rod and screw fixing systems; and a convenient drain gate
- it is ideal for medium-to-heavy uses, exhibition areas, parking decks, road carriageways, parking areas, service areas, industrial areas, ports and airports, areas where containers are (un)loaded
- it comes complete with drain boxes with siphon
- the range is made up of 11 channels with 3 widths and 6 heights (100/55, 100/80, 100/100, 100/160, 150/40, 150/100, 150/160, 200/40, 200/100, 200/160, 200/250)
- the range is supplemented with the WING channel with ductile iron strengthening frame - length 1.5 m and usable dimensions 300 x 300 mm. Designed to drain large surfaces

The product must be laid according to MufleSystem's specifications. The relevant instructions are available in this Catalogue on page 242 e nel sito internet www.mufle.com.

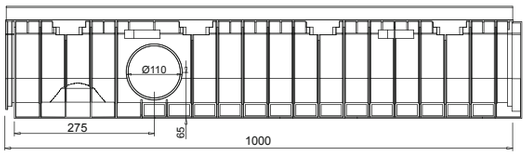

# 100



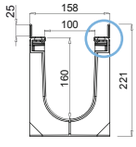

VIEW FROM BELOW




DETAIL SECTION



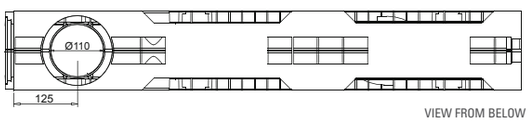

SIDE VIEW



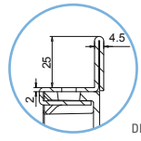

SECTION

## WING 100/160

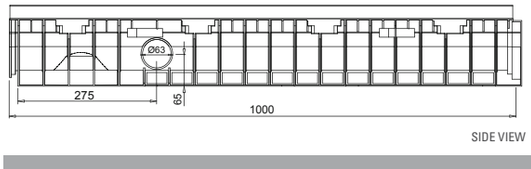
| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SECTION $cm^2$ | CAPACITY $dm^3$ | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 703000 | | galvanised steel DX51D[3] | PE-HD | 1000 x 158 x 221 | 1000 x 100 x 160 | 4,90 | 145,28 | 14,52 | side 2 x Ø 110<br>bottom[1] 1 x Ø 110 |
| 703008 | | stainless steel AISI 304[2] | | | | | | | |



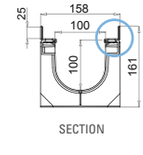

VIEW FROM BELOW



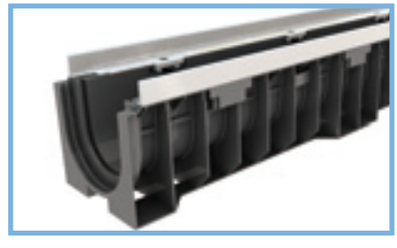

DETAIL SECTION




SIDE VIEW



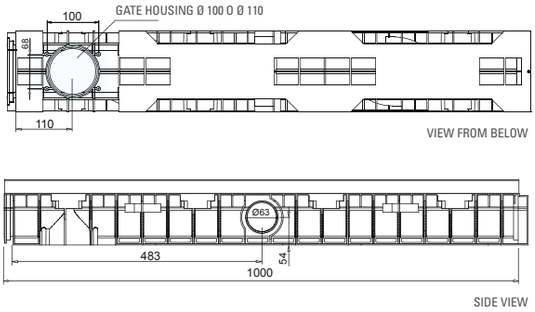

SECTION

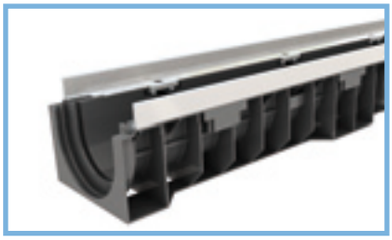


## WING 100/100

| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SECTION $cm^2$ | CAPACITY $dm^3$ | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 703001 | | galvanised steel DX51D[3] | PE-HD | 1000 x 158 x 161 | 1000 x 100 x 100 | 4,40 | 89,56 | 8,95 | side 2 x Ø 63<br>bottom[1] 1 x Ø 110 |
| 703009 | | stainless steel AISI 304[2] | | | | | | | |

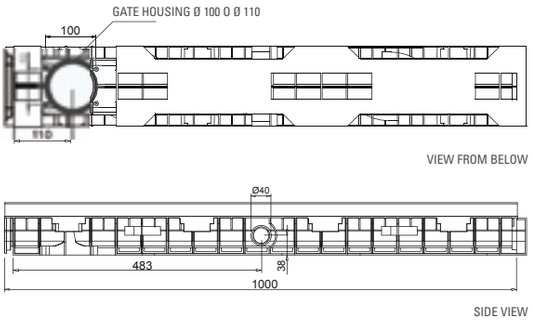
1- For drainage purposes use the drain gate with outlet kit (available in two versions Ø100 and Ø110).
2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

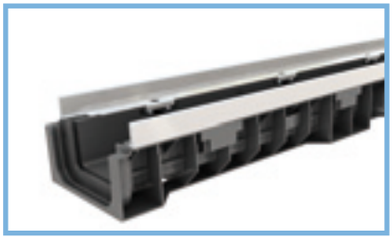


## WING 100/80

| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SECTION $cm^2$ | CAPACITY $dm^3$ | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 703002 | | galvanised steel DX51D[3] | PE-HD | 1000 x 158 x 127 | 1000 x 100 x 80 | 4,10 | 69,28 | 6,92 | side 2 x Ø 63<br>bottom[1] 1 x Ø 100; 1 x Ø 110 |
| 703010 | | stainless steel AISI 304[2] | | | | | | | |



## WING 100/55

| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SECTION $cm^2$ | CAPACITY $dm^3$ | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 703003 | | galvanised steel DX51D[3] | PE-HD | 1000 x 158 x 102 | 1000 x 100 x 55 | 3,90 | 54,44 | 5,44 | side 2 x Ø 40<br>bottom[1] 1 x Ø 100; 1 x Ø 110 |
| 703011 | | stainless steel AISI 304[2] | | | | | | | |

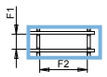
1- For drainage purposes use the drain gate with outlet kit (available in two versions Ø100 and Ø110).
2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF GALVANISED STEEL

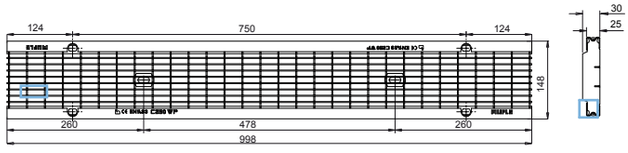
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks

## APPLICATIONS OF STAINLESS STEEL

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks
Areas with low-load transit in food factories
Areas with low-load transit in chemically aggressive environments




DETAIL OF HOOKING SYSTEM

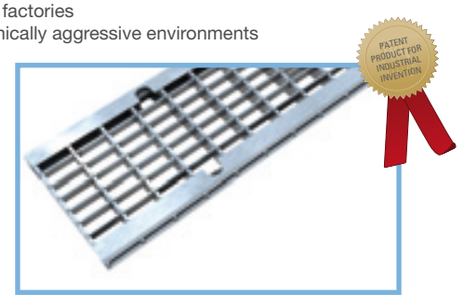



VIEW FROM ABOVE



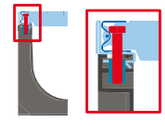

SIDE VIEW

DETAIL OF UPRIGHT BEND

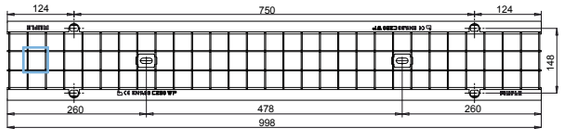



## ANTI-HELL MESH GRATING

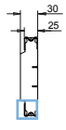
30 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM | |
|---|---|---|---|---|---|---|---|---|
| | € | | mm | kg | dm² | mm | tie-tod | screw |
| 503121 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 148 x 25 | 5,50 | 8,30 | 10,2 x 31,2 |  |  |
| 503122 | | pickled stainless steel AISI 304[2] | | | | | | |
| 503149 | | hot dip galvanised steel DD11 (1.0332)[5] | 498 x 148 x 25 | 2,75 | 4,15 | | | |
| 503150 | | pickled stainless steel AISI 304[2] | | | | | | |


DETAIL OF SQUARE MESH

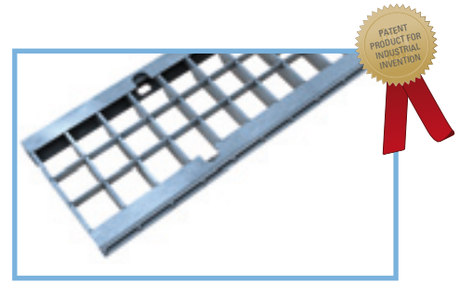



VIEW FROM ABOVE



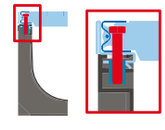

SIDE VIEW

DETAIL OF UPRIGHT BEND




## SQUARE MESH GRATING

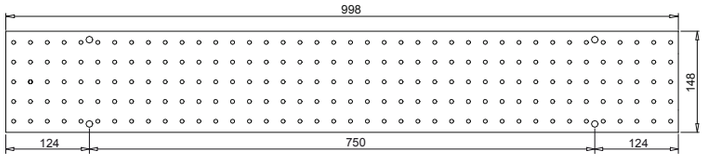
30 mm

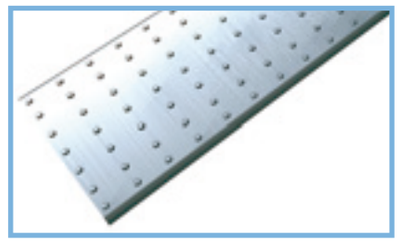
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM | |
|---|---|---|---|---|---|---|---|---|
| | € | | mm | kg | dm² | mm | tie-tod | screw |
| 503123 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 148 x 25 | 4,80 | 9,38 | 34,2 x 31,2 |  |  |
| 503124 | | pickled stainless steel AISI 304[2] | | | | | | |
| 503151 | | hot dip galvanised steel DD11 (1.0332)[5] | 498 x 148 x 25 | 2,40 | 4,69 | | | |
| 503152 | | pickled stainless steel AISI 304[2] | | | | | | |

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

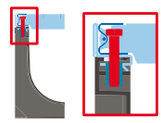
## APPLICATIONS

Cable passageway
Passageway for water and/or heat systems



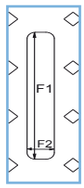



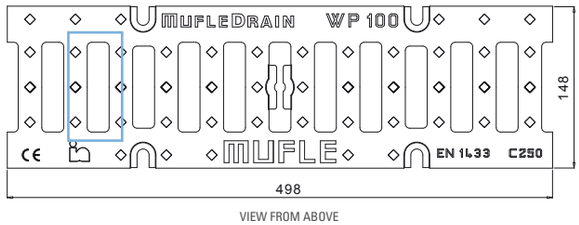
### SOLID TOP COVER — 25 mm

| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | FIXING SYSTEM screw |
|---|---|---|---|---|---|
| 503101 | | hot dip galvanised steel DX51D[3] | 998 x 148 x 25 | 3,00 |  |

## APPLICATIONS OF DUCTILE IRON

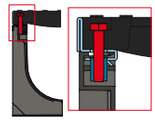
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks





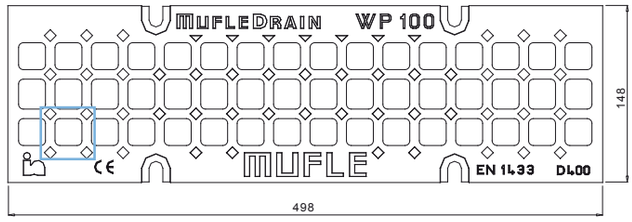
### SLOTTED GRATING 20 mm — 25 mm

| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SURFACE dm² | OPENINGS F1 x F2 mm | FIXING SYSTEM screw |
|---|---|---|---|---|---|---|---|
| 503108 | | GJS 500/7[6] ductile ironwater based paint coated | 498 X 148 x 25 | 4,65 | 1,94 | 82,0 x 20,0 |  |

3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

**APPLICATIONS OF DUCTILE IRON**
Road carriageways (not transversal)
Hard shoulders
Lay-bys with thick and heavy-goods traffic
Petrol stations

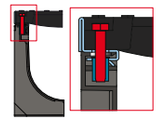

SLOT DETAIL

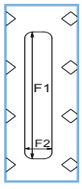



VIEW FROM ABOVE

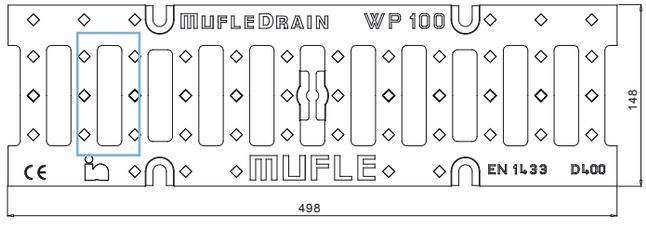

SIDE VIEW

## MESH GRATING — 25 mm

| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SURFACE $dm^2$ | OPENINGS F1 x F2 mm | FIXING SYSTEM screw |
|---|---|---|---|---|---|---|---|
| 503182 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 148 x 25 | 4,80 | 2,43 | 22,5 x 22,5 |  |

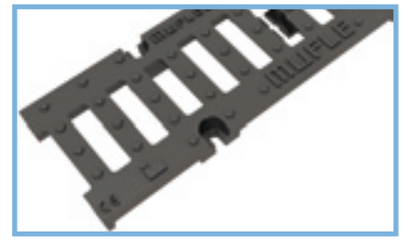



SLOT DETAIL

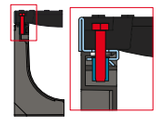



VIEW FROM ABOVE


SIDE VIEW



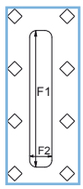
## SLOTTED GRATING 20 mm — 25 mm

| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SURFACE $dm^2$ | OPENINGS F1 x F2 mm | FIXING SYSTEM screw |
|---|---|---|---|---|---|---|---|
| 503109 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 148 x 25 | 4,75 | 1,94 | 82,0 x 20,0 |  |

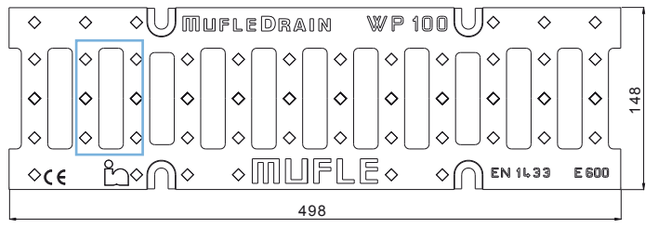
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

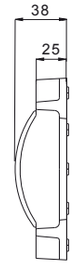
Transversal canalisation systems in carriageways of roads with thick and heavy-goods traffic
Industrial areas with passage of forklift trucks (high axle loads)
Underpasses




SLOT DETAIL



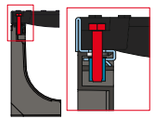

VIEW FROM ABOVE

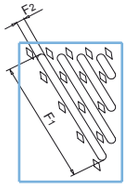



SIDE VIEW

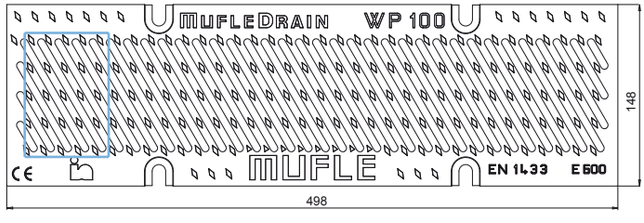
### SLOTTED GRATING 20 mm

38 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | $dm^2$ | mm | screw |
| 503110 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 148 x 25 | 5,10 | 1,94 | 82,0 x 20,0 |  |




SLOT DETAIL

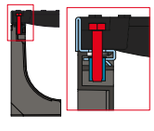



VIEW FROM ABOVE


SIDE VIEW

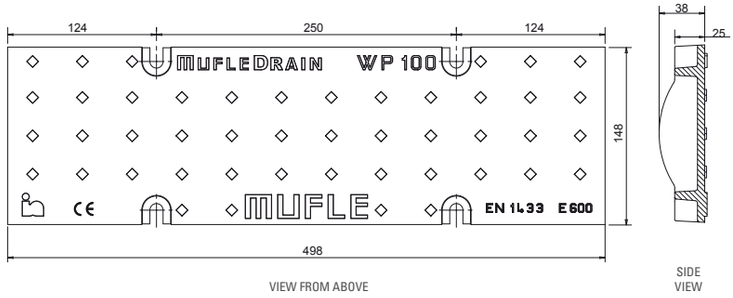
### SLOTTED GRATING 6 mm

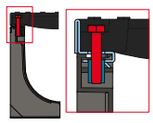
34 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | $dm^2$ | mm | screw |
| 503418 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 148 x 25 | 4,90 | 2,13 | 105,5 x 6,0 |  |

6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

**APPLICATIONS**
Cable passageway
Passageway for water and/or heat systems

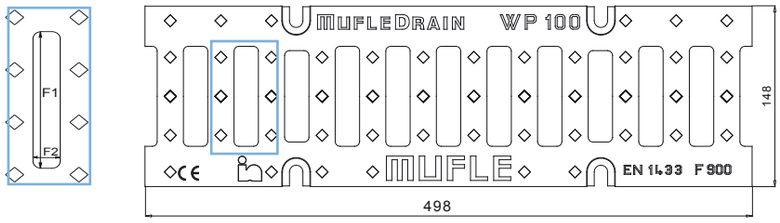



| SOLID TOP COVER | | | | | 38 mm |
|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | FIXING SYSTEM |
| | € | | mm | kg | screw |
| 503105 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 148 x 25 | 6,00 |  |

6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

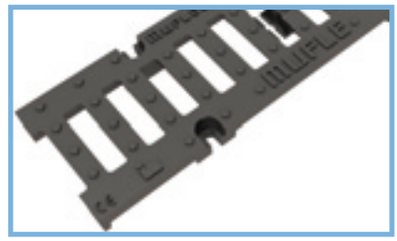
Port and airport areas




SLOT DETAIL

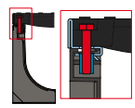
VIEW FROM ABOVE

SIDE VIEW



### SLOTTED GRATING 20 mm

38 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | $dm^2$ | mm | screw |
| 503173 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 148 x 25 | 6,30 | 1,94 | 82,0 x 20,0 |  |

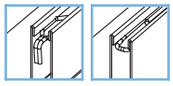
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF GALVANISED STEEL

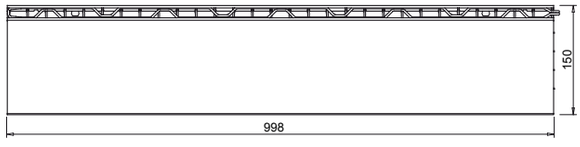
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements

## APPLICATIONS OF STAINLESS STEEL

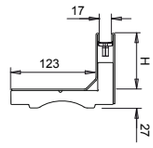
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements



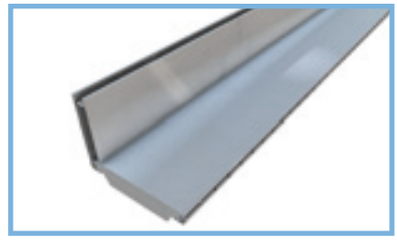
DETAIL OF HOOKINF SYSTEM[8]




VIEW FROM ABOVE

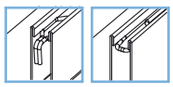



SIDE VIEW

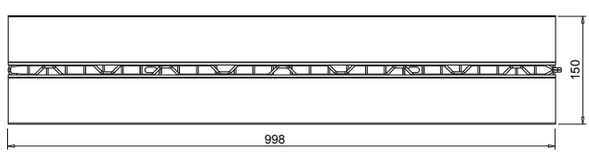


### L-SHAPED GRATING

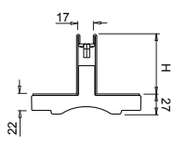
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | HEIGHT OF SLOTS H | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 |
|---|---|---|---|---|---|---|---|
| | € | | mm | mm | kg | dm² | mm |
| 503192 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 150 x 107 | 80 | 8,50 | 1,80 | 998 x 18 |
| 503431 | | pickled stainless steel AISI 304[2] | | | | | |
| 503193 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 150 x 147 | 120 | 9,50 | | |
| 503432 | | pickled stainless steel AISI 304[2] | | | | | |



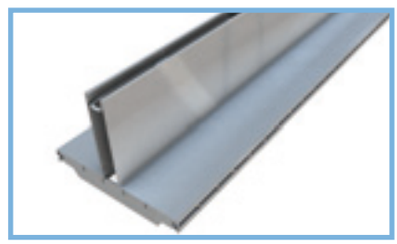
DETAIL OF HOOKINF SYSTEM[8]




VIEW FROM ABOVE




SIDE VIEW



### T-SHAPED GRATING

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | HEIGHT OF SLOTS H | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 |
|---|---|---|---|---|---|---|---|
| | € | | mm | mm | kg | dm² | mm |
| 503186 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 150 x 107 | 80 | 7,40 | 1,80 | 998 x 18 |
| 503419 | | pickled stainless steel AISI 304[2] | | | | | |
| 503187 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 150 x 147 | 120 | 8,80 | | |
| 503420 | | pickled stainless steel AISI 304[2] | | | | | |

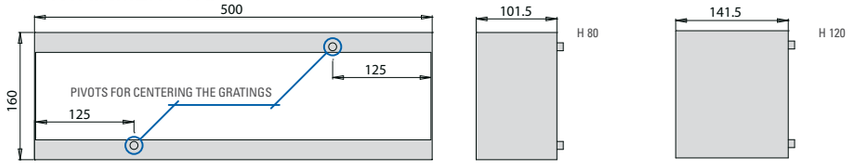
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
8- Hooking System between the gratings through hooks and holes.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# INSPECTION ELEMENT FOR L-SHAPED GRATING

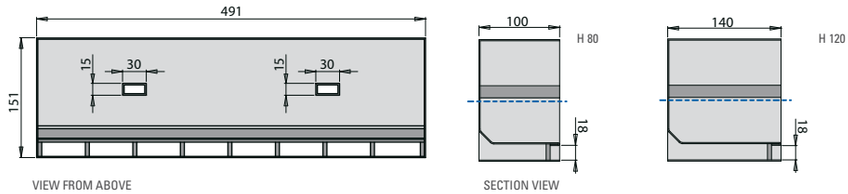
TYPE D 400
MIDDLE
DRIVEWAY

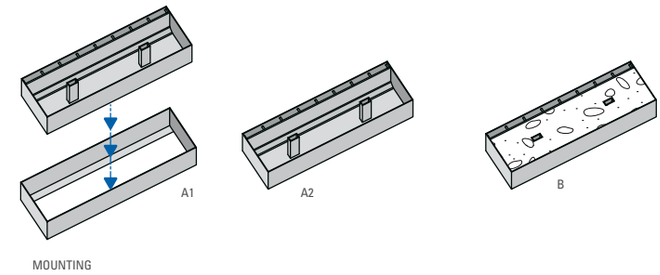
wing 100

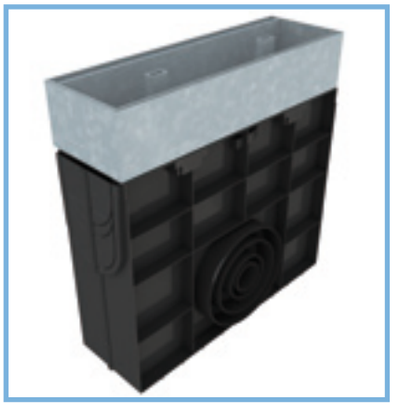
## CONTAINMENT TANK




## INSPECTION GRATING



The inspection element for the T-shaped gratings shall be assembled together with the drain box with siphon EASY in HD-PE as showed in the picture. Please see page 44 for the details of the drain box with siphon.

| INSPECTION ELEMENT FOR L-SHAPED GRATING - WING 100 | | | | | | | |
|---|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | | mm | mm | mm | kg |
| 500225 | | hot dip galvanised steel DD11 (1.0332)[5] | H80 | 500 x 160 x 101,5 | 491 x 18 | 1,8 | 5,70 |
| 500237 | | pickled stainless steel AISI 304[2] | H80 | 500 x 160 x 101,5 | 491 x 18 | 1,8 | 5,30 |
| 500226 | | hot dip galvanised steel DD11 (1.0332)[5] | H120 | 500 x 160 x 141,5 | 491 x 18 | 1,8 | 7,70 |
| 500238 | | pickled stainless steel AISI 304[2] | H120 | 500 x 160 x 141,5 | 491 x 18 | 1,8 | 7,10 |

| HOOK FOR TAKING OFF THE GRATING INSPECTION ELEMENT | | | | | | |
|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | mm | mm | mm | kg |
| 500254 | | hot dip galvanised steel DD11 (1.0332)[5] | 710 x 180 | _ | _ | 0,65 |

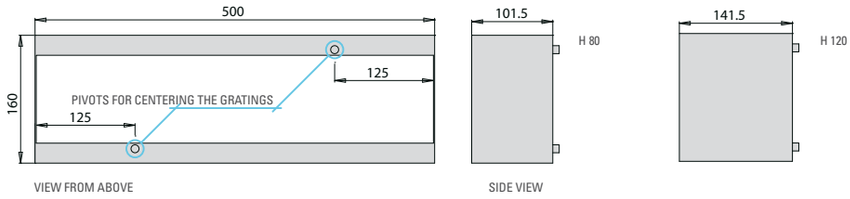
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# INSPECTION ELEMENT FOR T-SHAPED GRATING

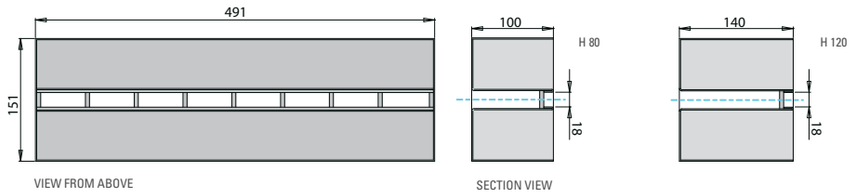
TYPE D 400
MIDDLE
DRIVEWAY

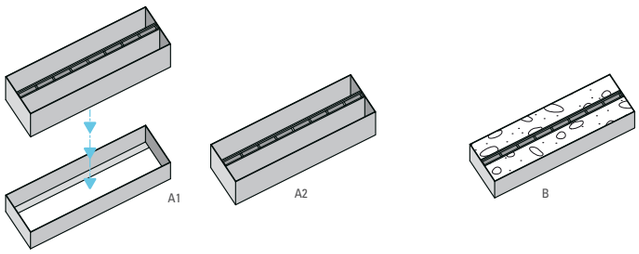
wing 100

## CONTAINMENT TANK

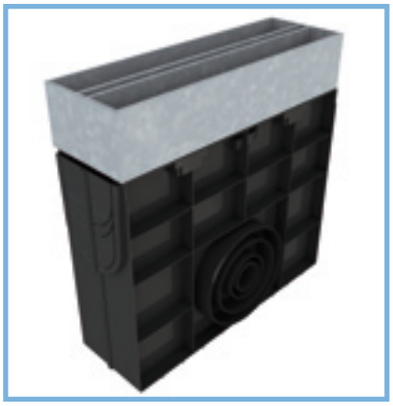



## INSPECTION GRATING




MOUNTING



The inspection element for the T-shaped gratings shall be assembled together with the drain box with siphon EASY in HD-PE as showed in the picture. Please see page 44 for the details of the drain box with siphon.

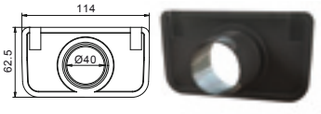
| INSPECTION ELEMENT FOR T-SHAPED GRATING - WING 100 | | | | | | |
|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | mm | mm | mm | kg |
| 500219 | | hot dip galvanised steel DD11 (1.0332)[5] | H80 500 x 160 x 101,5 | 491 x 18 | 1,8 | 5,30 |
| 500231 | | pickled stainless steel AISI 304[2] | H80 500 x 160 x 101,5 | 491 x 18 | 1,8 | 4,90 |
| 500220 | | hot dip galvanised steel DD11 (1.0332)[5] | H120 500 x 160 x 141,5 | 491 x 18 | 1,8 | 7,00 |
| 500232 | | pickled stainless steel AISI 304[2] | H120 500 x 160 x 141,5 | 491 x 18 | 1,8 | 6,50 |

| HOOK FOR TAKING OFF THE GRATING INSPECTION ELEMENT | | | | | | |
|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | mm | mm | mm | kg |
| 500254 | | hot dip galvanised steel DD11 (1.0332)[5] | 710 x 180 | _ | _ | 0,65 |

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

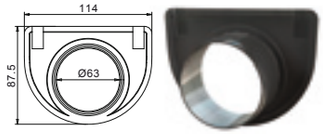


MUFLE

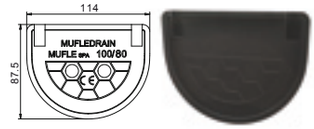



END-CAP 100/55

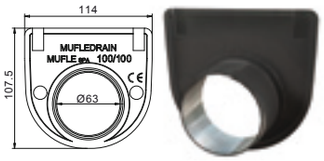

CLOSED END-CAP WITH DRAIN
100/55




END-CAP 100/80

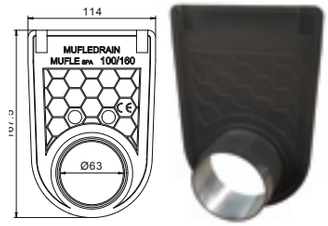



CLOSED END-CAP WITH DRAIN
100/80

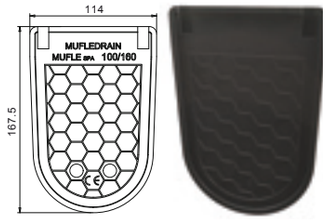



END-CAP 100/100


CLOSED END-CAP WITH DRAIN
100/100



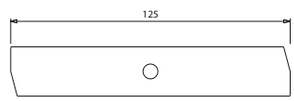

END-CAP 100/160



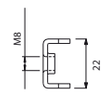

CLOSED END-CAP WITH DRAIN
100/160

## END CAPS

| CODE | PRICE € | TYPE | MATERIAL | VALID FOR GRATINGS | PREINSTALLED DRAIN OUTLETS mm |
|---|---|---|---|---|---|
| 700500 | | end-cap with drain | PE-HD | 100/55 | 1 x Ø 40 |
| 700508 | | closed end-cap | PE-HD | 100/55 | - |
| 700501 | | end-cap with drain | PE-HD | 100/80 | 1 x Ø 63 |
| 700509 | | closed end-cap | PE-HD | 100/80 | - |
| 700502 | | end-cap with drain | PE-HD | 100/100 | 1 x Ø 63 |
| 700510 | | closed end-cap | PE-HD | 100/100 | - |
| 700503 | | end-cap with drain | PE-HD | 100/160 | 1 x Ø 63 |
| 700511 | | closed end-cap | PE-HD | 100/160 | - |



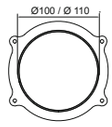

VIEW FROM ABOVE



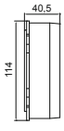

SIDE VIEW

## KIT TIE-ROD + SCREWS

| CODE | PRICE € | MATERIAL | VALID FOR GRATINGS | SCREW | KIT FOR 1ml |
|---|---|---|---|---|---|
| 500421 | | galvanised steel | WING galvanised steel | M8 x 55 TBL combi | 2 tie-rods + 2 screws |
| 500422 | | stainless steel | WING stainless steel | M8 x 55 TBL combi | 2 tie-rods + 2 screws |




VIEW FROM ABOVE

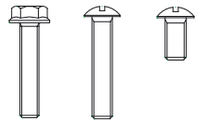



SIDE VIEW

## KIT OUTLET + SCREWS

| CODE | PRICE € | MATERIAL | VALID FOR CHANNELS | DIAMETER mm | KIT FOR 1 ml |
|---|---|---|---|---|---|
| 506114 | | PE-HD | 100/55 - 100/80 | Ø 100 | 1 outlet Ø 100 + 4 screws |
| 506115 | | PE-HD | 100/55 - 100/80 | Ø 110 | 1 outlet Ø 110 + 4 screws |

N.B. Sizes and weights are subject to usual manufacturing tolerance values.



| KIT SCREWS | | | | | |
|---|---|---|---|---|---|
| CODE | PRICE € | MATERIAL | VALID FOR GRATINGS | SCREW | KIT FOR 1ml |
| 503312 | | black galvanised steel | WING ductile iron | M8 x 40 black with flanged hexagonal head | 8 |
| 503313 | | galvanised steel | WING galvanised steel | M8 x 20 TBL combi | 4 |
| 503314 | | stainless steel | WING stainless steel | M8 x 20 TBL combi | 4 |
| 503315 | | galvanised steel | galvanised steel solid top cover WING | M8 x 40 TBL combi | 4 |

| CONNECTOR FOR STEP-SLOPE | | | |
|---|---|---|---|
| CODE | PRICE € | VALID FOR CHANNELS | FAMILIES |
| 700526 | | from 100/100 to 100/160 | EASY - VIP - SMART - SLOPE - WING - PLUS |

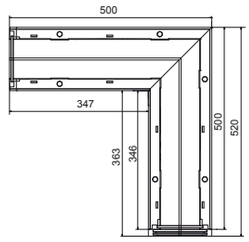
Utilising Mufle's distinctive step connector system, it is possible to connect drainage channels of differing heights to create greater efficiencies in hydraulic velocity and channel capacity. These efficiencies create benefits in increased drainage performance, outlet number reduction for longer continuous drainage runs, increased self cleansing ability and lower installation costs. Stepped channel are typically recognised by structured increases in neutral channel depths towards a nominated outlet along a specific drainage channel run/lenght.

N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# SPECIAL PIECES AND DRAIN BOX WITH SYPHON

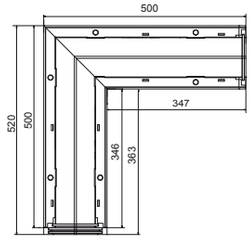
wing 100

## LEFT CORNER WING 100



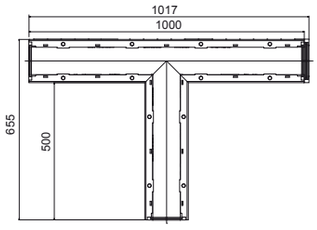

| CODE | PRICE € | MODEL |
|---|---|---|
| 703100 | | 100/160 |
| 703101 | | 100/100 |
| 703102 | | 100/80 |
| 703103 | | 100/55 |

## RIGHT CORNER WING 100



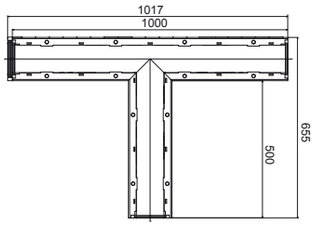

| CODE | PRICE € | MODEL |
|---|---|---|
| 703108 | | 100/160 |
| 703109 | | 100/100 |
| 703110 | | 100/80 |
| 703111 | | 100/55 |

## LEFT TI WING 100



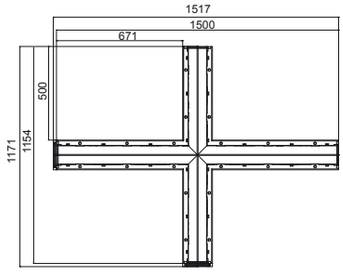

| CODE | PRICE € | MODEL |
|---|---|---|
| 703116 | | 100/160 |
| 703117 | | 100/100 |
| 703118 | | 100/80 |
| 703119 | | 100/55 |

## RIGHT TI WING 100




| CODE | PRICE € | MODEL |
|---|---|---|
| 703124 | | 100/160 |
| 703125 | | 100/100 |
| 703126 | | 100/80 |
| 703127 | | 100/55 |

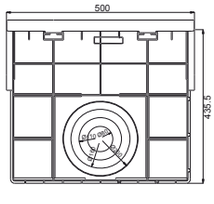
## CROSS WING 100



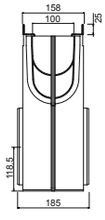

| CODE | PRICE € | MODEL |
|---|---|---|
| 703132 | | 100/160 |
| 703133 | | 100/100 |
| 703134 | | 100/80 |
| 703135 | | 100/55 |

Special pieces, corners, Ti, crosses in stainless steel are available upon request. For further information please contact our Technical Department.

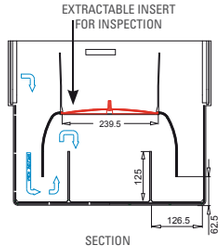
## DRAIN BOX WITH SYPHON




FRONT VIEW




SIDE VIEW



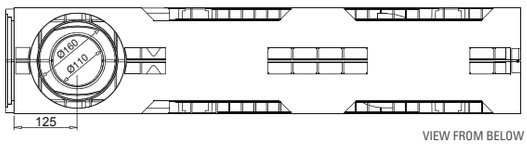

SECTION

### WING 100

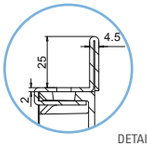
| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF OUTLET | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | MAXIMUM LARGE mm | HEIGHT OF OUTLETS mm | WEIGHT kg | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 703016 | | galvanised steel DX51D[3] | PE-HD | 500 x 158 x 434 | 500 x 100 x 400 | 185 | 118,5 | 3,75 | 2 x Ø 110; 2 x Ø 160; 2 x Ø 200 |
| 703019 | | stainless steel AISI 304[2] | PE-HD | 500 x 158 x 434 | 500 x 100 x 400 | 185 | 118,5 | 3,75 | 2 x Ø 110; 2 x Ø 160; 2 x Ø 200 |

2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

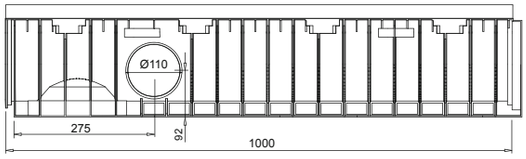

# 150



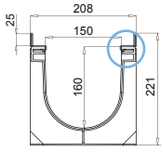

VIEW FROM BELOW



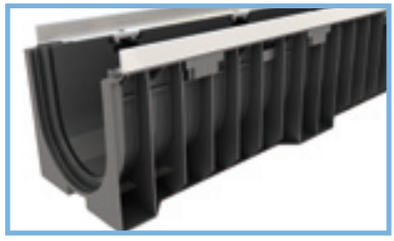

DETAIL SECTION




SIDE VIEW

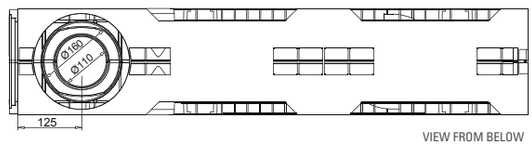



SECTION

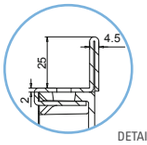


## WING 150/160

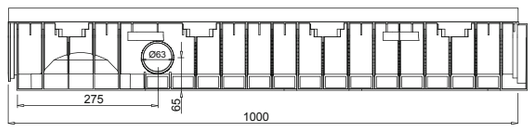
| CODE | PRICE | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS | INTERNAL DIMENSIONS | WEIGHT | DRAINAGE SECTION | CAPACITY | PREINSTALLED DRAIN |
|---|---|---|---|---|---|---|---|---|---|
| | € | | | L x l x h mm | L x l x h mm | kg | $cm^2$ | $dm^3$ | mm |
| 703004 | | galvanised steel DX51D[3] | PE-HD | 1000 x 208 x 221 | 1000 x 150 x 160 | 5,35 | 213,04 | 21,30 | side 2 x Ø 110<br>bottom 1 x Ø 110; 1 x Ø 160 |
| 703012 | | stainless steel AISI 304[2] | | | | | | | |



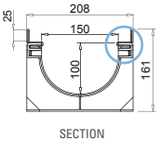

VIEW FROM BELOW



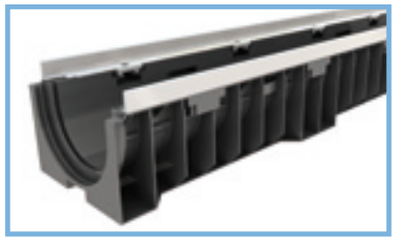

DETAIL SECTION




SIDE VIEW

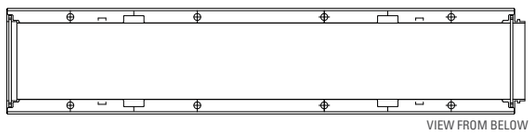



SECTION

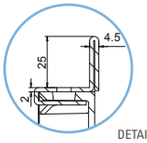


## WING 150/100

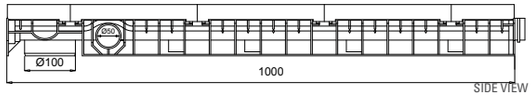
| CODE | PRICE | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS | INTERNAL DIMENSIONS | WEIGHT | DRAINAGE SECTION | CAPACITY | PREINSTALLED DRAIN |
|---|---|---|---|---|---|---|---|---|---|
| | € | | | L x l x h mm | L x l x h mm | kg | $cm^2$ | $dm^3$ | mm |
| 703005 | | galvanised steel DX51D[3] | PE-HD | 1000 x 208 x 161 | 1000 x 150 x 100 | 4,80 | 127,32 | 12,73 | side 2 x Ø 63<br>bottom 1 x Ø 110; 1 x Ø 160 |
| 703013 | | stainless steel AISI 304[2] | | | | | | | |



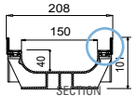
VIEW FROM BELOW




DETAIL SECTION




SIDE VIEW




SECTION

## WING 150/40

| CODE | PRICE | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS | INTERNAL DIMENSIONS | WEIGHT | DRAINAGE SECTION | CAPACITY | PREINSTALLED DRAIN |
|---|---|---|---|---|---|---|---|---|---|
| | € | | | L x l x h mm | L x l x h mm | kg | $cm^2$ | $dm^3$ | mm |
| 503008 | | galvanised steel DX51D[3] | PE-HD | 1000 x 208 x 101 | 1000 x 150 x 40 | 4,70 | 56,50 | 5,65 | side 2 x Ø 50<br>bottom 1 x Ø 100 |
| 503009 | | stainless steel AISI 304[2] | | | | | | | |

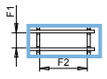
2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF GALVANISED STEEL

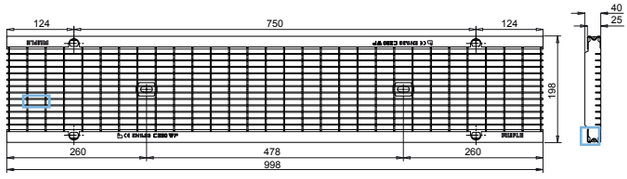
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks

## APPLICATIONS OF STAINLESS STEEL

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks
Areas with low-load transit in food factories
Areas with low-load transit in chemically aggressive environments



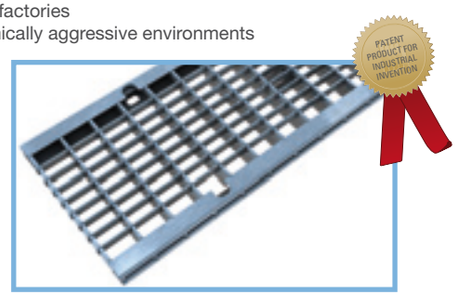

DETAIL OF HOOKING SYSTEM




VIEW FROM ABOVE

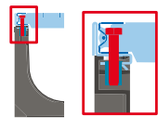
SIDE VIEW

DETAIL OF UPRIGHT BEND

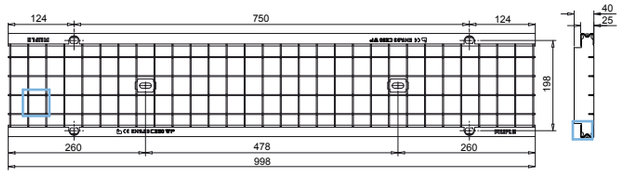



## ANTI-HELL MESH GRATING

40 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM | |
|---|---|---|---|---|---|---|---|---|
| | € | | mm | kg | dm² | mm | tie-tod | screw |
| 503125 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 198 x 25 | 8,40 | 11,64 | 10,2 x 31,2 |  |  |
| 503126 | | pickled stainless steel AISI 304[2] | | | | | | |
| 503153 | | hot dip galvanised steel DD11 (1.0332)[5] | 498 x 198 x 25 | 4,20 | 5,82 | | | |
| 503154 | | pickled stainless steel AISI 304[2] | | | | | | |

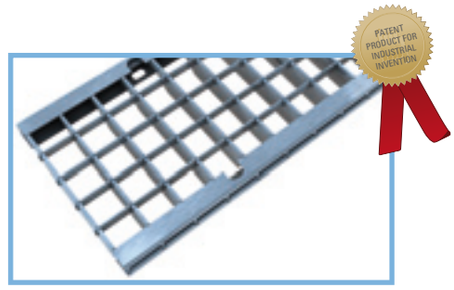

DETAIL OF SQUARE MESH




VIEW FROM ABOVE

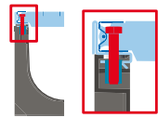
SIDE VIEW

DETAIL OF UPRIGHT BEND




## SQUARE MESH GRATING

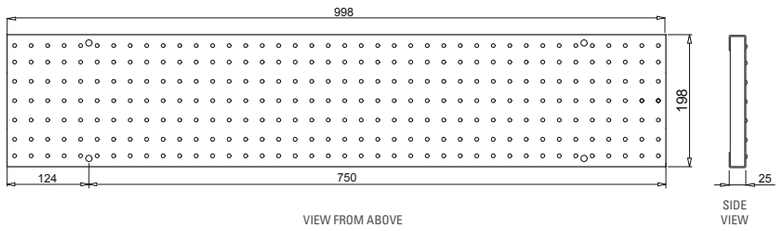
40 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM | |
|---|---|---|---|---|---|---|---|---|
| | € | | mm | kg | dm² | mm | tie-tod | screw |
| 503127 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 198 x 25 | 7,30 | 12,94 | 34,2 x 31,2 |  |  |
| 503128 | | pickled stainless steel AISI 304[2] | | | | | | |
| 503155 | | hot dip galvanised steel DD11 (1.0332)[5] | 498 x 198 x 25 | 3,65 | 6,47 | | | |
| 503156 | | pickled stainless steel AISI 304[2] | | | | | | |

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

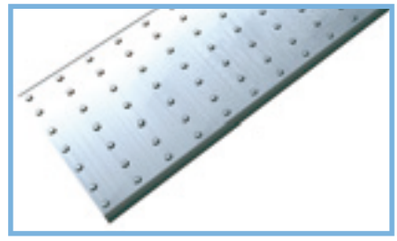
## APPLICATIONS

Cable passageway
Passageway for water and/or heat systems

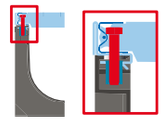



VIEW FROM ABOVE

SIDE VIEW

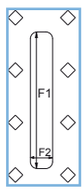


### SOLID TOP COVER — 25 mm

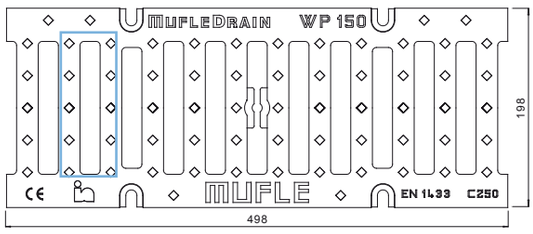
| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | FIXING SYSTEM screw |
|---|---|---|---|---|---|
| 503102 | | galvanised steel DX51D[3] | 998 x 198 x 25 | 4,20 |  |

## APPLICATIONS OF DUCTILE IRON

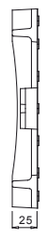
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks




SLOT DETAIL

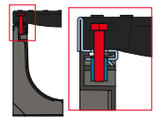



VIEW FROM ABOVE




SIDE VIEW

### SLOTTED GRATING 20 mm — 25 mm

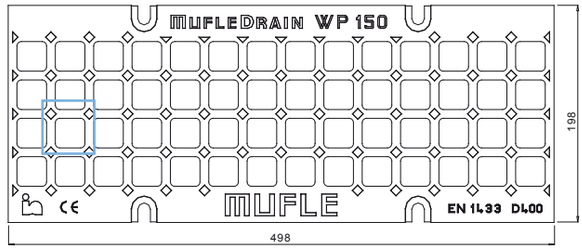
| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SURFACE dm² | OPENINGS F1 x F2 mm | FIXING SYSTEM screw |
|---|---|---|---|---|---|---|---|
| 503111 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 198 x 25 | 5,90 | 3,12 | 132,0 x 20,0 |  |

3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

Road carriageways (not transversal)
Hard shoulders
Lay-bys with thick and heavy-goods traffic
Petrol stations

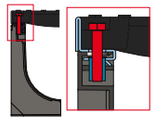

SLOT DETAIL

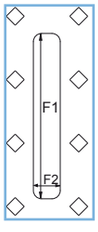



VIEW FROM ABOVE

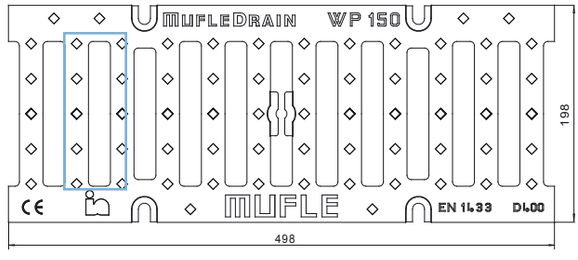

SIDE VIEW

### MESH GRATING — 34 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | dm² | mm | screw |
| 503183 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 198 x 25 | 7,20 | 4,08 | 27,0 x 27,0 |  |

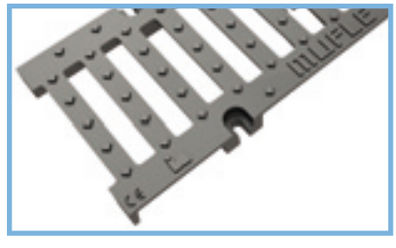



SLOT DETAIL

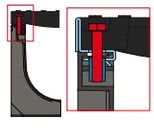



VIEW FROM ABOVE


SIDE VIEW



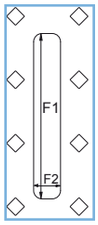
### SLOTTED GRATING 20 mm — 40 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | dm² | mm | screw |
| 503112 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 198 x 25 | 7,10 | 3,12 | 132,0 x 20,0 |  |

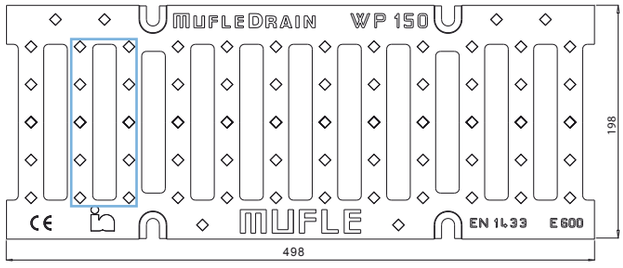
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

Transversal canalisation systems in carriageways of roads with thick and heavy-goods traffic
Industrial areas with passage of forklift trucks (high axle loads)
Underpasses

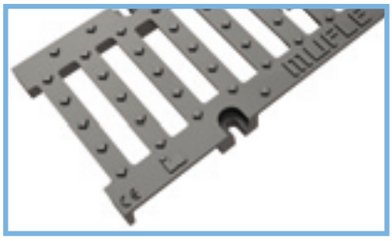


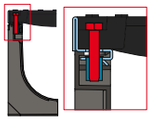

SLOT DETAIL




VIEW FROM ABOVE


SIDE VIEW

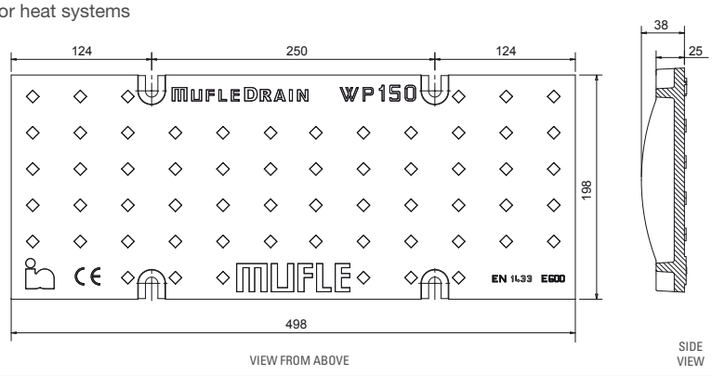



| SLOTTED GRATING 20 mm | | | | | | | 40 mm |
|---|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
| | € | | mm | kg | $dm^2$ | mm | screw |
| 503113 | | GJS 500/76 ductile ironwater based paint coated | 498 x 198 x 25 | 7,80 | 3,12 | 132,0 x 20,0 |  |

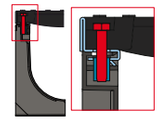
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS

Cable passageway
Passageway for water and/or heat systems

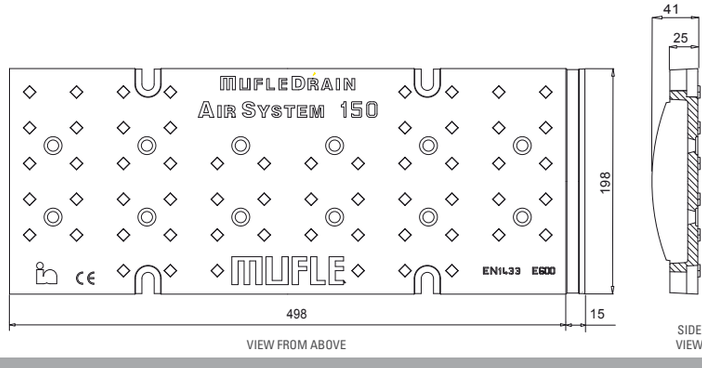



### SOLID TOP COVER — 38 mm

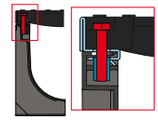
| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | FIXING SYSTEM screw |
|---|---|---|---|---|---|
| 503106 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 198 x 25 | 10.60 |  |

## APPLICATIONS

Waste composting systems



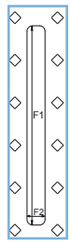

### SOLID TOP COVER AIR SYSTEM — 41 mm

| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | FIXING SYSTEM screw |
|---|---|---|---|---|---|
| 503100 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 198 x 25 | 10.50 |  |

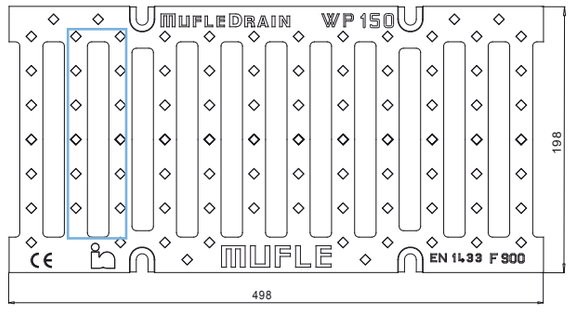
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

Port and airport areas

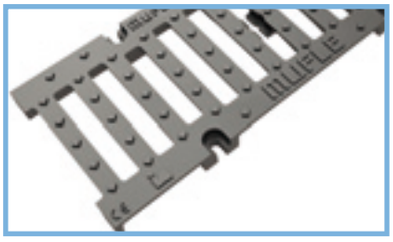


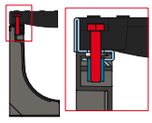

SLOT DETAIL




VIEW FROM ABOVE


SIDE VIEW



| SLOTTED GRATING 20 mm | | | | | | | 40 mm |
|---|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | WEIGHT | FIXING SYSTEM |
| | € | | mm | kg | $dm^2$ | kg | screw |
| 503174 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 198 x 25 | 8,70 | 3,12 | 132,0 x 20,0 |  |

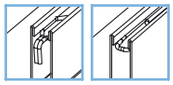
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF GALVANISED STEEL

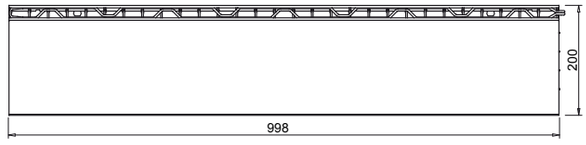
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements

## APPLICATIONS OF STAINLESS STEEL

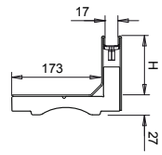
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements



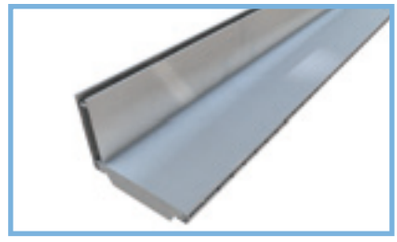
DETAIL OF HOOKINF SYSTEM[8]




VIEW FROM ABOVE

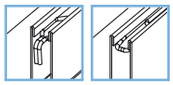



SIDE VIEW

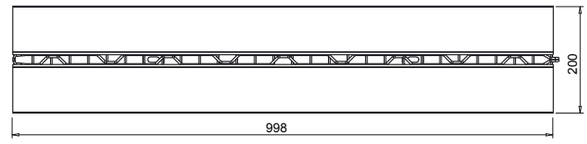


### L-SHAPED GRATING

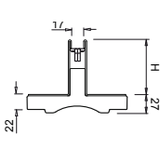
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | HEIGHT OF SLOTS H | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 |
|---|---|---|---|---|---|---|---|
| | € | | mm | mm | kg | dm² | mm |
| 503194 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 200 x 112 | 80 | 9,63 | 1,80 | 998 x 18 |
| 503433 | | pickled stainless steel AISI 304[2] | | | | | |
| 503195 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 200 x 152 | 120 | 11,10 | | |
| 503434 | | pickled stainless steel AISI 304[2] | | | | | |



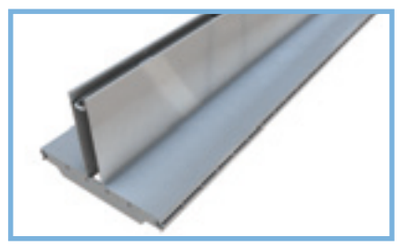
DETAIL OF HOOKINF SYSTEM[8]




VIEW FROM ABOVE




SIDE VIEW



### T-SHAPED GRATING

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | HEIGHT OF SLOTS H | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 |
|---|---|---|---|---|---|---|---|
| | € | | mm | mm | kg | dm² | mm |
| 503188 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 200 x 112 | 80 | 9,10 | 1,80 | 998 x 18 |
| 503421 | | pickled stainless steel AISI 304[2] | | | | | |
| 503189 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 200 x 152 | 120 | 10,51 | | |
| 503422 | | pickled stainless steel AISI 304[2] | | | | | |

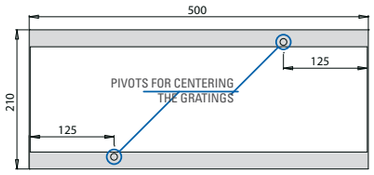
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
8- Hooking System between the gratings through hooks and holes.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# INSPECTION ELEMENT FOR L-SHAPED GRATING

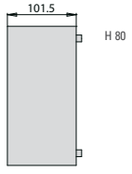
TYPE D 400
MIDDLE
DRIVEWAY

wing 150

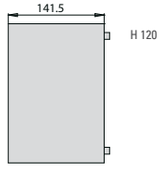
## CONTAINMENT TANK



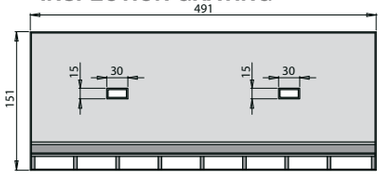
VIEW FROM ABOVE



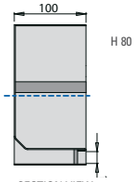
SIDE VIEW



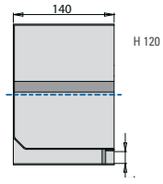

## INSPECTION GRATING

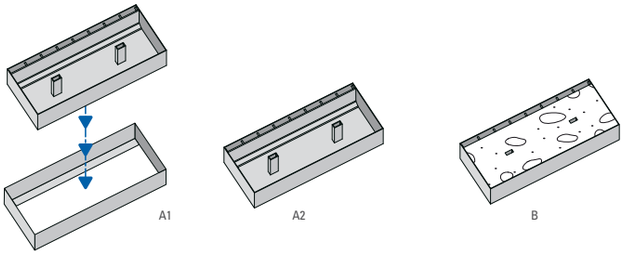


VIEW FROM ABOVE

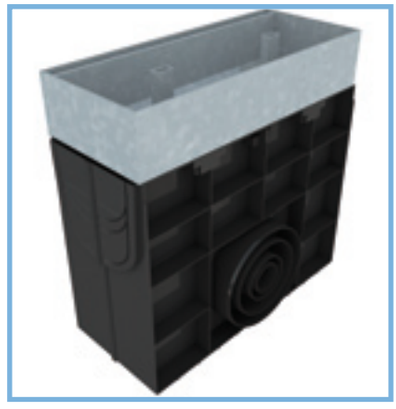


SECTION VIEW



MOUNTING



The inspection element for the T-shaped gratings shall be assembled together with the drain box with siphon EASY in HD-PE as showed in the picture. Please see page 54 for the details of the drain box with siphon.

| INSPECTION ELEMENT FOR L-SHAPED GRATING - WING 150 | | | | | | |
|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | mm | mm | mm | kg |
| 500227 | | hot dip galvanised steel DD11 (1.0332)[5] | H80 500 x 200 x 101,5 | 491 x 18 | 1,8 | 5,90 |
| 500239 | | pickled stainless steel AISI 304[2] | H80 500 x 200 x 101,5 | 491 x 18 | 1,8 | 5,50 |
| 500228 | | hot dip galvanised steel DD11 (1.0332)[5] | H120 500 x 200 x 141,5 | 491 x 18 | 1,8 | 7,70 |
| 500240 | | pickled stainless steel AISI 304[2] | H120 500 x 200 x 141,5 | 491 x 18 | 1,8 | 7,10 |

| HOOK FOR TAKING OFF THE GRATING INSPECTION ELEMENT | | | | | | |
|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | mm | mm | mm | kg |
| 500254 | | hot dip galvanised steel DD11 (1.0332)[5] | 710 x 180 | _ | _ | 0,65 |

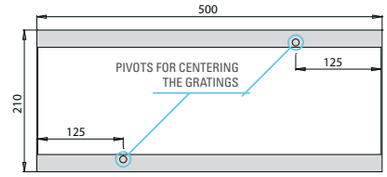
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# INSPECTION ELEMENT FOR T-SHAPED GRATING

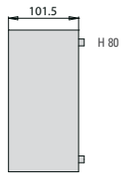
TYPE D 400
MIDDLE
DRIVEWAY

WING 150

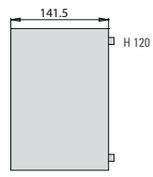
## CONTAINMENT TANK



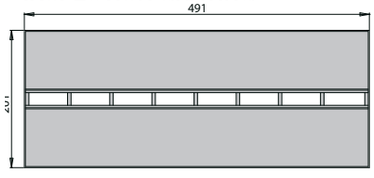
VIEW FROM ABOVE



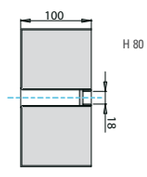
SIDE VIEW



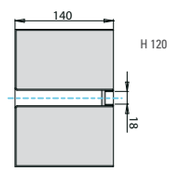

## INSPECTION GRATING

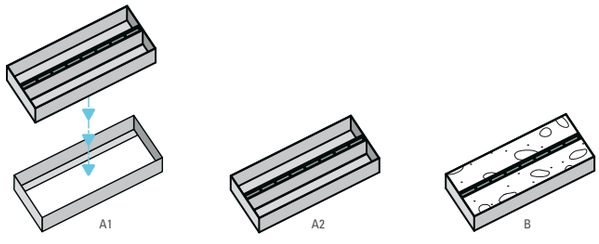


VIEW FROM ABOVE



SECTION VIEW



MOUNTING

The inspection element for the T-shaped gratings shall be assembled together with the drain box with siphon EASY in HD-PE as showed in the picture. Please see page 54 for the details of the drain box with siphon.

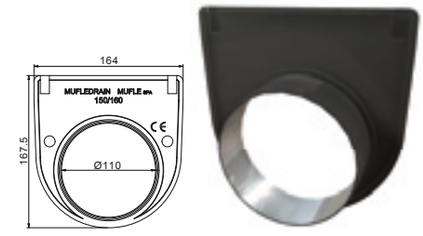
| INSPECTION ELEMENT FOR T-SHAPED GRATING - WING 150 | | | | | | |
|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | mm | mm | mm | kg |
| 500221 | | hot dip galvanised steel DD11 (1.0332)[5] | H80 500 x 210 x 101,5 | 491 x 18 | 1,8 | 6,40 |
| 500233 | | pickled stainless steel AISI 304[2] | H80 500 x 210 x 101,5 | 491 x 18 | 1,8 | 5,90 |
| 500222 | | hot dip galvanised steel DD11 (1.0332)[5] | H120 500 x 210 x 141,5 | 491 x 18 | 1,8 | 8,20 |
| 500234 | | pickled stainless steel AISI 304[2] | H120 500 x 210 x 141,5 | 491 x 18 | 1,8 | 7,70 |

| HOOK FOR TAKING OFF THE GRATING INSPECTION ELEMENT | | | | | | |
|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | mm | mm | mm | kg |
| 500254 | | hot dip galvanised steel DD11 (1.0332)[5] | 710 x 180 | _ | _ | 0,65 |

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

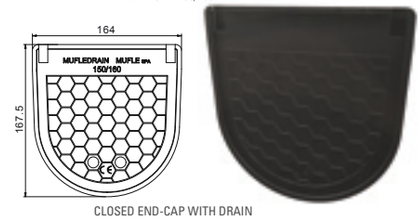

END-CAP 150/40


END-CAP 150/100




END-CAP 150/160

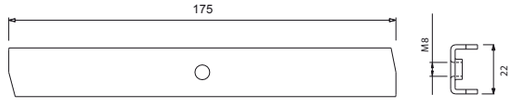

CLOSED END-CAP WITH DRAIN
150/100




CLOSED END-CAP WITH DRAIN
150/160

## END CAPS

| CODE | PRICE € | TYPE | MATERIAL | VALID FOR CHANNELS | PREINSTALLED DRAINS mm |
|---|---|---|---|---|---|
| 500518 | | closed end-cap with preinstalled drain | PE-HD | 150/40 | 2 x Ø 32 |
| 700504 | | end-cap with drain | PE-HD | 150/100 | 1 x Ø 63 |
| 700512 | | closed end-cap | PE-HD | 150/100 | - |
| 700505 | | end-cap with drain | PE-HD | 150/160 | 1 x Ø 110 |
| 700513 | | closed end-cap | PE-HD | 150/160 | - |

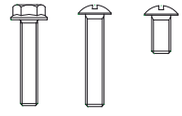



VIEW FROM ABOVE

SIDE VIEW

## KIT TIE-ROD + SCREWS

| CODE | PRICE € | MATERIAL | VALID FOR GRATINGS | SCREW | KIT FOR 1ml |
|---|---|---|---|---|---|
| 500424 | | galvanised steel | WING galvanised steel | M8 x 55 TBL combi | 2 tie-rods + 2 screws |
| 500425 | | stainless steel | WING stainless steel | M8 x 55 TBL combi | 2 tie-rods + 2 screws |



## KIT SCREWS

| CODE | PRICE € | MATERIAL | VALID FOR GRATINGS | SCREW | KIT FOR 1ml |
|---|---|---|---|---|---|
| 503312 | | black galvanised steel | WING ductile iron | M8 x 40 black with fl anged hexagonal head | 8 |
| 503313 | | galvanised steel | WING galvanised steel | M8 x 20 TBL combi | 4 |
| 503314 | | stainless steel | WING stainless steel | M8 x 20 TBL combi | 4 |
| 503315 | | galvanised steel | galvanised steel solid top cover WING | M8 x 40 TBL combi | 4 |

## CONNECTOR FOR STEP-SLOPE

| CODE | PRICE € | VALID FOR CHANNELS | FAMILIES |
|---|---|---|---|
| 700517 | | from 150/100 to 150/160 | EASY - VIP - SMART - SLOPE - WING - PLUS |

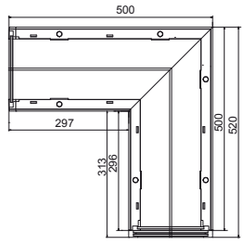
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

Utilising Mufle's distinctive step connector system, it is possible to connect drainage channels of differing heights to create greater efficiencies in hydraulic velocity and channel capacity. These efficiencies create benefits in increased drainage performance, outlet number reduction for longer continuous drainage runs, increased self cleansing ability and lower installation costs. Stepped channel are typically recognised by structured increases in neutral channel depths towards a nominated outlet along a specific drainage channel run/lenght.

# SPECIAL PIECES AND DRAIN BOX WITH SYPHON

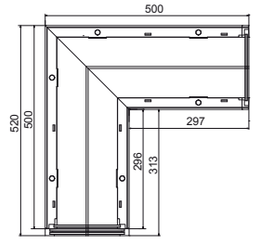
wing 150

## LEFT CORNER — WING 150



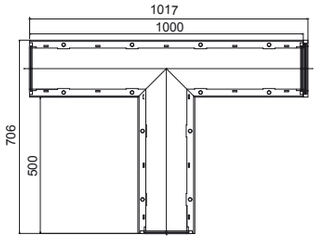

| CODE | PRICE € | MODEL |
|---|---|---|
| 703104 | | 150/160 |
| 703105 | | 150/100 |
| 503205 | | 150/40 |

## RIGHT CORNER — WING 150



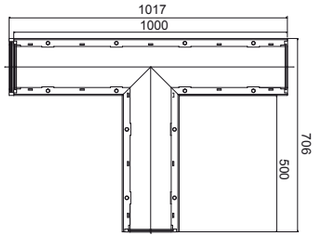

| CODE | PRICE € | MODEL |
|---|---|---|
| 703112 | | 150/160 |
| 703113 | | 150/100 |
| 503214 | | 150/40 |

## LEFT TI — WING 150



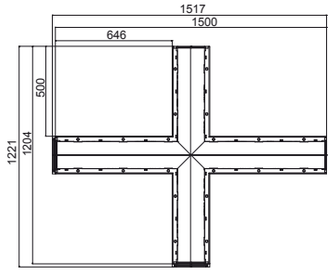

| CODE | PRICE € | MODEL |
|---|---|---|
| 703120 | | 150/160 |
| 703121 | | 150/100 |
| 503223 | | 150/40 |

## RIGHT TI — WING 150




| CODE | PRICE € | MODEL |
|---|---|---|
| 703128 | | 150/160 |
| 703129 | | 150/100 |
| 503232 | | 150/40 |

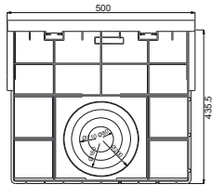
## CROSS — WING 150



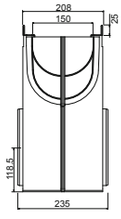

| CODE | PRICE € | MODEL |
|---|---|---|
| 703136 | | 150/160 |
| 703137 | | 150/100 |
| 503241 | | 150/40 |

Special pieces, corners, Ti, crosses in stainless steel are available upon request. For further information please contact our Technical Department.

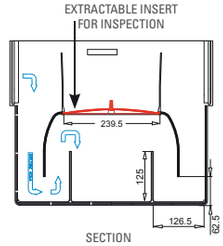
## DRAIN BOX WITH SYPHON[9]




FRONT VIEW




SIDE VIEW




SECTION

## WING 150

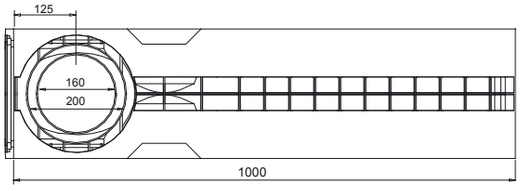
| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF OUTLET | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | MAXIMUM LARGE mm | HEIGHT OF OUTLETS mm | WEIGHT kg | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 703017 | | galvanised steel DX51D[3] | PE-HD | 500 x 208 x 434 | 500 x 150 x 400 | 235 | 118,5 | 4,00 | 2 x Ø 110; 2 x Ø 160; 2 x Ø 200 |
| 703020 | | stainless steel AISI 304[2] | PE-HD | 500 x 208 x 434 | 500 x 150 x 400 | 235 | 118,5 | 4,00 | 2 x Ø80; 2 x Ø 110; 2 x Ø 160; 2 x Ø 200 |

2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
9- The drain box Easy, Vip and Wing 150 and 200 are not prearranged to be connected to the correspondent channels Easy, Wing and Vip 150/40, 200/40
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

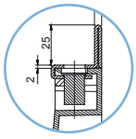


MUFLE

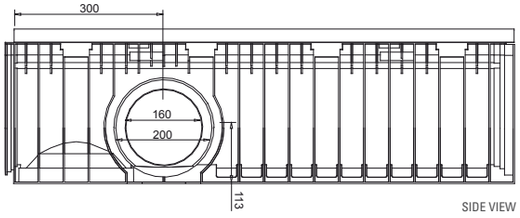

# 200



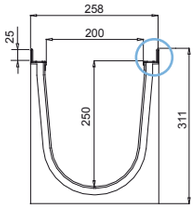

VIEW FROM BELOW




DETAIL SECTION



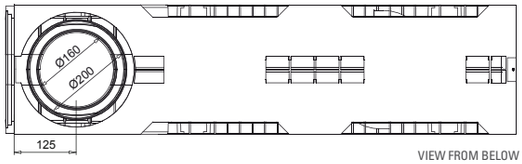

SIDE VIEW



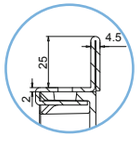

SECTION

## WING 200/250

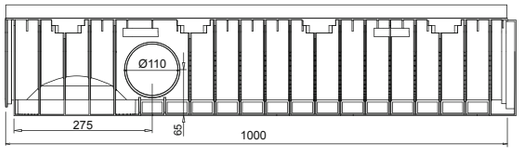
| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SECTION $cm^2$ | CAPACITY $dm^3$ | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 503025 | | galvanised steel DX51D[3] | PE-HD | 1000 x 258 x 311 | 1000 x 200 x 250 | 7,50 | 430,00 | 43,00 | side 2 x Ø 200; 2 x Ø 160<br>bottom 1 x Ø 200; 1 x Ø 160 |
| 503028 | | stainless steel AISI 304[2] | | | | | | | |



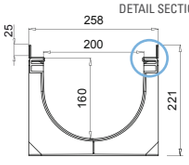

VIEW FROM BELOW




DETAIL SECTION




SIDE VIEW

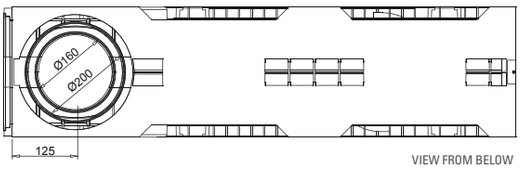



SECTION

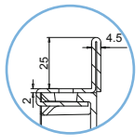
## WING 200/160

| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SECTION $cm^2$ | CAPACITY $dm^3$ | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 703006 | | galvanised steel DX51D[3] | PE-HD | 1000 x 258 x 221 | 1000 x 200 x 160 | 5,75 | 275,87 | 27,58 | side 2 x Ø 110<br>bottom 1 x Ø 160; 1 x Ø 200 |
| 703014 | | stainless steel AISI 304[2] | | | | | | | |

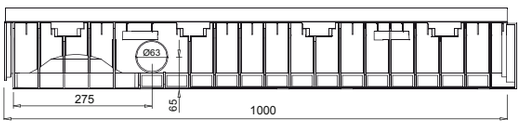
2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.



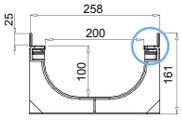

VIEW FROM BELOW




DETAIL SECTION



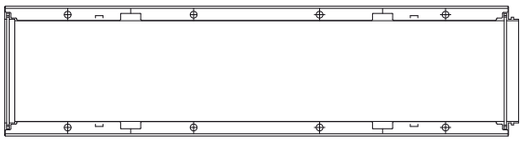

SIDE VIEW



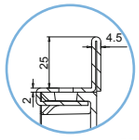

SECTION

## WING 200/100

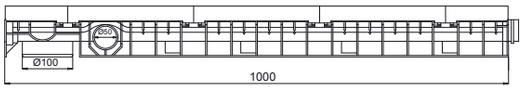
| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SECTION $cm^2$ | CAPACITY $dm^3$ | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 703007 | | galvanised steel DX51D[3] | PE-HD | 1000 x 258 x 161 | 1000 x 200 x 100 | 5,15 | 178,73 | 17,87 | side 2 x Ø 63<br>bottom 1 x Ø 160; 1 x Ø 200 |
| 703015 | | stainless steel AISI 304[2] | | | | | | | |



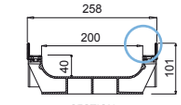
VIEW FROM BELOW




DETAIL SECTION




SIDE VIEW




SECTION

## WING 200/40

| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SECTION $cm^2$ | CAPACITY $dm^3$ | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 503014 | | galvanised steel DX51D[3] | PE-HD | 1000 x 258 x 101 | 1000 x 200 x 40 | 4,70 | 76,50 | 7,65 | side 2 x Ø 50<br>bottom 1 x Ø 100 |
| 503015 | | stainless steel AISI 304[2] | | | | | | | |

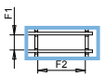
2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF GALVANISED STEEL

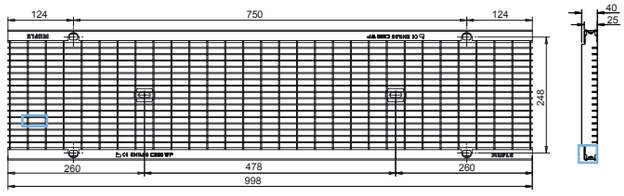
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks

## APPLICATIONS OF STAINLESS STEEL

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks
Areas with low-load transit in food factories
Areas with low-load transit in chemically aggressive environments




DETAIL OF HOOKING SYSTEM

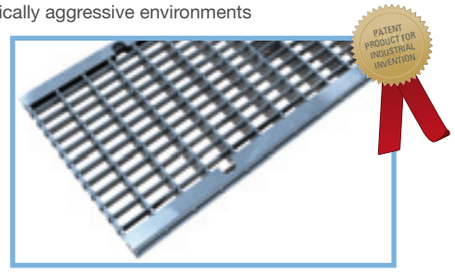



VIEW FROM ABOVE



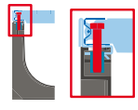

SIDE VIEW

DETAIL OF UPRIGHT BEND

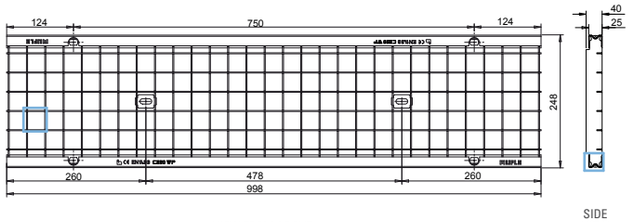



## ANTI-HELL MESH GRATING

40 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM | |
|---|---|---|---|---|---|---|---|---|
| | € | | mm | kg | dm² | mm | tie-tod | screw |
| 503129 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 248 x 25 | 10,30 | 15,50 | 10,2 x 31,2 |  |  |
| 503130 | | pickled stainless steel AISI 304[2] | | | | | | |
| 503157 | | hot dip galvanised steel DD11 (1.0332)[5] | 498 x 248 x 25 | 5,15 | 7,75 | | | |
| 503158 | | pickled stainless steel AISI 304[2] | | | | | | |


DETAIL OF SQUARE MESH




VIEW FROM ABOVE

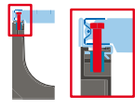



SIDE VIEW

DETAIL OF UPRIGHT BEND


## SQUARE MESH GRATING

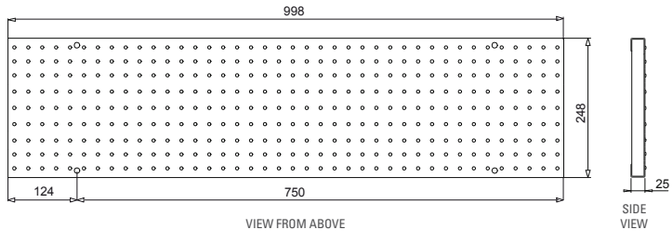
40 mm

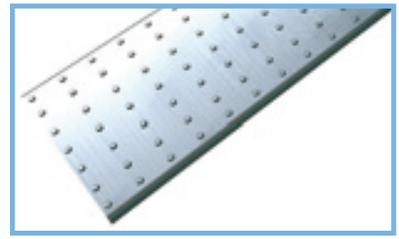
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM | |
|---|---|---|---|---|---|---|---|---|
| | € | | mm | kg | dm² | mm | tie-tod | screw |
| 503131 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 248 x 25 | 9,10 | 17,13 | 34,2 x 31,2 |  |  |
| 503132 | | pickled stainless steel AISI 304[2] | | | | | | |
| 503159 | | hot dip galvanised steel DD11 (1.0332)[5] | 498 x 248 x 25 | 4,55 | 8,57 | | | |
| 503160 | | pickled stainless steel AISI 304[2] | | | | | | |

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

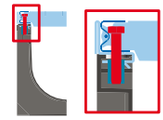
## APPLICATIONS

Cable passageway
Passageway for water and/or heat systems



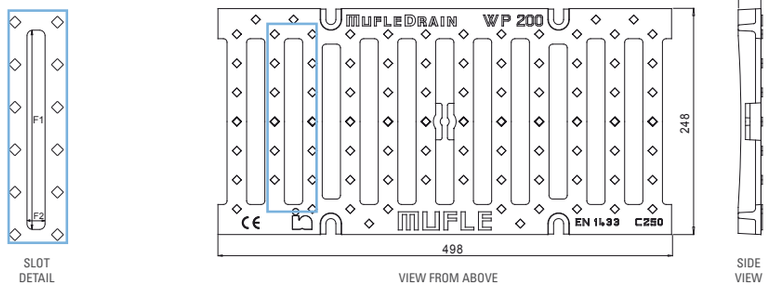



### SOLID TOP COVER — 25 mm

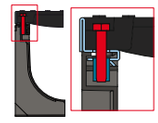
| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | FIXING SYSTEM screw |
|---|---|---|---|---|---|
| 503103 | | galvanised steel DX51D[3] | 998 x 248 x 25 | 6,20 |  |

## APPLICATIONS OF DUCTILE IRON

Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks




### SLOTTED GRATING 20 mm — 25 mm

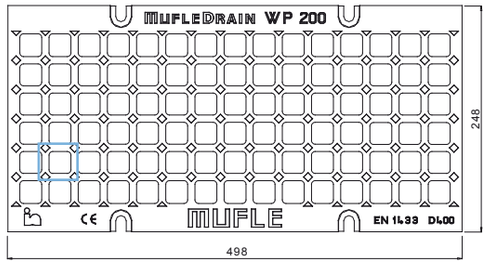
| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SURFACE dm² | OPENINGS F1 x F2 mm | FIXING SYSTEM screw |
|---|---|---|---|---|---|---|---|
| 503114 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 248 x 25 | 7,00 | 4,32 | 182,0 x 20,0 |  |

3- Classification according to Standard EN 10142 (ed. 2002) and symbolic designation according to EN 10027-1 (-2) (ed. 2006).
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

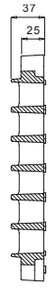
## APPLICATIONS OF DUCTILE IRON

Road carriageways (not transversal)
Hard shoulders
Lay-bys with thick and heavy-goods traffic
Petrol stations

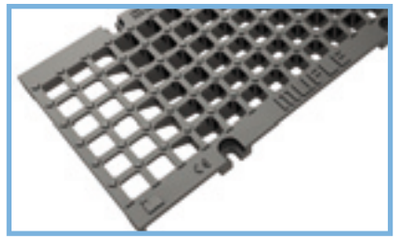

SLOT DETAIL



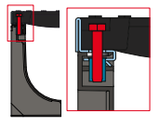

VIEW FROM ABOVE

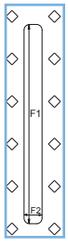



SIDE VIEW

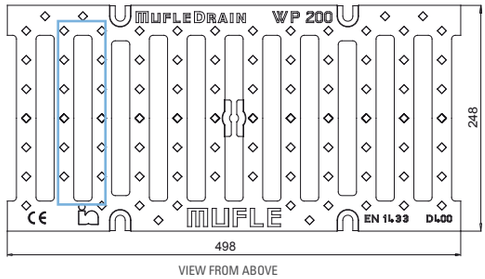


### MESH GRATING — 37 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | $dm^2$ | mm | screw |
| 503184 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 248 x 25 | 8,60 | 5,18 | 24,0 x 24,0 |  |



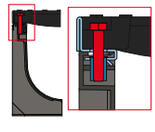

SLOT DETAIL




VIEW FROM ABOVE


SIDE VIEW

### SLOTTED GRATING 20 mm — 42 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | $dm^2$ | mm | screw |
| 503115 | | GJS 500/7[6] ductile ironwater based paint coated | 498 x 248 x 25 | 8,20 | 4,32 | 182,0 x 20,0 |  |

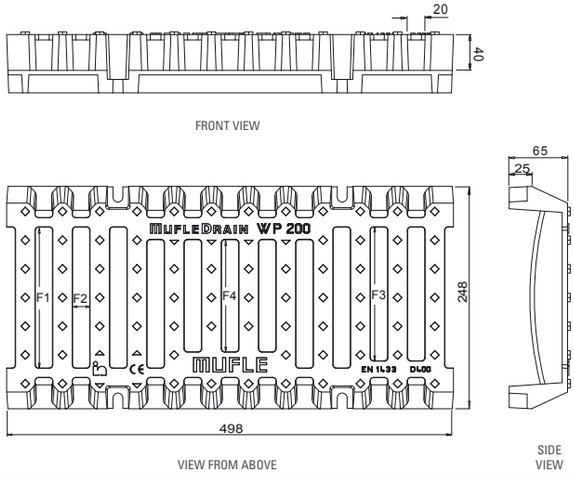
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# DRAINING ASPHALT GRATING

D 400

wing 200

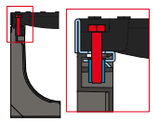
**APPLICATIONS OF DUCTILE IRON**
Road carriageways with draining asphalt





## DRAINING ASPHALT GRATING

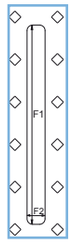
65 mm

| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SURFACE $dm^2$ | OPENINGS F1 x F2 mm | FIXING SYSTEM screw |
|---|---|---|---|---|---|---|---|
| 503181 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 248 x 25 | 11,50 | top 4,08 side 1,44 | F1 x F2 = 180,0 x 20,0<br>F3 x F2 = 150,0 x 20,0<br>F4 x F2 = 126,0 x 20,0<br><br>side 40,0 x 20,0 (18,9 x side) |  |

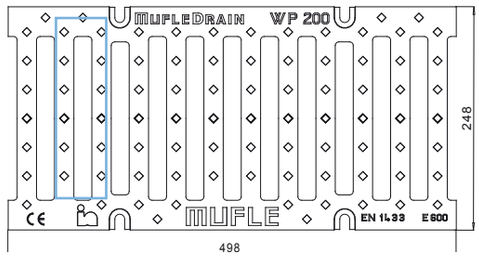
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

Transversal canalisation systems in carriageways of roads with thick and heavy-goods traffic
Industrial areas with passage of forklift trucks (high axle loads)
Underpasses

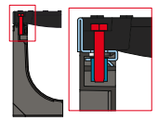



SLOT DETAIL



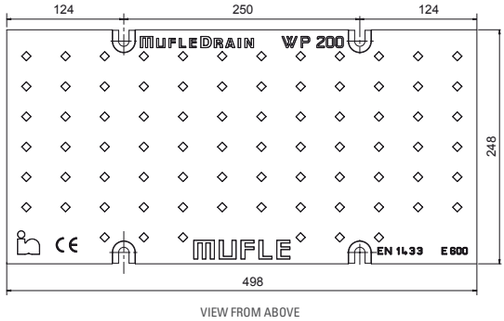

VIEW FROM ABOVE


SIDE VIEW

| SLOTTED GRATING 20 mm | | | | | | | 45 mm |
|---|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
| | € | | mm | kg | $dm^2$ | mm | screw |
| 503116 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 248 x 25 | 9,70 | 4,32 | 180,0 x 20,0 |  |

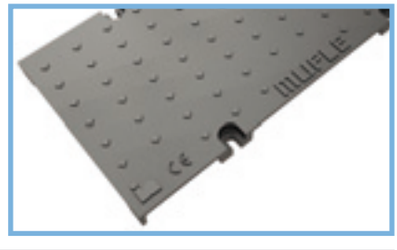
## APPLICATIONS

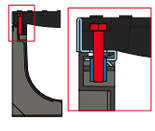
Cable passageway
Passageway for water and/or heat systems




VIEW FROM ABOVE


SIDE VIEW

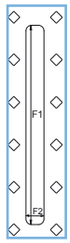


| SOLID TOP COVER | | | | | 45 mm |
|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | FIXING SYSTEM |
| | € | | mm | kg | screw |
| 503107 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 248 x 25 | 12,00 |  |

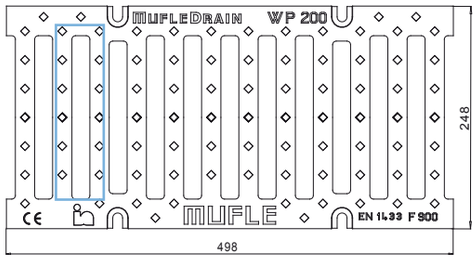
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

Port and airport areas

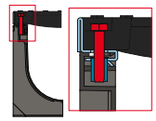



SLOT DETAIL




VIEW FROM ABOVE


SIDE VIEW

| SLOTTED GRATING 20 mm | | | | | | | 45 mm |
|---|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
| | € | | mm | kg | $dm^2$ | mm | screw |
| 503175 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 248 x 25 | 10,50 | 4,32 | 182,0 x 20,0 |  |

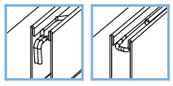
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF GALVANISED STEEL

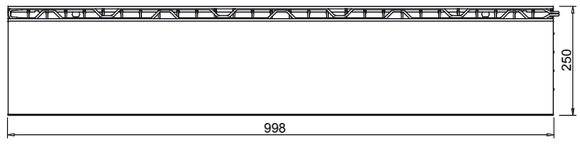
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements

## APPLICATIONS OF STAINLESS STEEL

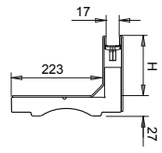
Low visual impact drainage in public and private places:
Pedestrian areas
Private car parks or multi-level car parks
Roads subjected to middle loads (urban speed ≤ 40 km/h)
Areas not subjected to dock movements



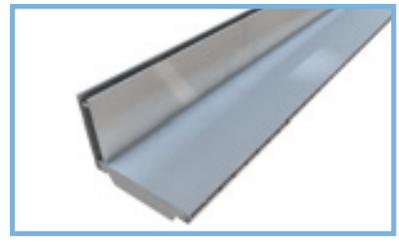
DETAIL OF HOOKINF SYSTEM[8]




VIEW FROM ABOVE

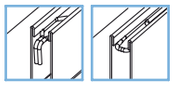



SIDE VIEW

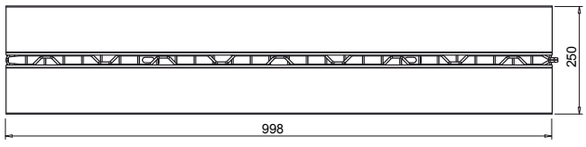


### L-SHAPED GRATING

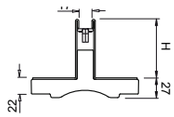
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | HEIGHT OF SLOTS H | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 |
|---|---|---|---|---|---|---|---|
| | € | | mm | mm | kg | dm² | mm |
| 503196 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 250 x 112 | 80 | 11,30 | 1,80 | 998 x 18 |
| 503435 | | pickled stainless steel AISI 304[2] | | | | | |
| 503197 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 250 x 152 | 120 | 12,64 | | |
| 503436 | | pickled stainless steel AISI 304[2] | | | | | |



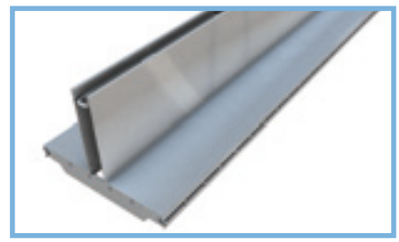
DETAIL OF HOOKINF SYSTEM[8]




VIEW FROM ABOVE




SIDE VIEW



### T-SHAPED GRATING

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | HEIGHT OF SLOTS H | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 |
|---|---|---|---|---|---|---|---|
| | € | | mm | mm | kg | dm² | mm |
| 503190 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 250 x 112 | 80 | 11,64 | 1,80 | 998 x 18 |
| 503423 | | pickled stainless steel AISI 304[2] | | | | | |
| 503191 | | hot dip galvanised steel DD11 (1.0332)[5] | 998 x 250 x 152 | 120 | 13,05 | | |
| 503424 | | pickled stainless steel AISI 304[2] | | | | | |

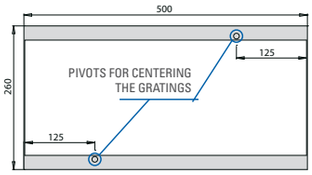
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
8- Hooking System between the gratings through hooks and holes.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# INSPECTION ELEMENT FOR L-SHAPED GRATING

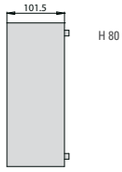
## TYPE D 400 MIDDLE DRIVEWAY

wing 200

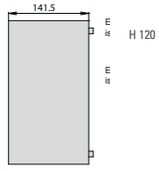
### CONTAINMENT TANK



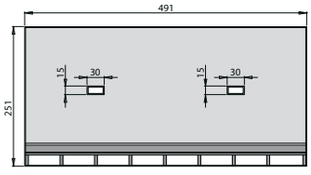
VIEW FROM ABOVE



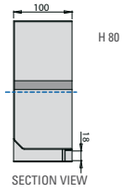
SIDE VIEW



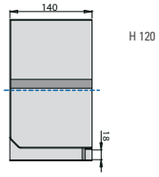

### INSPECTION GRATING

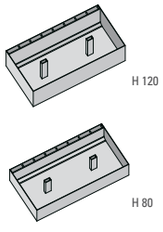


VIEW FROM ABOVE

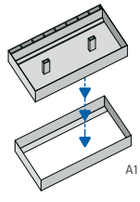


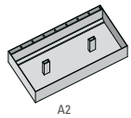
SECTION VIEW

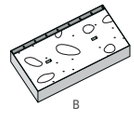


MOUNTING


A1


A2


B

The inspection element for the T-shaped gratings shall be assembled together with the drain box with siphon EASY in HD-PE as showed in the picture. Please see page 64 for the details of the drain box with siphon.

| INSPECTION ELEMENT FOR L-SHAPED GRATING - WING 200 | | | | | | | |
|---|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | | mm | mm | mm | kg |
| 500229 | | hot dip galvanised steel DD11 (1.0332)[5] | H80 | 500 x 260 x 101,5 | 491 x 18 | 1,8 | 6,60 |
| 500241 | | pickled stainless steel AISI 304[2] | H80 | 500 x 260 x 101,5 | 491 x 18 | 1,8 | 6,10 |
| 500230 | | hot dip galvanised steel DD11 (1.0332)[5] | H120 | 500 x 260 x 141,5 | 491 x 18 | 1,8 | 8,40 |
| 500242 | | pickled stainless steel AISI 304[2] | H120 | 500 x 260 x 141,5 | 491 x 18 | 1,8 | 7,80 |

| HOOK FOR TAKING OFF THE GRATING INSPECTION ELEMENT | | | | | | |
|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | mm | mm | mm | kg |
| 500254 | | hot dip galvanised steel DD11 (1.0332)[5] | 710 x 180 | _ | _ | 0,65 |

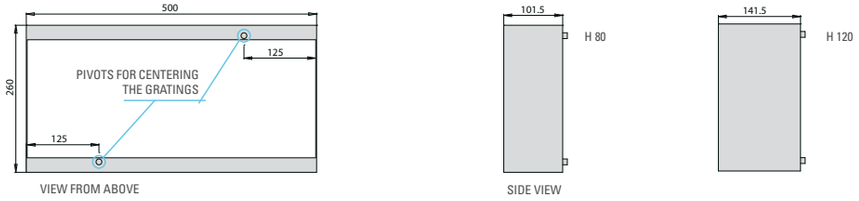
2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# INSPECTION ELEMENT FOR T-SHAPED GRATING

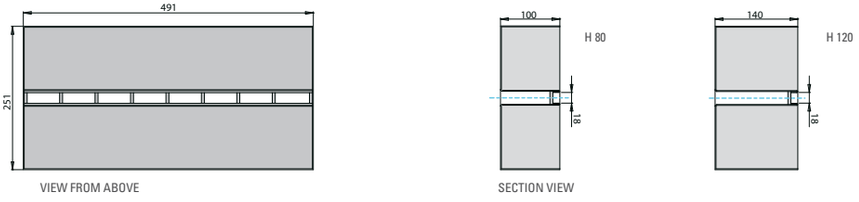
TYPE D 400
MIDDLE
DRIVEWAY

WING 200

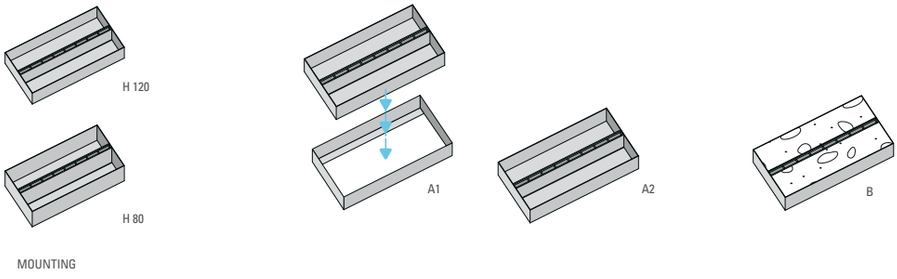
## CONTAINMENT TANK




## INSPECTION GRATING




The inspection element for the T-shaped gratings shall be assembled together with the drain box with siphon EASY in HD-PE as showed in the picture. Please see page 64 for the details of the drain box with siphon.

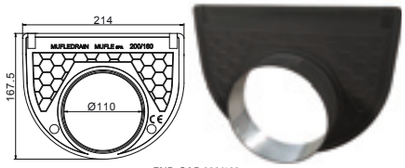



| INSPECTION ELEMENT FOR T-SHAPED GRATING - WING 200 | | | | | | | |
|---|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | | mm | mm | mm | kg |
| 500223 | | hot dip galvanised steel DD11 (1.0332)[5] | H80 | 500 x 260 x 101,5 | 491 x 18 | 1,8 | 6,90 |
| 500235 | | pickled stainless steel AISI 304[2] | H80 | 500 x 260 x 101,5 | 491 x 18 | 1,8 | 6,40 |
| 500224 | | hot dip galvanised steel DD11 (1.0332)[5] | H120 | 500 x 260 x 141,5 | 491 x 18 | 1,8 | 9,00 |
| 500236 | | pickled stainless steel AISI 304[2] | H120 | 500 x 260 x 141,5 | 491 x 18 | 1,8 | 8,30 |

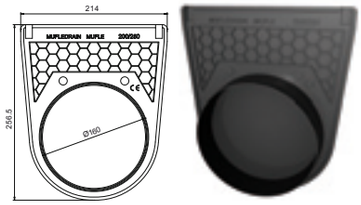
| HOOK FOR TAKING OFF THE GRATING INSPECTION ELEMENT | | | | | | |
|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | VOLUME L x l x h | SLOT DIMENSIONS | DRAINAGE SURFACE | WEIGHT TOTALE |
| | € | | mm | mm | mm | kg |
| 500254 | | hot dip galvanised steel DD11 (1.0332)[5] | 710 x 180 | _ | _ | 0,65 |

2- Classification according to American Standard ASTM.
5- Classification according to Standard EN 10111 (2008) and symbolic designation according to EN 10027-1 (-2) (2006).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

END-CAP 200/100

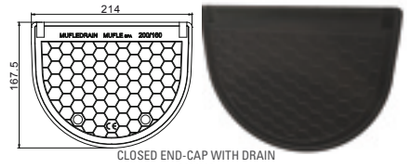


END-CAP 200/160



END-CAP 200/250

CLOSED END-CAP WITH DRAIN 200/100

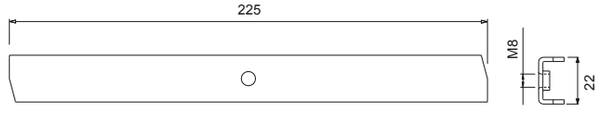


CLOSED END-CAP WITH DRAIN 200/160

END-CAP 200/40

## END CAPS

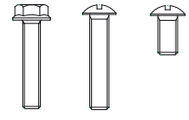
| CODE | PRICE € | TYPE | MATERIAL | VALID FOR CHANNELS | PREINSTALLED DRAIN |
|---|---|---|---|---|---|
| 500521 | | end-cap with drain | PE-HD | 200/40 | 2 x Ø 32 |
| 700506 | | end-cap with drain | PE-HD | 200/100 | 1 x Ø 63 |
| 700514 | | closed end-cap | PE-HD | 200/100 | - |
| 700507 | | end-cap with drain | PE-HD | 200/160 | 1 x Ø 110 |
| 700515 | | closed end-cap | PE-HD | 200/160 | - |
| 502416 | | closed end-cap with preinstalled drain | PE-HD | 200/250 | 1 x Ø 160 |



VIEW FROM ABOVE
SIDE VIEW

## KIT TIE-ROD + SCREWS

| CODE | PRICE € | MATERIAL | VALID FOR GRATINGS | SCREW | KIT FOR 1ml |
|---|---|---|---|---|---|
| 500427 | | galvanised steel | WING galvanised steel | M8 x 55 TBL combi | 2 tie-rods + 2 screws |
| 500428 | | stainless steel | WING stainless steel | M8 x 55 TBL combi | 2 tie-rods + 2 screws |



## KIT SCREWS

| CODE | PRICE € | MATERIAL | VALID FOR GRATINGS | SCREW | KIT FOR 1ml |
|---|---|---|---|---|---|
| 503312 | | black galvanised steel | WING ductile iron | M8 x 40 black with fl anged hexagonal head | 8 |
| 503313 | | galvanised steel | WING galvanised steel | M8 x 20 TBL combi | 4 |
| 503314 | | stainless steel | WING stainless steel | M8 x 20 TBL combi | 4 |
| 503315 | | galvanised steel | galvanised steel solid top cover WING | M8 x 40 TBL combi | 4 |

## CONNECTOR FOR STEP-SLOPE

| CODE | PRICE € | VALID FOR CHANNELS | FAMILIES |
|---|---|---|---|
| 700518 | | from 200/160 to 200/250 | VIP - SLOPE - WING |
| 700519 | | from 200/100 to 200/160 | EASY - VIP - SMART - SLOPE - WING - PLUS |

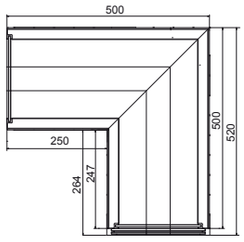
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

Utilising Mufle's distinctive step connector system, it is possible to connect drainage channels of differing heights to create greater efficiencies in hydraulic velocity and channel capacity. These efficiencies create benefits in increased drainage performance, outlet number reduction for longer continuous drainage runs, increased self cleansing ability and lower installation costs. Stepped channel are typically recognised by structured increases in neutral channel depths towards a nominated outlet along a specific drainage channel run/lenght.

# SPECIAL PIECES AND DRAIN BOX WITH SYPHON

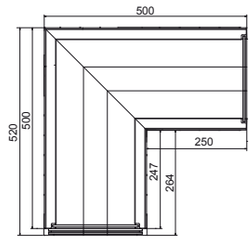
wing 200

## LEFT CORNER WING 200



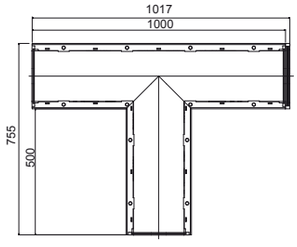

| CODE | PRICE € | MODEL |
|---|---|---|
| 503245 | | 200/250 |
| 703106 | | 200/160 |
| 703107 | | 200/100 |
| 503208 | | 200/40 |

## RIGHT CORNER WING 200



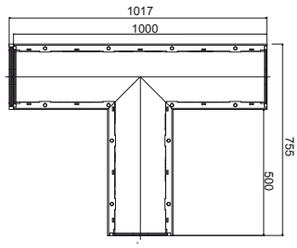

| CODE | PRICE € | MODEL |
|---|---|---|
| 503246 | | 200/250 |
| 703114 | | 200/160 |
| 703115 | | 200/100 |
| 503217 | | 200/40 |

## LEFT TI WING 200



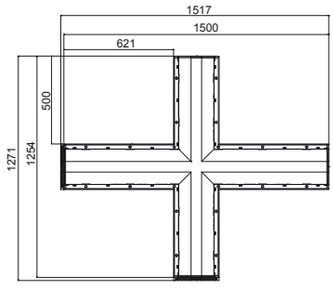

| CODE | PRICE € | MODEL |
|---|---|---|
| on request | | 200/250 |
| 703122 | | 200/160 |
| 703123 | | 200/100 |
| 503226 | | 200/40 |

## RIGHT TI WING 200




| CODE | PRICE € | MODEL |
|---|---|---|
| on request | | 200/250 |
| 703130 | | 200/160 |
| 703131 | | 200/100 |
| 50323 5 | | 200/40 |

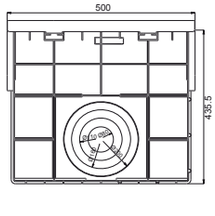
## CROSS WING 200



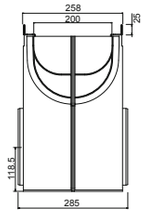

| CODE | PRICE € | MODEL |
|---|---|---|
| on request | | 200/250 |
| 703138 | | 200/160 |
| 703139 | | 200/100 |
| 503244 | | 200/40 |

Special pieces, corners, Ti, crosses in stainless steel are available upon request. For further information please contact our Technical Department.

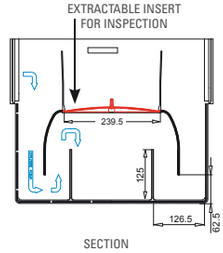
## DRAIN BOX WITH SYPHON[9 - 17]




FRONT VIEW




SIDE VIEW




SECTION

## WING 200

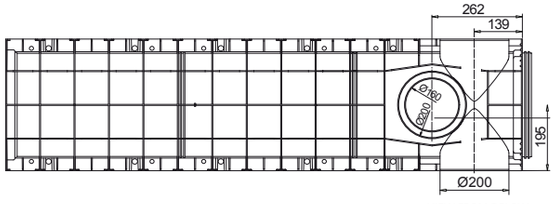
| CODE | PRICE € | MATERIAL OF FRAME | MATERIAL OF OUTLET | EXTERNAL DIMENSIONS L x l x h mm | INTERNAL DIMENSIONS L x l x h mm | MAXIMUM LARGE mm | HEIGHT OF OUTLETS mm | WEIGHT kg | PREINSTALLED DRAIN mm |
|---|---|---|---|---|---|---|---|---|---|
| 703018 | | galvanised steel DX51D[3] | PE-HD | 500 x 258 x 434 | 500 x 200 x 400 | 285 | 118,5 | 4,20 | 2 x Ø 110; 2 x Ø 160; 2 x Ø 200 |
| 703121 | | stainless steel AISI 304[2] | PE-HD | 500 x 258 x 434 | 500 x 200 x 400 | 285 | 118,5 | 4,20 | 2 x Ø 110; 2 x Ø 160; 2 x Ø 200 |

2- Classification according to American Standard ASTM.
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).
9- The drain box Easy, Vip and Wing 150 and 200 are not prearranged to be connected to the correspondent channels Easy, Wing and Vip 150/40, 200/40.
17- The drain box Easy, Vip, Smart, Slope and Wing 200 are not prearranged to be connected to the correspondent channels EASY, VIP, SMART, SLOPE and WING 200/250
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

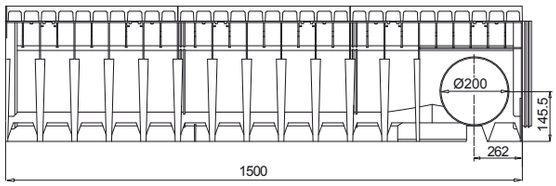


MUFLE

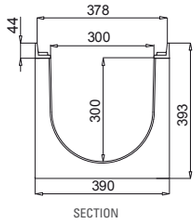

# 300



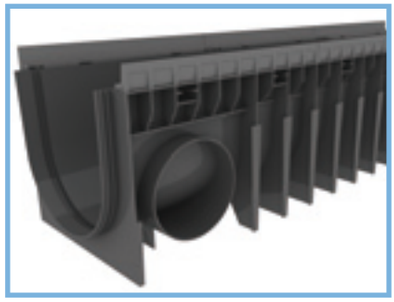

VIEW FROM BELOW




SIDE VIEW




SECTION

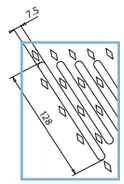


| WING 300/300 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL OF FRAME | MATERIAL OF CHANNEL | EXTERNAL DIMENSIONS | INTERNAL DIMENSIONS | WEIGHT | DRAINAGE SECTION | CAPACITY | PREINSTALLED DRAIN |
| | € | | | L x l x h mm | L x l x h mm | kg | $cm^2$ | $dm^3$ | mm |
| 503018 | | GJS 500/7[6] ductile iron water based paint coated | PE-HD | 1500 x 390 x 393 | 1500 x 300 x 300 | 20,90 | 796,00 | 79,60 | side 2 x Ø 200<br>bottom 1 x Ø 160; 1 x Ø 200 |

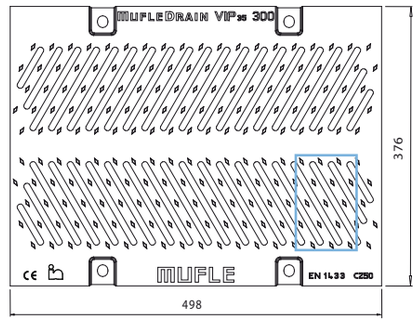
6- Classification according to Standard EN 1563 (2009).
N.B. Waterproofing: in order to ensure the channels are waterproof, a bituminous adhesive sealant should be used. Heat-sealing the channel joints makes sure there will be no leakages through said joints for a very long time. For further information please contact MufleSystem's Technical Department.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

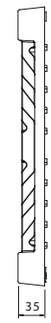
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks




DETAIL OF HOOKING SYSTEM

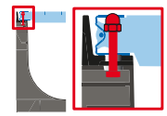



VIEW FROM ABOVE

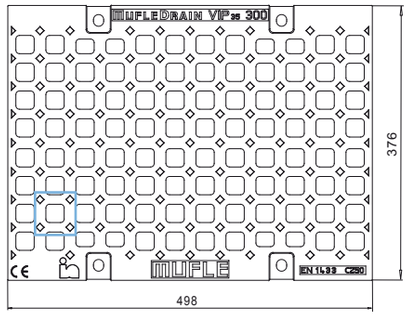



SIDE VIEW

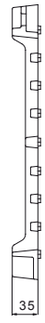
### SLOTTED GRATING 7 mm — 35 mm

| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | $dm^2$ | mm | nut |
| 503176 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 376 x 35 | 19,50 | 3,5 | 128,0 x 7,5 |  |

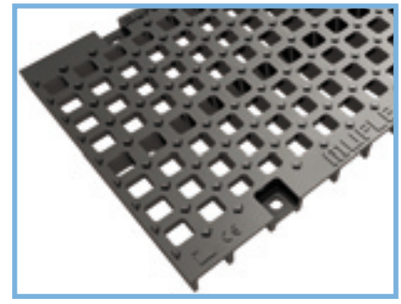

SLOT DETAIL



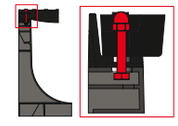

VIEW FROM ABOVE




SIDE VIEW



### MESH GRATING — 35 mm

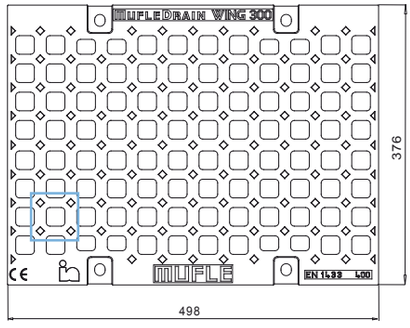
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | $dm^2$ | mm | nut |
| 503117 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 376 x 35 | 16,50 | 5,96 | 25,0 x 25,0 |  |

6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

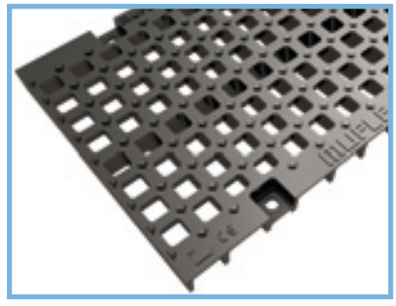
Road carriageways (not transversal)
Hard shoulders
Lay-bys with thick and heavy-goods traffic
Petrol stations


SLOT DETAIL



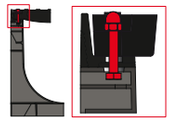

VIEW FROM ABOVE


SIDE VIEW



## MESH GRATING

90 mm

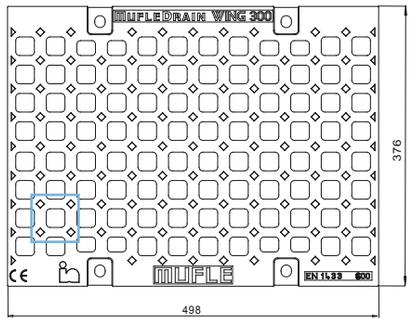
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
|---|---|---|---|---|---|---|---|
| | € | | mm | kg | $dm^2$ | mm | nut |
| 503118 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 376 x 35 | 18,70 | 5,96 | 25,0 x 25,0 |  |

6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

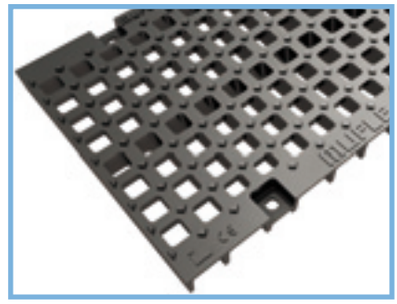
Transversal canalisation systems in carriageways of roads with thick and heavy-goods traffic
Industrial areas with passage of forklift trucks (high axle loads)
Underpasses


SLOT DETAIL

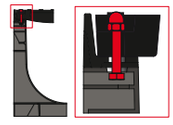



VIEW FROM ABOVE


SIDE VIEW

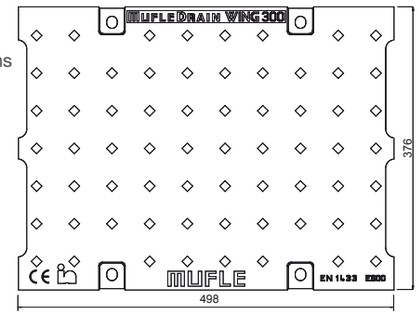


### MESH GRATING — 50 mm

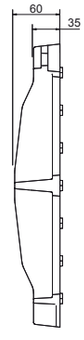
| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | DRAINAGE SURFACE $dm^2$ | OPENINGS F1 x F2 mm | FIXING SYSTEM nut |
|---|---|---|---|---|---|---|---|
| 503119 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 376 x 35 | 21,50 | 5,96 | 25,0 x 25,0 |  |

## APPLICATIONS

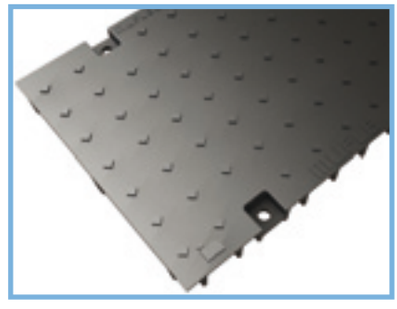
Cable passageway
Passageway for water and/or heat systems



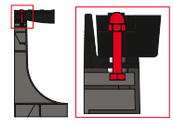

VIEW FROM ABOVE




SIDE VIEW



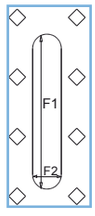
### SOLID TOP COVER — 60 mm

| CODE | PRICE € | MATERIAL | DIMENSIONS L x l x h mm | WEIGHT kg | FIXING SYSTEM nut |
|---|---|---|---|---|---|
| 503104 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 376 x 35 | 26,00 |  |

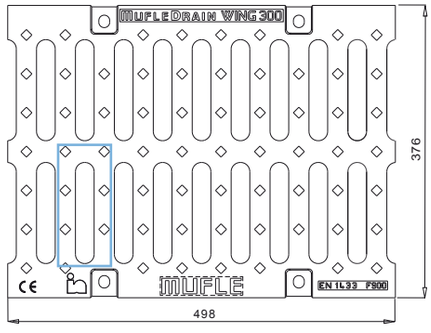
6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

## APPLICATIONS OF DUCTILE IRON

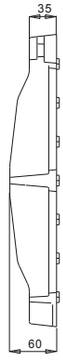
Port and airport areas



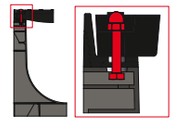

SLOT DETAIL



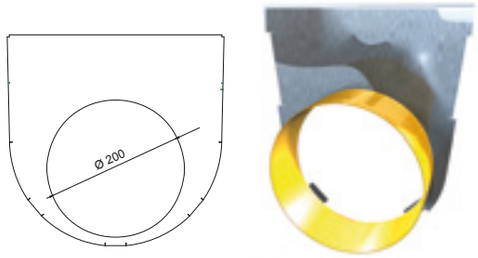

VIEW FROM ABOVE



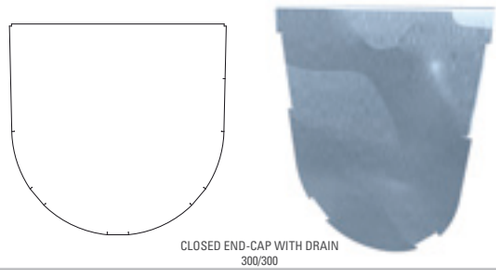

SIDE VIEW

| SLOTTED GRATING | | | | | | | 60 mm |
|---|---|---|---|---|---|---|---|
| CODE | PRICE | MATERIAL | DIMENSIONS L x l x h | WEIGHT | DRAINAGE SURFACE | OPENINGS F1 x F2 | FIXING SYSTEM |
| | € | | mm | kg | $dm^2$ | mm | nut |
| 503120 | | GJS 500/7[6] ductile iron water based paint coated | 498 x 376 x 35 | 27,50 | 8,50 | 130,0 x 24,0 |  |

6- Classification according to Standard EN 1563 (2009).
N.B. Sizes and weights are subject to usual manufacturing tolerance values.



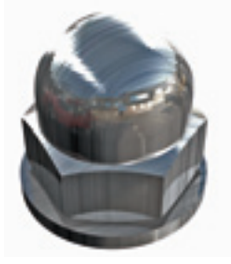

END-CAP 300/300



CLOSED END-CAP WITH DRAIN 300/300

## END CAPS

| CODE | PRICE € | MATERIAL | TYPE END-CAP | PREINSTALLED DRAIN OUTLETS mm |
|---|---|---|---|---|
| 503411 | | galvanised steel | closed end-cap 300/300 | – |
| 503412 | | galvanised steel e PVC | end-cap with drain 300/300 | 1 x Ø 200 |



## KIT NUTS

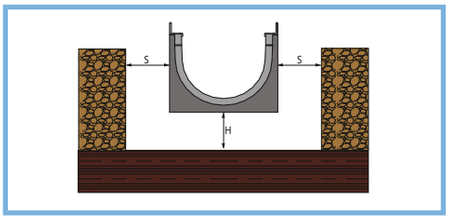
| CODE | PRICE € | MATERIAL | VALID FOR GRATINGS | NUT | KIT FOR 1,5ml |
|---|---|---|---|---|---|
| 503310 | | black galvanised steel | WING ductile iron | Blind hexagonal M10 with spherical cap | 12 nuts + 12 washer[13] |

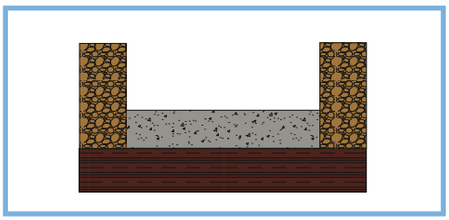
Special Pieces, Corners, Ti, Crosses for WING 300 are available upon request. For further information please contact our Technical Department.

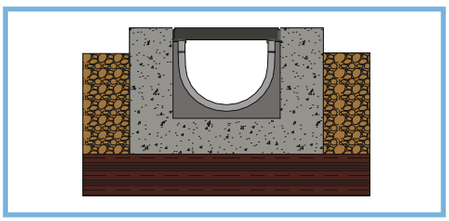
13- Screws are included in the channel.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

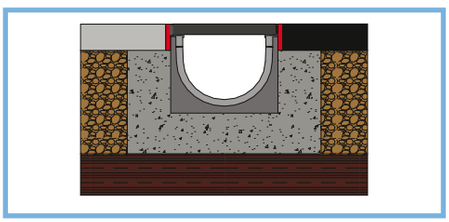
**“For all the drainage channels the manufacturer shall supply written instructions for general installation”** (Ref. § 7.17 EN1433)

The installation instructions enclosed in the present technical section are given only as an example in order to supply the main guide lines to the final fitter.
Any particular installation must be evaluated/ agreed between MufleSystem srl and the project maker.
The correct installation is necessary to guarantee the proper loads resistance of the drainage system (channel and grating) to static and dynamical traffic which is subjected to.
The correct installation involves a longer operational length of the drainage system itself as well as its better hydraulic function.







**NEW FEATURE: The channels can be installed with preassembled gratings.**

## Step 1
HOLE SIZE
The hole needed to lay the MufleDrain channel must allow not only for the size of the channel and the drain piping but also for adequate space for the base H and the side concrete props S. The dimensions to be followed are shown in the Summary Table. In this step make sure the underlying layer is suitable to the load it is expected to support.

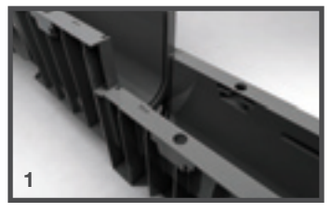
## Step 2
CONCRETE BASE
Cast the concrete base H up to the height specified, allowing for any inclination in the drainage line. In case that cycles of loading and unloading are often (for example: periodic transit of vehicles) or the loads are particular heavy (E600 - F900), we recommended to reinforce the concrete base with a electro-welded net or with or beaded mouldings Ø 8 with mesh 15x15 cm. At this stage it is needed to arrange possible slopes of the drainage line.

## Step 3
CHANNEL ARRANGEMENT
Lay the channels starting from the flow outlet and block them at basis in order to avoid any floating or misalignment during the concrete casting for the side prop.
Allow for the drains required and build the side prop S up to the maximum height allowed by the final coating. Shape it according to the needs based on the drawing. Introduce and fix the grating required beforehand in order to prevent any deformation of the channel due to the thrust of concrete and to speed up installation.
As well as the step 2, also for the side prop concrete arrange the reinforcement.

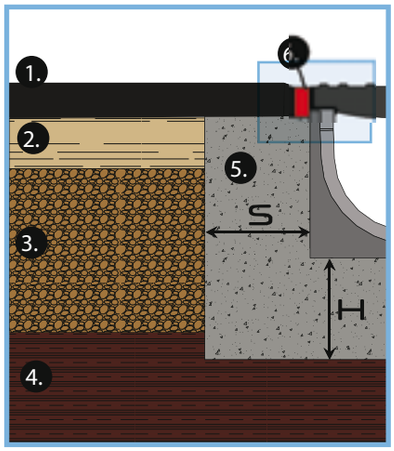
## Step 4
FINAL COATING
When applying the final coating, make sure its upper profile reaches up to minimum 3/5 mm above the grating’s flow plane.

## Recommendations for installation

1. In case that channels watertightness is requested, MufleSystem is purposely recommending the use of a bituminous silicone sealant “SHELL TIXOPHALTE”: after carrying out the side prop, apply a thin and homogeneous sealant strip on each slot between the channels and the following one (clean the eventual exceeding sealant). It is strongly advised not to apply the strips of “SHELL TIXOPHALTE” inside the slots in the female joint of the channels before coupling them. Eventually a through and long- lasting guarantees to avoid any leakages can be obtained by welding the joints; this requires welding machines and experienced technicians.
2. While carrying out the phase 2 and 3, protect the gratings with a PVC film so that no final cleaning must be carried out to remove any concrete residues.
3. In case the drainage line is subjected to horizontal loads (for example concrete casting for industrial paving, private car parks and parking decks), it is necessary to arrange effective expansion joints for both direction, parallel and perpendicular to the channels. These joints shall be placed according to the norm standards in force and shall not be placed close to drainage line.
4. In case the drainage line shall be installed on roofs or terraces, it is obligatory to arrange a waterproof sheet according to specific projects.

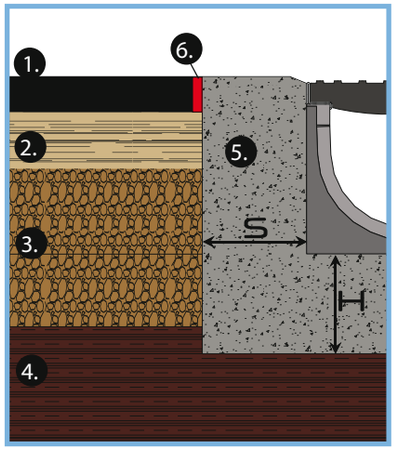



## Case 1
Asphalt
(C250)



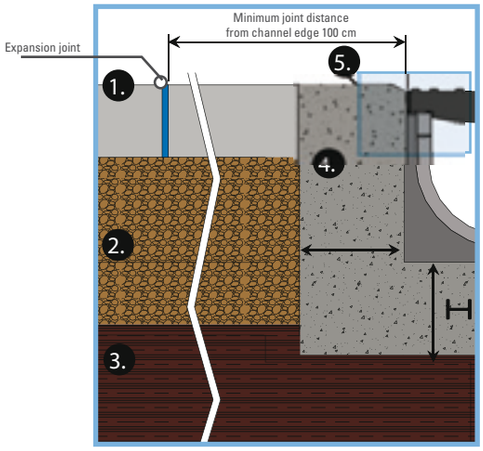

1. Sheet asphalt
2. Lower layer (binder)
3. Bearing layer
4. Subfloor
5. Concrete reinforcement layer
6. Bitumen joint

## Case 2
Asphalt
(D400-E600-F900)

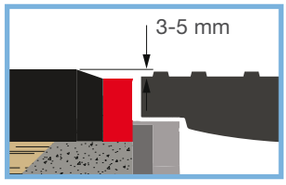



1. Sheet asphalt
2. Lower layer (binder)
3. Bearing layer
4. Subfloor
5. Concrete reinforcement layer
6. Bitumen joint

## Case 3
Concrete screed for streets and roads
(from C250 to F900)




1. Concrete flooring
2. Bearing layer
3. Subfloor
4. Concrete reinforcement layer
5. Bitumen joint

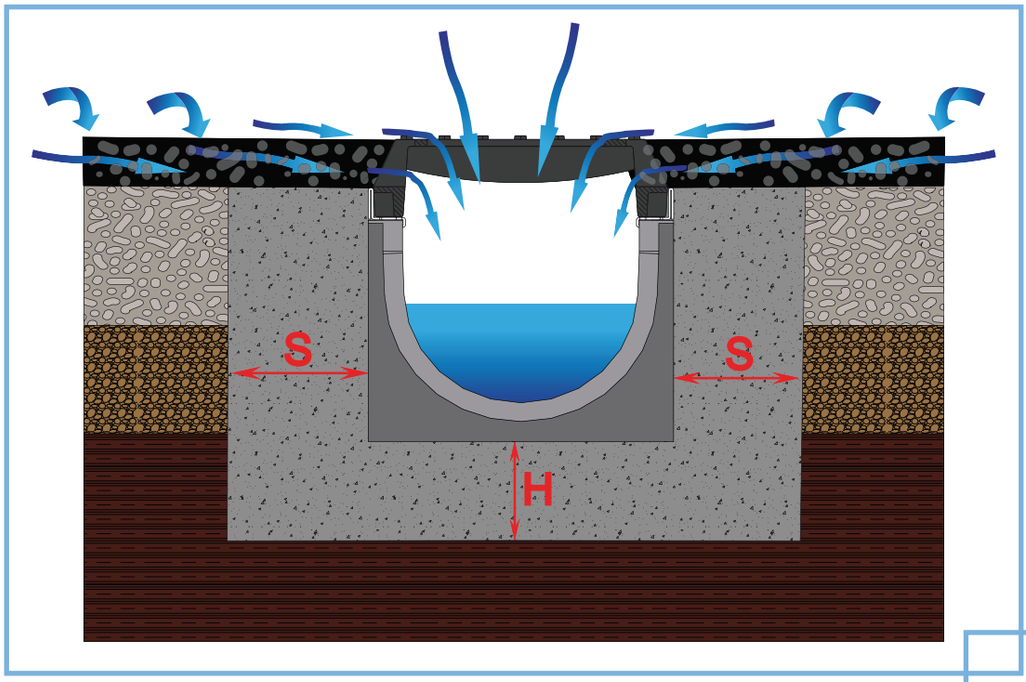


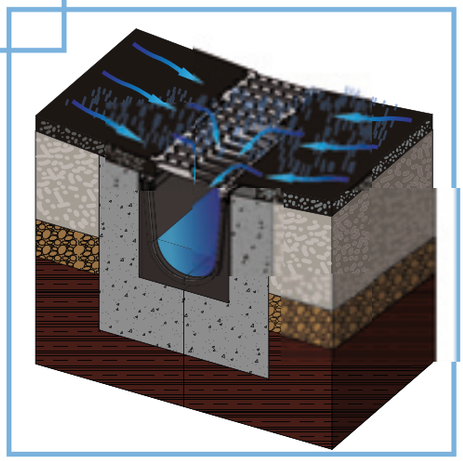

This Sheet is only aimed to give advice on the installation of channels mod. MufleDrain. In any case, always:
- check the carrying capacity characteristics of the underlying layer
- we recommend using Class S4 concrete (EN 206-1) and stone aggregate with maximum diameter 8 mm.
- comply with the height of the installation surface and the thickness of the prop as specified according to the load classes.

| SUMMARY TABLE | | | | | |
|---|---|---|---|---|---|
| Load class (EN 1433) | | C 250 | D 400 | E 600 | F 900 |
| Applicable load (EN 1433) | kN | 250 | 400 | 600 | 900 |
| Minimum height H of concrete laying bed | mm | 150 | 200 | 200 | 250 |
| Minimum thickness S of the concrete fl anking | mm | 150 | 200 | 200 | 250 |
| Concrete compression strength class (EN 206-1) | | C 25/30 | C 25/30[15] | C 30/37 | C 35/45 |
| Concrete compression strength class[7] (EN 206-1) | | C 30/37 XF4 | C 30/37 XF4 | C 35/45 XF4 | C 40/50 XF4 |

7- If concrete can be affected by frost and thaw cycles.
15- If installation is in road crossings subject to heavy traffic (especially trucks), Class C30/37 concrete should be used.
N.B. MufleSystem srl reserves the right to change the technical characteristics herein specified without prior notice. Said technical characteristics are given for information purposes only and are subject to changes as our products are developed.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# INSTALLATION OF DRAINING ASPHALT GRATING WING 200



This Sheet is only aimed to give advice on the installation of channels mod. MufleDrain. In any case, always:
- check the carrying capacity characteristics of the underlying layer
- we recommend using Class S4 concrete (EN 206-1) and stone aggregate with maximum diameter 8 mm.
- comply with the height of the installation surface and the thickness of the prop as specified according to the load classes.

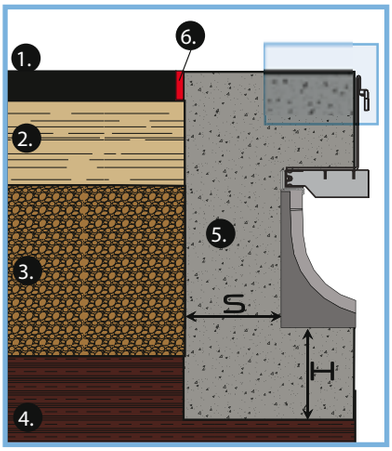
| SUMMARY TABLE | | |
|---|---|---|
| Load class (EN 1433) | | D 400 |
| Applicable load (EN 1433) | kN | 400 |
| Minimum height H of concrete laying bed | mm | 200 |
| Minimum thickness S of the concrete fl anking | mm | 200 |
| Concrete compression strength class (EN 206-1) | | C 25/30[15] |
| Concrete compression strength class[7] (EN 206-1) | | C 30/37 XF4 |

7- If concrete can be affected by frost and thaw cycles.
15- If installation is in road crossings subject to heavy traffic (especially trucks), Class C30/37 concrete should be used.
N.B. MufleSystem srl reserves the right to change the technical characteristics herein specified without prior notice. Said technical characteristics are given for information purposes only and are subject to changes as our products are developed.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# INSTALLATION OF DRAINING ASPHALT GRATING WING 200

## Case 1

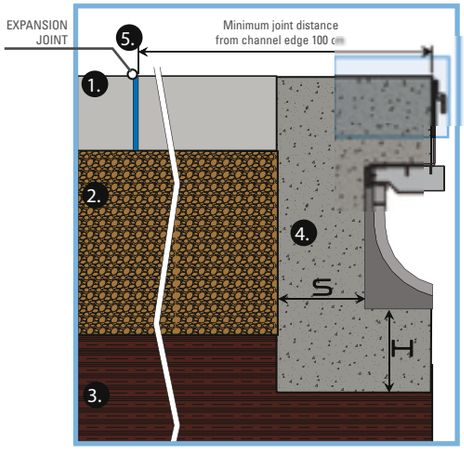
Asphalt
(from B125 to D400)




1. Sheet asphalt
2. Strato di allettamento
3. Bearing layer
4. Subfloor
5. Concrete reinforcement layer
6. Safety joint (if required)

## Case 2

Concrete flooring
(from B125 to D400)




1. Concrete flooring
2. Bearing layer
3. Subfloor
4. Concrete reinforcement layer
5. Expansion joint

This Sheet is only aimed to give advice on the installation of channels mod. MufleDrain. In any case, always:
- check the carrying capacity characteristics of the underlying layer
- we recommend using Class S4 concrete (EN 206-1) and stone aggregate with maximum diameter 8 mm.
- comply with the height of the installation surface and the thickness of the prop as specified according to the load classes.

| SUMMARY TABLE | | | | |
|---|---|---|---|---|
| Load class (EN 1433) | | B 125 | C 250 | D 400 |
| Applicable load (EN 1433) | kN | 125 | 250 | 400 |
| Minimum height H of concrete laying bed | mm | 100 | 150 | 200 |
| Minimum thickness S of the concrete fl anking | mm | 100 | 150 | 200 |
| Concrete compression strength class (EN 206-1) | | C 25/30 | C 25/30 | C 25/30[15] |
| Concrete compression strength class[7] (EN 206-1) | | C 30/37 XF4 | C 30/37 XF4 | C 30/37 XF4 |

7- If concrete can be affected by frost and thaw cycles.
15- If installation is in road crossings subject to heavy traffic (especially trucks), Class C30/37 concrete should be used.
N.B. MufleSystem srl reserves the right to change the technical characteristics herein specified without prior notice. Said technical characteristics are given for information purposes only and are subject to changes as our products are developed.
N.B. Sizes and weights are subject to usual manufacturing tolerance values.

# SPECIFICATIONS

1. Supply and installation of MufleDrain WING type HD-PE drainage channel with external stiffening ribs and male-female coupling system allowing the assembly between one channel and the next with the relevant pre-assembled gratings. The channel will have 3/4 drainage diaphragms at pre-determined points. Galvanised (stainless) steel upper profile equipped with M8 threaded insert to which a screw can be secured to fix the gratings, 4 mm-thick drive-over edge, 2 mm-thick contact surface with height not smaller than 25 mm, connection through prearranged coupling to the channel structure. The channel surface will be perfectly smooth and have a low roughness coefficient to allow the best water flow. Il will also be perfectly water-tight and devoid of any connection points with the outside. The channel will have the following dimensions: length 1,000 mm, internal net gap ___mm, internal height ___ mm.

2. Supply and installation of MufleDrain WING type HD-PE drainage channel with external stiffening ribs and male-female coupling system allowing the assembly between one channel and the next with the relevant pre-assembled gratings. The channel will have 2 drain diaphragms at pre-determined points and it will be designed to house a HD-PE drain gate (diameter 100 mm - 110 mm) on the bottom through 4 screws. Galvanised (stainless) steel upper profile equipped with M8 threaded insert to which a screw can be secured to fix the gratings, 4 mm-thick drive-over edge, 2 mm-thick contact surface with height not smaller than 25 mm, connection through prearranged coupling to the channel structure. The internal surface of the channel will be perfectly smooth and have a low roughness coefficient to allow water flow. Il will also be perfectly water-tight and devoid of any connection points with the outside. The channel will have the following dimensions: length 1,000mm, internal net gap 100 mm, internal height ___ mm.

3. Supply and installation of MufleDrain WING type HD-PE drainage channel with external stiffening ribs and male-female channel coupling system. The channel will have 4 drainage diaphragms at pre-determined points. Ductile cast-iron upper profile equipped with M10 screw to which a nut can be secured to fix the gratings, 6 mm-thick drive-over edge, 9 mm-thick contact surface with height not smaller than 35 mm, connection through a nut and bolt system to the channel structure. The channel will have the following dimensions: length 1,500mm, internal net gap 300mm, internal height 300 mm.

4. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 for MufleDrain WING drainage channels with screw fixing system, load class C250 (D400, E600, F900) according to EN 1433-2008, slot width 20 mm, length 498 mm, width ___mm.

5. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 for MufleDrain WING drainage channels with screw fixing system, load class D400 according to EN 1433-2008, square mesh, lenght 498 mm, width___mm.

6. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 for MufleDrain WING drainage channels with screw fixing system, load class E600 according to EN 1433-2008, slot inclined 30° to the longitudinal axis, width 6mm, length 498mm, width 148 mm.

7. Supply and installation of ductile iron GJS 500/7 covering gratings according to EN 1563-2004 for MufleDrain WING 300 drainage channels with nut fixing system, load class C250) according to EN 1433-2008, length 498 mm, width 376 mm.

8. Supply and installation of ductile cast- iron GJS 500/7 mesh gratings according to EN 1563-2004 for MufleDrain WING 300 drainage channels with nut fixing system, load classes C250 (D400, E600) according to EN 1433-2008, length 748 mm, width 376 mm.

9. Supply and installation of ductile iron covering gratings for MufleDrain WING drainage channels with nut fixing system, load class F900 according to EN 1433-2008, slot length 24 mm, length 748 mm, width 376 mm.

10. Supply and installation of ductile iron GJS 500/7 blind covers according to EN 1563-2008 with mesh for MufleDrain WING drainage channels with screw fixing system, load class E600 according to EN 1433-2004, length 498 mm, width ___mm.

11. Supply and installation of ductile iron GJS 500/7 blind covers according to EN 1563-2004 with mesh for MufleDrain WING drainage channels with nut fixing system, load class E600 according to EN 1433-2004, length 498 mm, width 376 mm.

12. Supply and installation of ductile iron GJS 500/7 perforated cover Air System according to EN 1563-2004 for composting systems with slots for screw fixing. The cover will have 12 holes (Ø 10) to allow the passage of the air needed for composting. The holes will have a truncated-cone section with the smaller base upwards in order to prevent any clogging due to residues. The load class of the cover will be E600 according to EN 1433-2008, usable length 500 mm, width 198 mm.

13. Supply and installation of galvanised (stainless) steel square-mesh or anti-heel covering gratings for MufleDrain WING drainage channels equipped with screw fixing slots, load class C250 according to EN 1433-2008, length 998 mm, width ___mm. A similar grating will be available upon request with length 498 mm. The dimensions will be 30 x 30 mm in the square mesh and 30 x 10 mm in the anti-heel mesh.

14. Supply and installation of T-shaped longitudinal-slot gratings made from galvanised steel for MufleDrain WING drainage channels with male-female coupling system between one grating and the next, load class D400 according to EN 1433-2008, length 998 mm, width ___ mm, height of “T” ___mm.

15. Supply and installation of L-shaped longitudinal-slot gratings made from galvanised steel for MufleDrain WING drainage channels with male-female coupling system between one grating and the next, load class D400 according to EN 1433-2008, length 998mm, width ___ mm, height of “L” ___mm.

16. Supply and installation of galvanised steel blind cover for MufleDrain WING drainage channels with screw fixing system, load class C250 according to EN 1433-2004, length 998 mm, width ___mm. A similar cover will be available upon request with length 498 mm.

17. Supply and installation of HD-PE end caps for MufleDrain drainage channel with coupling system into the special channel housing.

18. Supply and installation of HD-PE open cap with drainage hole diameter ___mm for MufleDrain drainage channel with coupling system into the special channel housing.

19. Supply and installation of (open) end cap made from galvanised steel (galvanised steel and PVC tube) for MufleDrain drainage channel with coupling system into the special channel housing.

**20.** Supply and installation of HD-PE boxes with siphon for MufleDrain WING drainage channels with external stiffening ribs and coupling system. Upper profile of HD-PE with height not smaller than 20 mm. The upper section of the siphon built in the gully may be removed in order to allow inspection and cleaning work. The gully will have preformed drains on both sides with diameter up to 500 mm. The gully dimensions will be as follows: length 542 mm, net gap ___ mm, height 400 mm.

**21.** Supply and installation of inspection elements for MufleDrain WING T-shaped gratings in galvanized (stainless) steel for MufleDrain WING drain boxes with siphon. Every inspection element will be made of an external containment tank self- centered on bottom drain box with siphon and of an inspection element to be placed inside the containment tank that can be also pulled out after installation. Load classes until C250. The sizes of drain boxes shall be length 500 mm, width _____ mm, height _____ mm.

**22.** Supply and installation of inspection elements for MufleDrain WING L-shaped gratings in galvanized (stainless) steel for MufleDrain WING drain boxes with siphon. Every inspection element will be made of an external containment tank self- centered on bottom drain box with siphon and of an inspection element to be placed inside the containment tank that can be also pulled out after installation. Load classes until C250. The sizes of drain boxes shall be length 500 mm, width _____ mm, height _____ mm.