

smart

The system:

- it supports 2 load classes (B125, C250) 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 2.5 mm - thick drive-over edge and a 1.2 mm - thick contact surface
- since the edge shows the exact dimensions for the paving, easy and accurate installation is ensured
- it comprises 3 different types of gratings (with slots, square mesh, anti-heel mesh) made from galvanised steel, stainless steel and ductile iron
- it comes equipped with a classic tie-rod fixing system and a convenient drain gate
- it is ideal for private car parks, footways, canalisation systems in roads and parking areas, transversal canalisation systems (road crossings) with low - speed vehicular traffic (max 15 km/h – in this case the system can support D400 - class gratings, although not in compliance with Standard EN 1433)
- it includes models with small sizes (H 55 and H 80) which are perfect for installation into covered industrial pavings whenever the channel edge needs to be protected during polishing
- it comes complete with drain boxes with siphon
- the range is made up of 8 channels with 3 widths and 4 heights (100/55, 100/80, 100/100, 100/160, 150/100, 150/160, 200/100, 200/160)



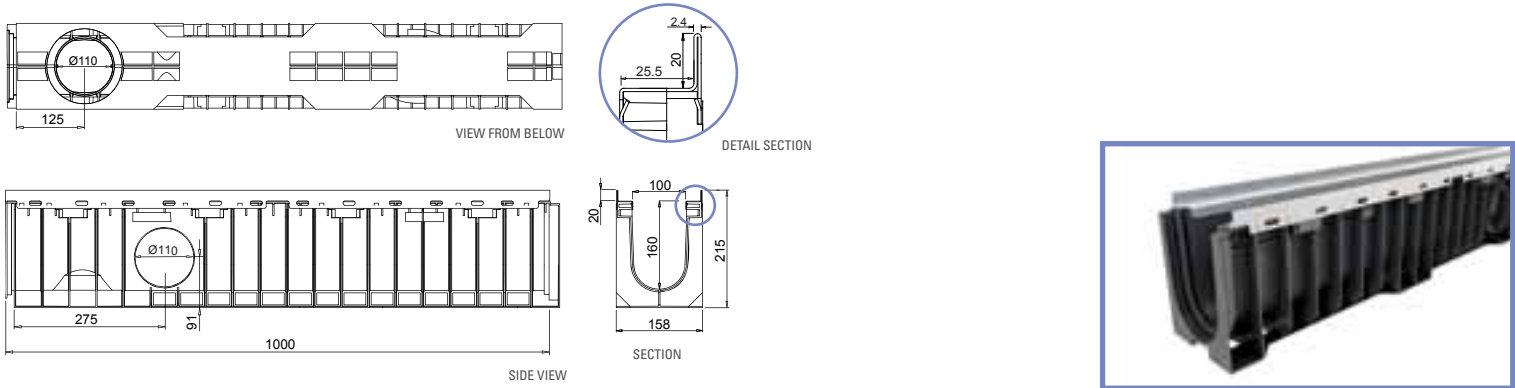


100

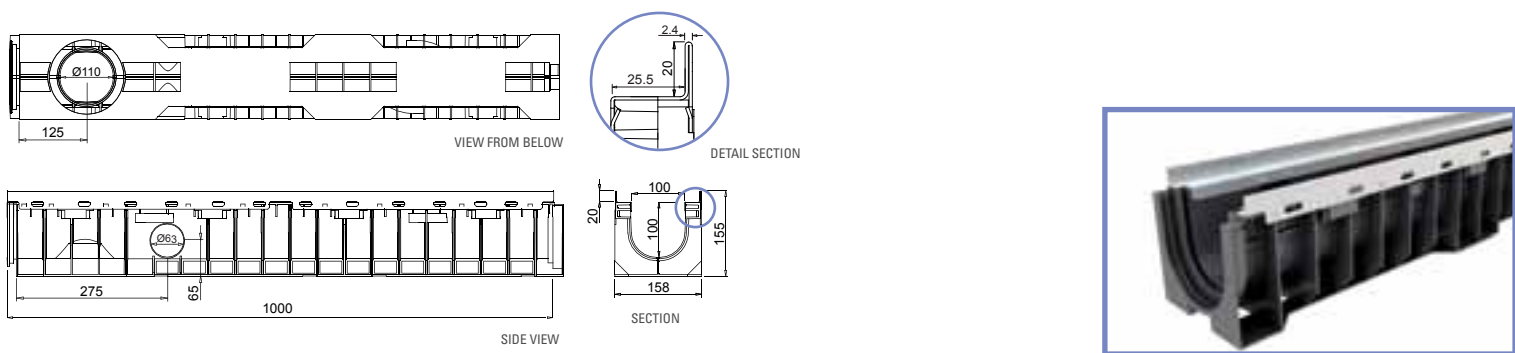


CHANNELS

smart
100



SMART 100/160										
CODE	PRICE	MATERIAL OF FRAME	MATERIAL OF CHANNEL	EXTERNAL DIMENSIONS	INTERNAL DIMENSIONS	WEIGHT	DRAINAGE SURFACE	CAPACITY	PREINSTALLED DRAIN	
	€			L x l x h mm	L x l x h mm	Kg	cm ²		mm	
701000		galvanised steel DX51D ³	PE-HD	1000 x 158 x 215	1000 x 100 x 160	4,10	145,28	14,52	side bottom ¹	2 x Ø 110 1 x Ø 110
701008		stainless steel AISI 304 ²								



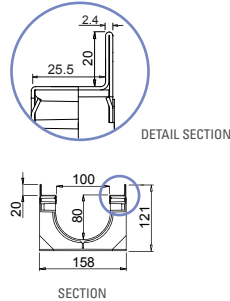
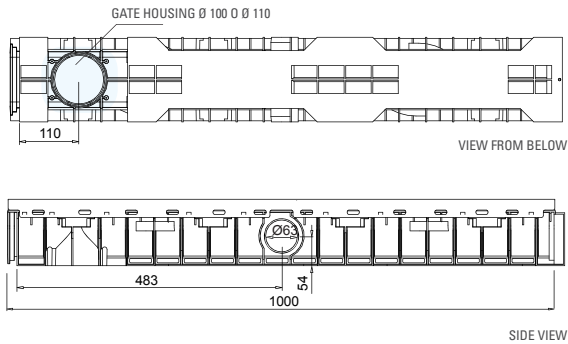
SMART 100/100										
CODE	PRICE	MATERIAL OF FRAME	MATERIAL OF CHANNEL	EXTERNAL DIMENSIONS	INTERNAL DIMENSIONS	WEIGHT	DRAINAGE SURFACE	CAPACITY	PREINSTALLED DRAIN	
	€			L x l x h mm	L x l x h mm	Kg	cm ²		mm	
701001		galvanised steel DX51D ³	PE-HD	1000 x 158 x 155	1000 x 100 x 100	3,60	89,56	8,95	side bottom ¹	2 x Ø 63 1 x Ø 110
701009		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.

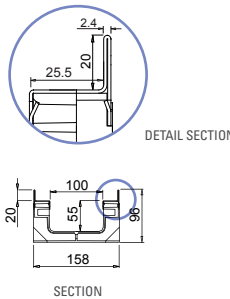
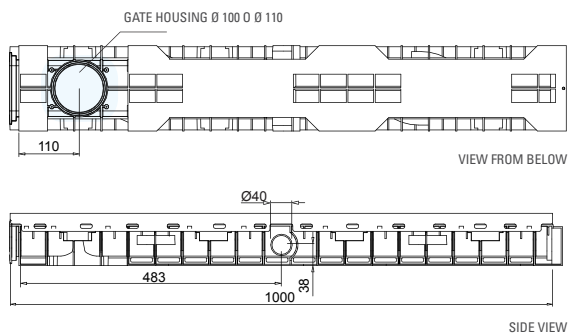


CHANNELS

smart
100



SMART 100/80									
CODE	PRICE	MATERIAL OF FRAME	MATERIAL OF CHANNEL	EXTERNAL DIMENSIONS	INTERNAL DIMENSIONS	WEIGHT	DRAINAGE SURFACE	CAPACITY	PREINSTALLED DRAIN
	€			L x l x h mm	L x l x h mm	Kg	cm ²		mm
701002		galvanised steel DX51D ³	PE-HD	1000 x 158 x 121	1000 x 100 x 80	3,30	69,28	6,92	side 2 x Ø 63 bottom ¹ 1 x Ø 100; 1 x Ø 110
701010		stainless steel AISI 304 ²							



SMART 100/55									
CODE	PRICE	MATERIAL OF FRAME	MATERIAL OF CHANNEL	EXTERNAL DIMENSIONS	INTERNAL DIMENSIONS	WEIGHT	DRAINAGE SURFACE	CAPACITY	PREINSTALLED DRAIN
	€			L x l x h mm	L x l x h mm	Kg	cm ²		mm
701003		galvanised steel DX51D ³	PE-HD	1000 x 158 x 96	1000 x 100 x 55	3,10	54,44	5,44	side 2 x Ø 63 bottom ¹ 1 x Ø 100; 1 x Ø 110
701011		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.

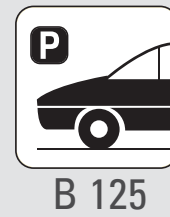
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).

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.



GRATINGS



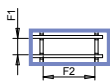
smart
100

APPLICATIONS OF GALVANISED STEEL

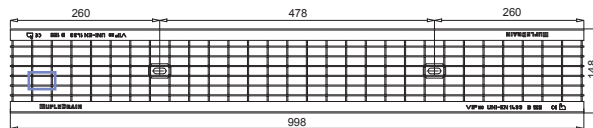
Pavements
Lay-bys and private car parks

APPLICATIONS OF STAINLESS STEEL

Pavements
Lay-bys and private car parks
Food factories
Chemically aggressive environments



DETAIL OF
HOOKING
SYSTEM



VIEW FROM ABOVE



SIDE
VIEW



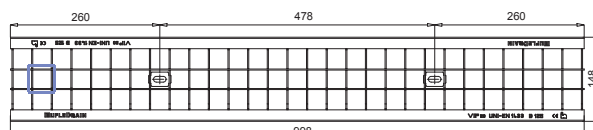
DETAIL OF
UPRIGHT
BEND



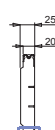
ANTI-HELL MESH GRATING								25 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502126		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 148 x 20	3,60	8,82	15,2 x 32,2		up to Class C250 as per Standard EN 1433	
502150		pickled stainless steel AISI 304 ²							
502138		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 148 x 20	1,80	4,41				
502162		pickled stainless steel AISI 304 ²							



DETAIL OF
SQUARE
MESH



VIEW FROM ABOVE



SIDE
VIEW



DETAIL OF
UPRIGHT
BEND



SQUARE MESH GRATING								25 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502127		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 148 x 20	2,90	9,00	32,2 x 32,2		up to Class C250 as per Standard EN 1433	
502157		pickled stainless steel AISI 304 ²							
502139		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 148 x 20	1,45	4,50				
502163		pickled stainless steel AISI 304 ²							

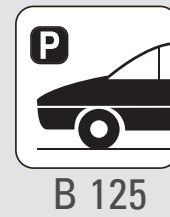
2- Classification according to American Standard ASTM.

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.



GRATINGS



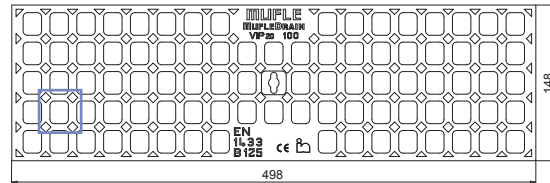
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100**

APPLICATIONS OF DUCTILE IRON

Pavements
Lay-bys and private car parks



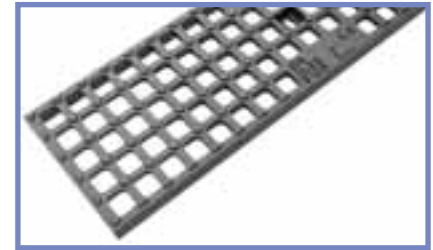
SLOT DETAIL

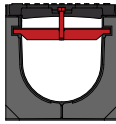


VIEW FROM ABOVE



SIDE VIEW



MESH GRATING								20 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502112		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 148 x 20	3,40	3,31	21,5 x 17,5		up to Class C250 as per Standard EN 1433	

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



GRATINGS



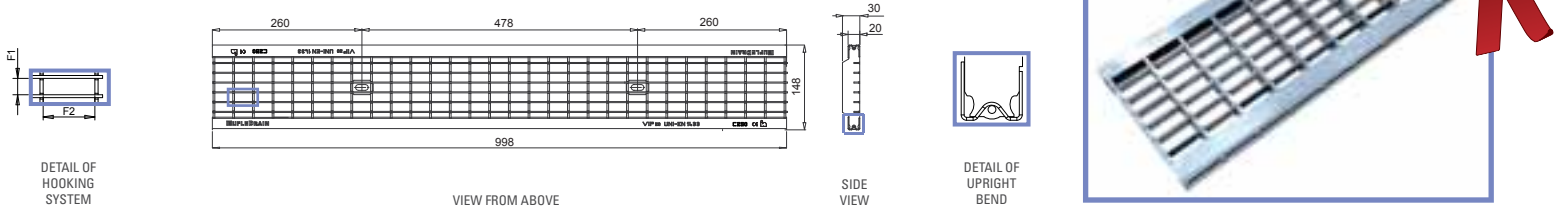
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APPLICATIONS OF GALVANISED STEEL

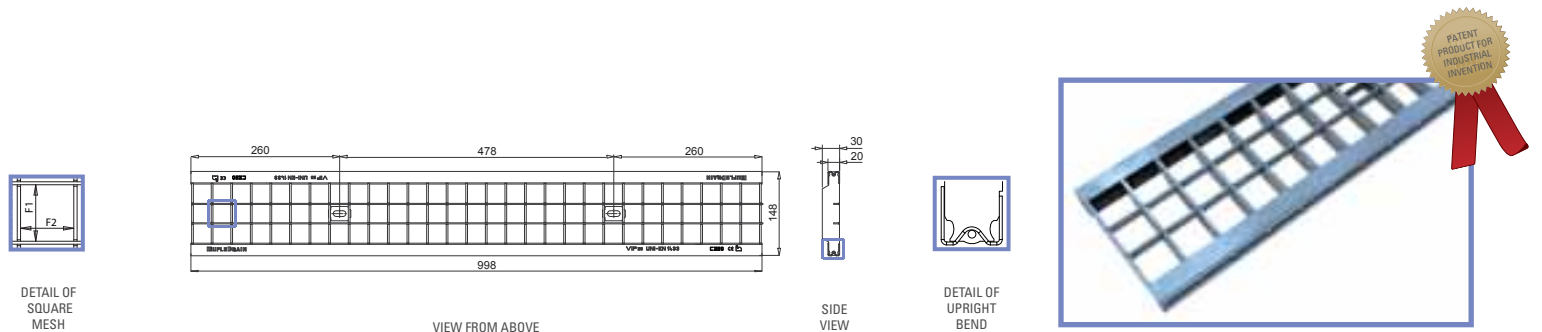
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks


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



ANTI-HELL MESH GRATING								30 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502152		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 148 x 20	5,10	8,82	15,2 x 31,2		up to Class C250 as per Standard EN 1433	
502175		pickled stainless steel AISI 304 ²							
502169		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 148 x 20	2,55	4,41				
502187		pickled stainless steel AISI 304 ²							



SQUARE MESH GRATING								30 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502151		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 148 x 20	4,60	8,50	31,2 x 31,2		up to Class C250 as per Standard EN 1433	
502174		pickled stainless steel AISI 304							
502168		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 148 x 20	2,30	4,25				
502188		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.



GRATINGS



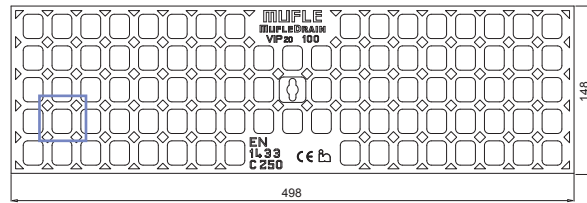
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APPLICATIONS OF DUCTILE IRON

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



SLOT DETAIL



VIEW FROM ABOVE



SIDE VIEW

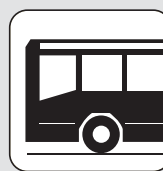


MESH GRATING								20 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502115		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 148 x 20	3,80	3,31	21,5 x 17,5		up to Class C250 as per Standard EN 1433	

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



GRATINGS

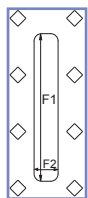


C 250

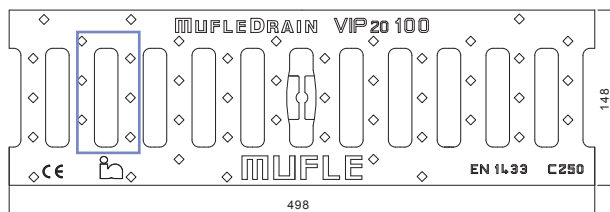
smart
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APPLICATIONS OF DUCTILE IRON

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



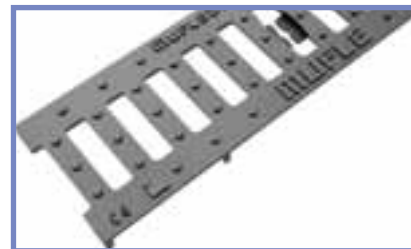
SLOT
DETAIL



VIEW FROM ABOVE




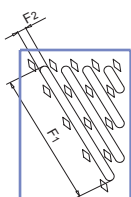
SIDE
VIEW



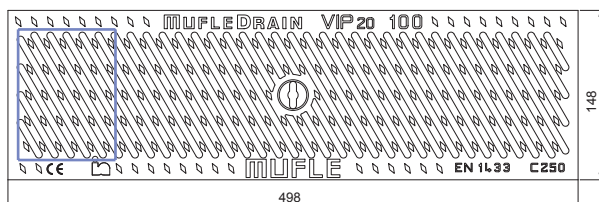
SLOTTED GRATING 20 mm



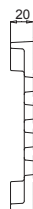
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502113		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 148 x 20	3,60	1,97	82,0 x 20,0		up to Class C250 as per Standard EN 1433



SLOT
DETAIL



VIEW FROM ABOVE




SIDE
VIEW



SLOTTED GRATING 6 mm



CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502114		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 148 x 20	4,00	2,10	91,5 x 6,0		up to Class C250 as per Standard EN 1433

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



GRATINGS

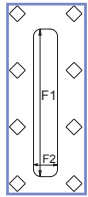


D 400

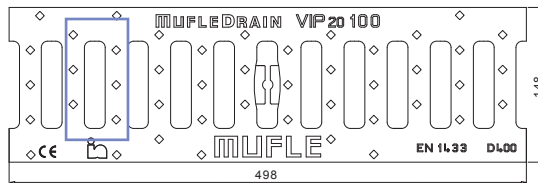
smart
100

APPLICATIONS OF DUCTILE IRON

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



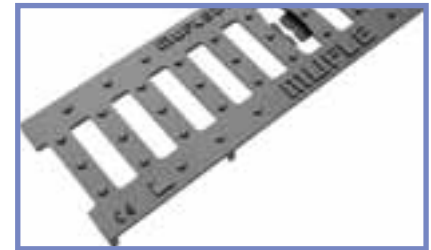
SLOT
DETAIL




VIEW FROM ABOVE



SIDE
VIEW



SLOTTED GRATING 20 mm							
CODE	PRICE	MATERIAL	DIMENSIONS L x l x h	WEIGHT	SECTION DRAINAGE	OPENINGS F1 x F2	FIXING SYSTEM
	€		mm	Kg	cm ²	mm	tie-tod
502116		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 148 x 20	4,50	1,97	82,0 x 20,0	



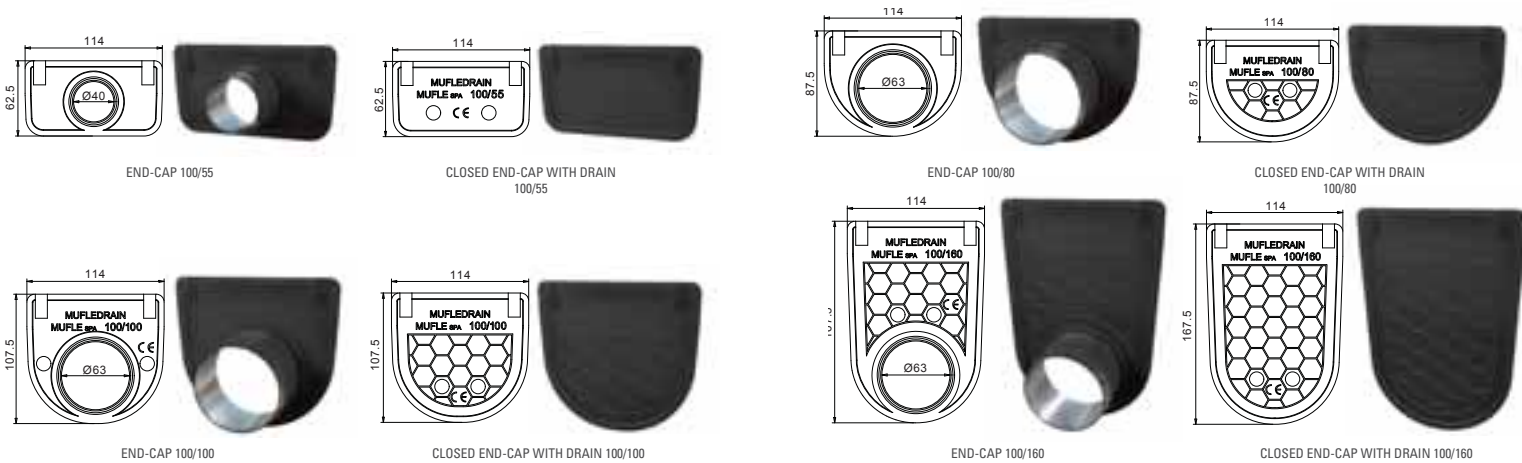
Class - D400 ductile iron gratings for SMART channels cannot be certified according to Standard EN 1433 because of the thickness of the edge subject to traffic and the contact surface, which on the contrary is suitable up to Class C250. Nevertheless the gratings passed the load tests specified for Class D400. We recommend using the combination "SMART channel + D400 - Class ductile iron grating" for transversal canalisation systems (road crossings) with low-speed vehicular traffic (max 15 km/h).

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



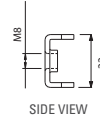
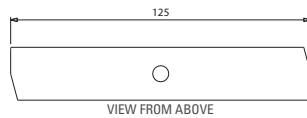
ACCESSORIES

smart
100



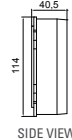
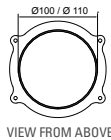
END CAPS

CODE	PRICE	TIPO	MATERIAL	VALID FOR CHANNELS	PREINSTALLED DRAIN
€					
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	-



KIT TIE-ROD + SCREWS

CODE	PRICE	MATERIAL	VALID FOR GRATINGS	SCREW	KIT FOR 1ml
€					
500421		galvanised steel	SMART galvanised steel	M8 x 55 TBL combi	2 tie-rods + 2 screws
500422		stainless steel	SMART stainless steel	M8 x 55 TBL combi stainless steel	2 tie-rods + 2 screws
500423		black galvanised steel	SMART ductile iron	M8 x 55 black with hexagonal head	2 tie-rods + 2 screws



KIT OUTLET + SCREWS

CODE	PRICE	MATERIAL	VALID FOR CHANNELS	DIAMETER	KIT FOR 1 ml
€					
				mm	
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

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-cleaning 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/length.



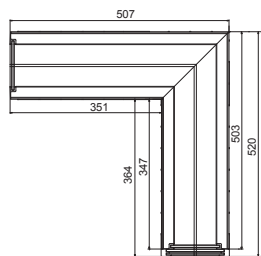
N.B. Sizes and weights are subject to usual manufacturing tolerance values.



SPECIAL PIECES AND DRAIN BOX WITH SYPHON

**smart
100**

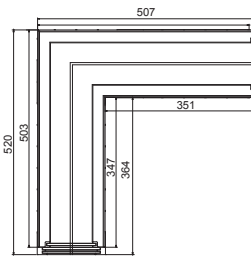
LEFT CORNER



SMART 100

CODE	PRICE €	MODEL
701100		100/160
701101		100/100
701102		100/80
701103		100/55

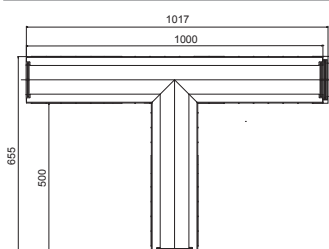
RIGHT CORNER



SMART 100

CODE	PRICE €	MODEL
701108		100/160
701109		100/100
701110		100/80
701111		100/55

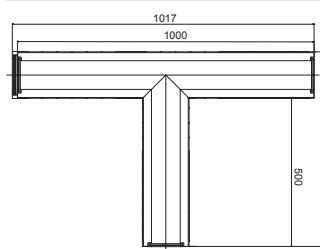
LEFT TI



SMART 100

CODE	PRICE €	MODEL
701116		100/160
701117		100/100
701118		100/80
701119		100/55

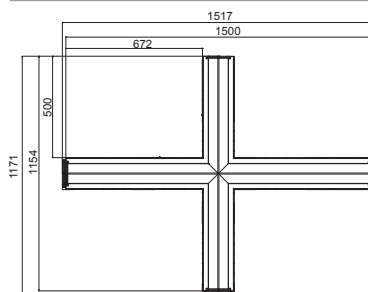
RIGHT TI



SMART 100

CODE	PRICE €	MODEL
701124		100/160
701125		100/100
701126		100/80
701127		100/55

CROSS

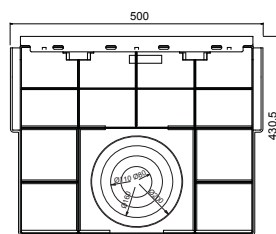


SMART 100

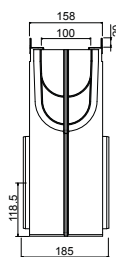
CODE	PRICE €	MODEL
701132		100/160
701133		100/100
701134		100/80
701135		100/55

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

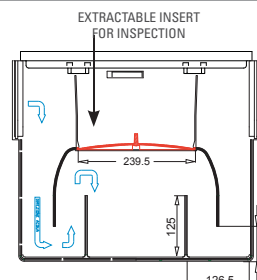
DRAIN BOX WITH SYPHON



FRONT VIEW



SIDE VIEW



SECTION

SMART 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 OUTLETS mm
701016		galvanised steel DX51D ³	PE-HD	500 x 158 x 434	500 x 100 x 400	185	118,5	3,35	2 x Ø 110; 2 x Ø 160; 2 x Ø 200
701019		stainless steel AISI 304 ²	PE-HD	500 x 158 x 434	500 x 100 x 400	185	118,5	3,35	2 x Ø 110; 2 x Ø 160; 2 x Ø 200

- The drain box SMART and SLOPE are not prearranged to be connected to the correspondent channels SMART and SLOPE 200/250.

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.

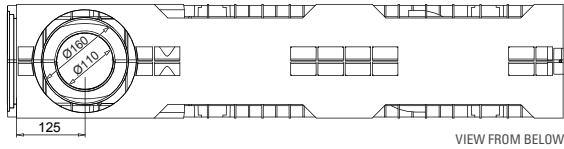


150

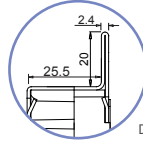


CHANNELS

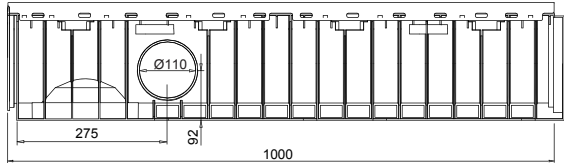
smart
150



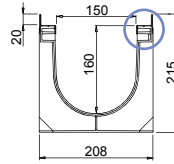
VIEW FROM BELOW



DETAIL SECTION



SIDE VIEW

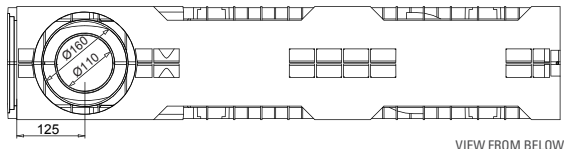


SECTION

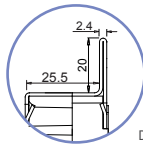


SMART 150/160

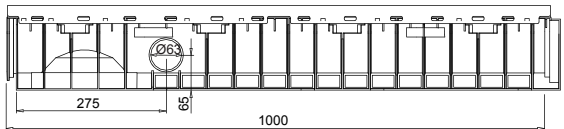
CODE	PRICE €	MATERIAL OF FRAME	MATERIAL OF CHANNEL	EXTERNAL DIMENSIONS L x l x h mm	INTERNAL DIMENSIONS L x l x h mm	WEIGHT Kg	DRAINAGE SURFACE cm ²	CAPACITY	PREINSTALLED DRAIN mm
701004		galvanised steel DX51D ³	PE-HD	1000 x 208 x 215	1000 x 150 x 160	4,55	213,04	21,30	side 2 x Ø 110 bottom 1 x Ø 110; 1 x Ø 160
701012		stainless steel AISI 304 ²							



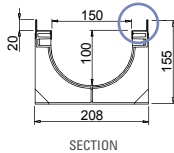
VIEW FROM BELOW



DETAIL SECTION



SIDE VIEW



SECTION



SMART 150/100

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 SURFACE cm ²	CAPACITY	PREINSTALLED DRAIN mm
701005		galvanised steel DX51D ³	PE-HD	1000 x 208 x 155	1000 x 150 x 100	4,00	127,32	12,73	side 2 x Ø 63 bottom 1 x Ø 110; 1 x Ø 160
701013		stainless steel AISI 304 ²							

2- Classification according to American Standard ASTM.

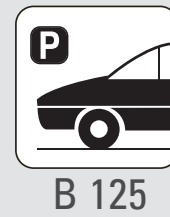
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).

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.



GRATINGS



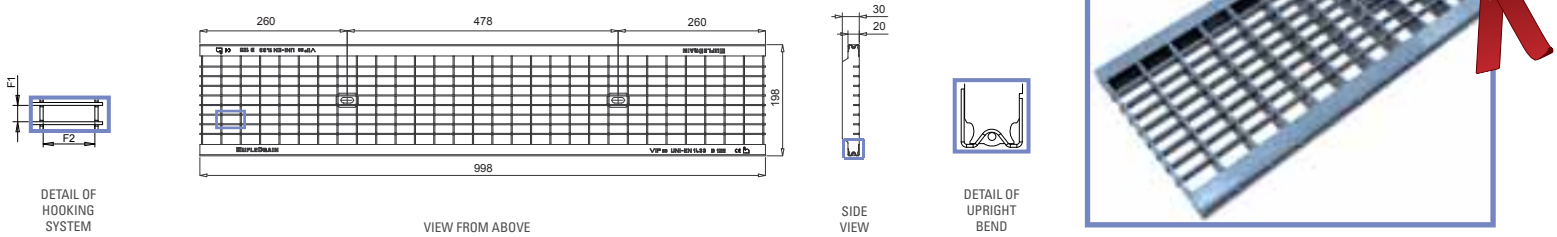
**smart
150**

APPLICATIONS OF GALVANISED STEEL

Pavements
Lay-bys and private car parks


APPLICATIONS OF STAINLESS STEEL

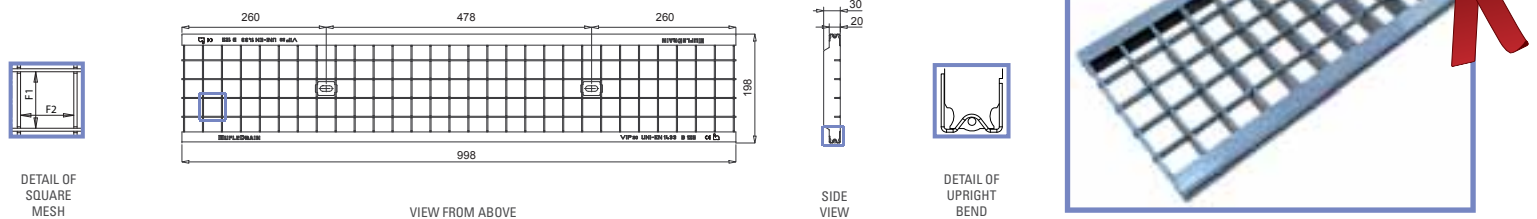
Pavements
Lay-bys and private car parks
Food factories
Chemically aggressive environments



ANTI-HELL MESH GRATING




CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502130		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 198 x 20	5,00	13,08	15,2 x 32,2		up to Class C250 as per Standard EN 1433
502158		pickled stainless steel AISI 304 ²						
502142		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 198 x 20	2,50	6,54			
502164		pickled stainless steel AISI 304 ²						



SQUARE MESH GRATING



CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502131		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 198 x 20	4,10	13,74	32,2 x 32,2		up to Class C250 as per Standard EN 1433
502159		pickled stainless steel AISI 304 ²						
502143		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 198 x 20	2,05	6,87			
502165		pickled stainless steel AISI 304 ²						

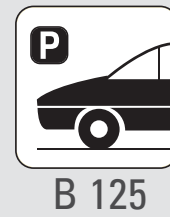
2- Classification according to American Standard ASTM.

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.



GRATINGS



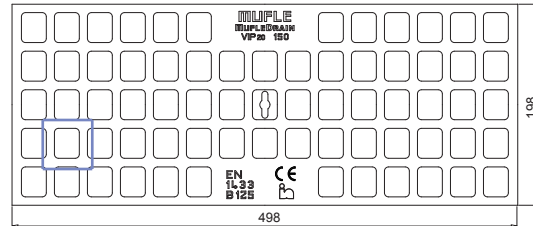
smart
150

APPLICATIONS OF DUCTILE IRON

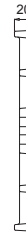
Pavements
Lay-bys and private car parks



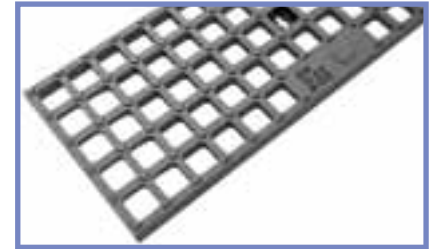
SLOT DETAIL



VIEW FROM ABOVE



SIDE VIEW



MESH GRATING								20 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502118		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 198 x 20	4,90	3,77	29,0 x 24,5		up to Class C250 as per Standard EN 1433	

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



GRATINGS



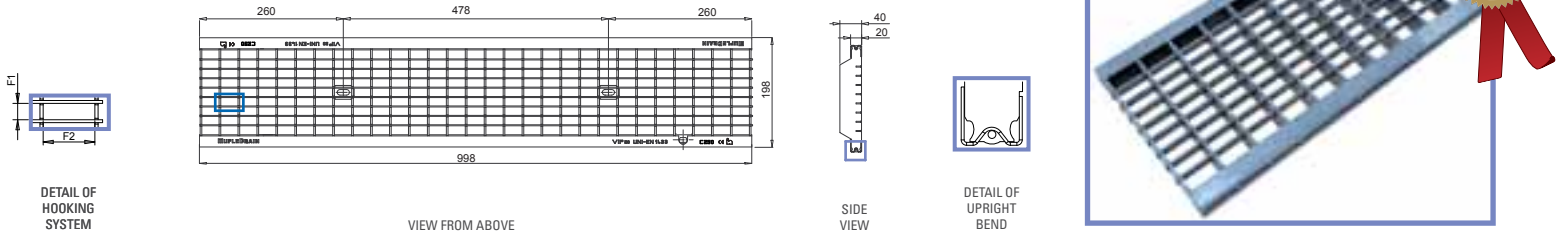
smart
150

APPLICATIONS OF GALVANISED STEEL

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


APPLICATIONS OF STAINLESS STEEL

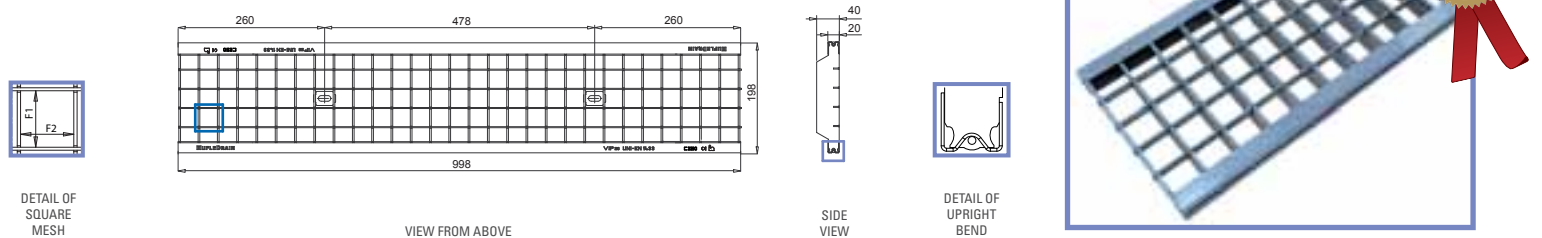
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks
Areas with low-load transit in food factories
Areas with low-load transit in chemically aggressive environments



ANTI-HEEL MESH GRATING




CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502154		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 198 x 20	7,50	13,08	15,2 x 31,2		up to Class C250 as per Standard EN 1433
502177		pickled stainless steel AISI 304 ²						
502171		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 198 x 20	3,75	6,54			
502190		pickled stainless steel AISI 304 ²						



SQUARE MESH GRATING



CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502153		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 198 x 20	7,00	13,47	31,2 x 31,2		up to Class C250 as per Standard EN 1433
502176		pickled stainless steel AISI 304 ²						
502170		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 198 x 20	3,50	6,73			
502189		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.



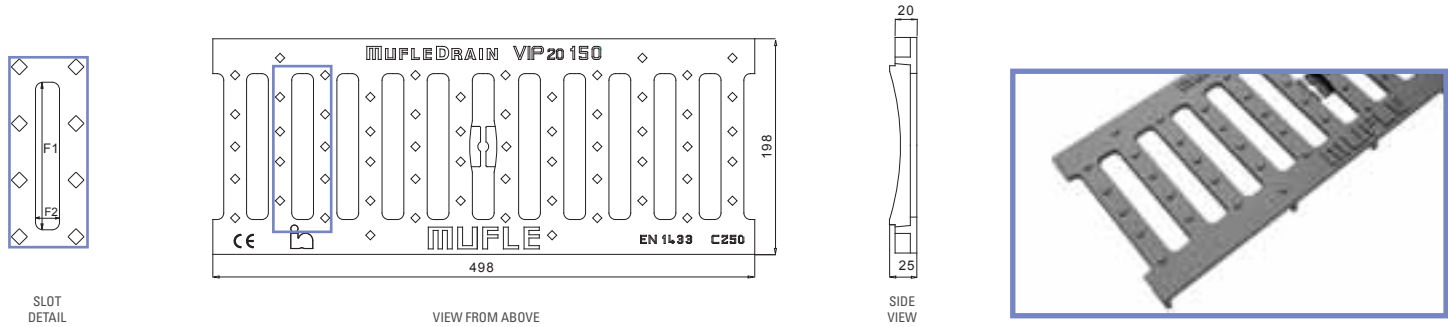
GRATINGS



smart
150

APPLICATIONS OF DUCTILE IRON

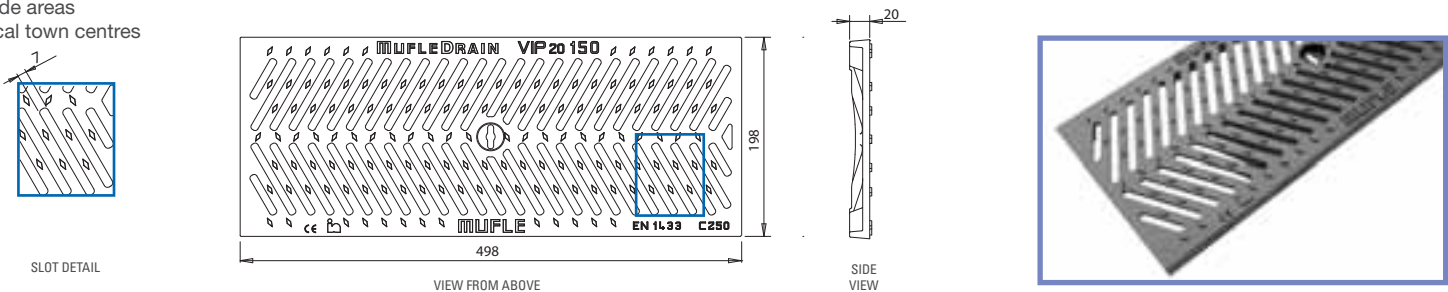
Kerbs
Historical town centres (slow traffic)
Parking areas
Parking decks



SLOTTED GRATING 20 mm								25 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502120		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 198 x 20	5,20	3,16	132,0 x 20,0		up to Class C250 as per Standard EN 1433	

APPLICATIONS OF DUCTILE IRON

Parking
Parking decks
Kerb side areas
Historical town centres



SLOTTED GRATING 7 mm								20 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing ¹¹	
502196		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 198 x 20	6,00	3,00	81,0 x 7,0		up to Class C250 as per Standard EN 1433	

6- Classification according to Standard EN 1563 (2009).

11- It is forecasted no fixing system for the channel 150/40 and 200/40.

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



GRATINGS

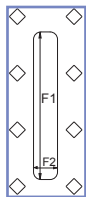


D 400

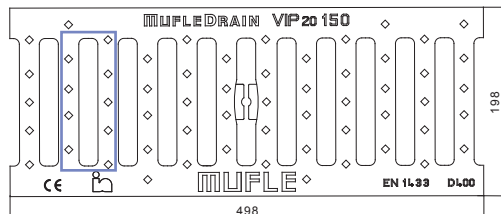
smart
150

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



SLOTTED GRATING 20 mm



CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM tie-tod
502121		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 198 x 20	5,90	3,16	132,0 x 20,0	



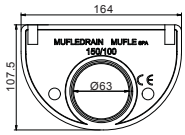
Class - D400 ductile iron gratings for SMART channels cannot be certified according to Standard EN 1433 because of the thickness of the edge subject to traffic and the contact surface, which on the contrary is suitable up to Class C250. Nevertheless the gratings passed the load tests specified for Class D400. We recommend using the combination "SMART channel + D400 - Class ductile iron grating" for transversal canalisation systems (road crossings) with low-speed vehicular traffic (max 15 km/h).

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

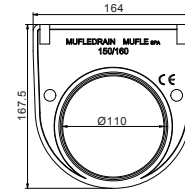


ACCESSORIES

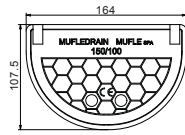
**smart
150**



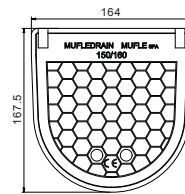
END-CAP 150/100



END-CAP 150/160



CLOSED END-CAP WITH DRAIN 150/100

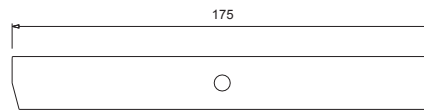


CLOSED END-CAP WITH DRAIN 150/160

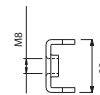


END CAPS

CODE	PRICE	TYPE	MATERIAL	VALID FOR CHANNELS	PREINSTALLED DRAIN
	€				
700504		end-cap with drain		150/100	1 x Ø 63
700512		closed end-cap		150/100	-
700505		end-cap with drain		150/160	1 x Ø 110
700513		closed end-cap		150/160	-



VIEW FROM ABOVE



SIDE VIEW



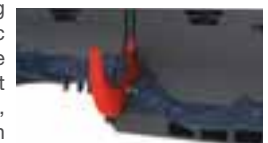
KIT TIE-ROD + SCREWS

CODE	PRICE	MATERIAL	VALID FOR GRATINGS	SCREW	KIT FOR 1ml
	€				
500424		galvanised steel	SMART galvanised steel	M8 x 55 TBL combi	2 tie-rods + 2 screws
500425		stainless steel	SMART stainless steel	M8 x 55 TBL combi	2 tie-rods + 2 screws
500426		black galvanised steel	SMART ductile iron	M8 x 55 black with hexagonal head	2 tie-rods + 2 screws

CONNECTOR FOR STEP-SLOPE

CODE	PRICE	VALID FOR CHANNELS	FAMILIES
	€		
700517		from 150/100 to 150/160	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/length.



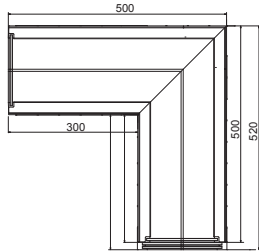
N.B. Sizes and weights are subject to usual manufacturing tolerance values.



SPECIAL PIECES AND DRAIN BOX WITH SYPHON

**smart
150**

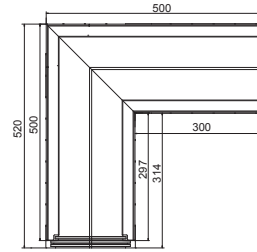
LEFT CORNER



SMART 150

CODE	PRICE €	MODEL
701104		150/160
701105		150/100

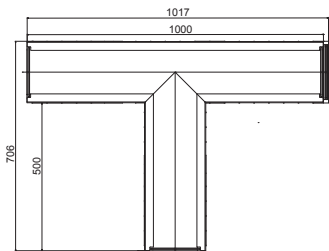
RIGHT CORNER



SMART 150

CODE	PRICE €	MODEL
701112		150/160
701113		150/100

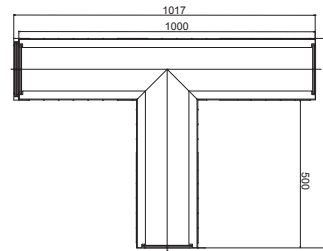
LEFT TI



SMART 150

CODE	PRICE €	MODEL
701120		150/160
701121		150/100

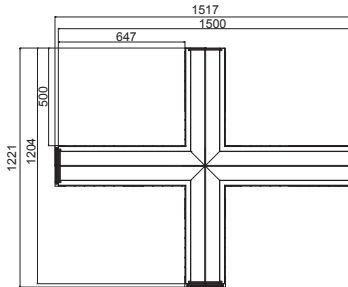
RIGHT TI



SMART 150

CODE	PRICE €	MODEL
701128		150/160
701129		150/100

CROSS

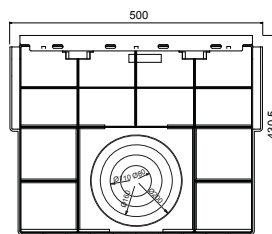


SMART 150

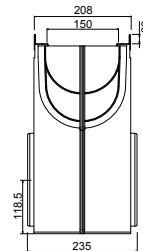
CODE	PRICE €	MODEL
701136		150/160
701137		150/100

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

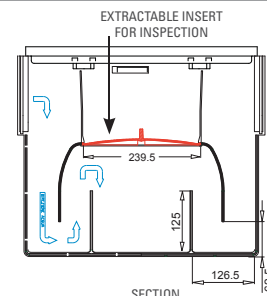
DRAIN BOX WITH SYPHON



FRONT VIEW



SIDE VIEW



SECTION

SMART 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 OUTLETS mm
701017		galvanised steel DX51D ³	PE-HD	500 x 208 x 427	500 x 100 x 400	185	118,5	3,70	2 x Ø 110; 2 x Ø 160; 2 x Ø 200
701020		stainless steel AISI 304 ²	PE-HD	500 x 208 x 427	500 x 100 x 400	185	118,5	3,70	2 x Ø 110; 2 x Ø 160; 2 x Ø 200

- The drain box SMART and SLOPE are not prearranged to be connected to the correspondent channels SMART and SLOPE 200/250.
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.

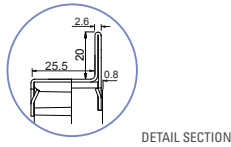
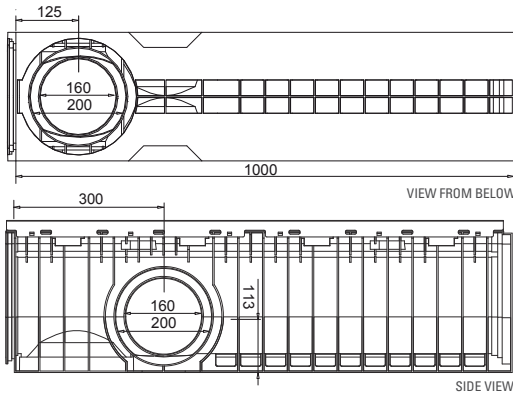


200



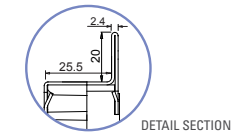
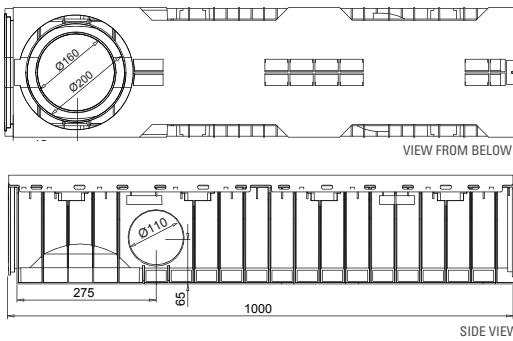
CHANNELS

**smart
200**



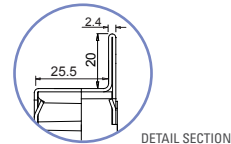
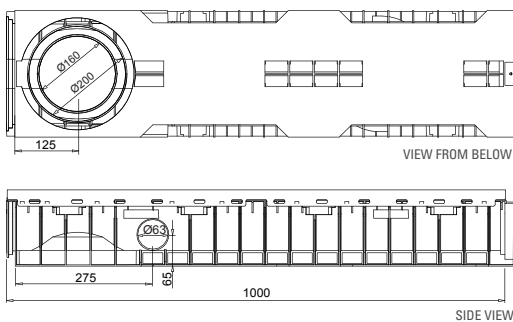
SMART 200/250

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 SURFACE cm ²	CAPACITY	PREINSTALLED DRAIN mm
701022		galvanised steel DX51D ³	PE-HD	1000 x 258 x 304	1000 x 200 x 250	6,3	430,00	43,00	side 2 x Ø 160; 2 x Ø 200 bottom 1 x Ø 160; 1 x Ø 200
701023		stainless steel AISI 304 ²							



SMART 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 SURFACE cm ²	CAPACITY	PREINSTALLED DRAIN mm
701006		galvanised steel DX51D ³	PE-HD	1000 x 258 x 215	1000 x 200 x 160	4,95	275,87	27,58	side 2 x Ø 110 bottom 1 x Ø 160; 1 x Ø 200
701014		stainless steel AISI 304 ²							



SMART 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 SURFACE cm ²	CAPACITY	PREINSTALLED DRAIN mm
701007		galvanised steel DX51D ³	PE-HD	1000 x 258 x 155	1000 x 150 x 100	4,35	178,73	17,87	side 2 x Ø 63 bottom 1 x Ø 160; 1 x Ø 200
701015		stainless steel AISI 304 ²							

2- Classification according to American Standard ASTM.

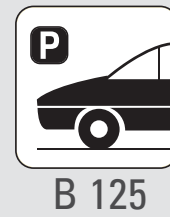
3- Classification according to Standard EN 10142 (2002) and symbolic designation according to EN 10027-1 (-2) (2006).

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.



GRATINGS



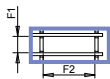
smart
200

APPLICATIONS OF GALVANISED STEEL

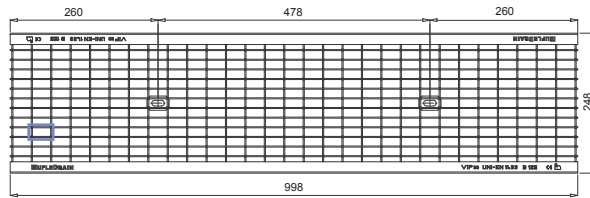
Pavements
Lay-bys and private car parks

APPLICATIONS OF STAINLESS STEEL

Pavements
Lay-bys and private car parks
Food factories
Chemically aggressive environments



DETAIL OF
HOOKING
SYSTEM



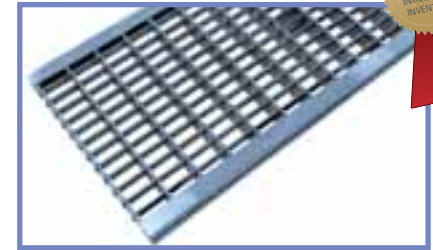
VIEW FROM ABOVE



SIDE
VIEW



DETAIL OF
UPRIGHT
BEND



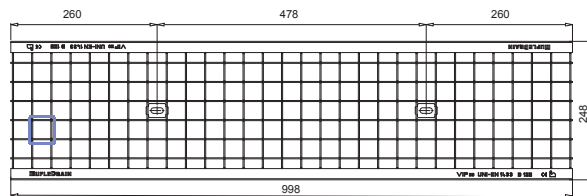
ANTI-HELL MESH GRATING



CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502134		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 248 x 20	6,20	16,98	15,2 x 32,2		up to Class C250 as per Standard EN 1433
502160		pickled stainless steel AISI 304 ²						
502146		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 248 x 20	3,10	8,49			
502166		pickled stainless steel AISI 304 ²						



DETAIL OF
SQUARE
MESH



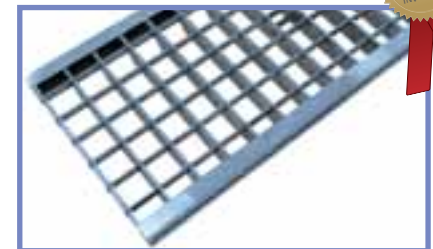
VIEW FROM ABOVE



SIDE
VIEW




DETAIL OF
UPRIGHT
BEND



SQUARE MESH GRATING



CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502135		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 248 x 20	5,20	18,00	32,2 x 32,2		up to Class C250 as per Standard EN 1433
502161		pickled stainless steel AISI 304 ²						
502147		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 248 x 20	2,60	9,00			
502167		pickled stainless steel AISI 304 ²						

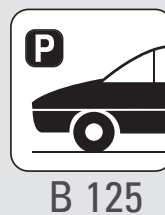
2- Classification according to American Standard ASTM.

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.



GRATINGS



**smart
200**

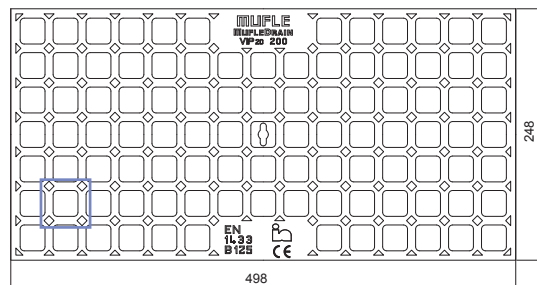
B 125

APPLICATIONS OF DUCTILE IRON

Pavements
Lay-bys and private car parks



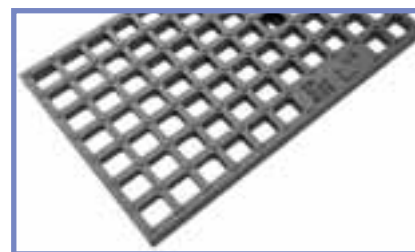
SLOT DETAIL

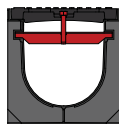


VIEW FROM ABOVE



SIDE VIEW



MESH GRATING								20 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502122		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 248 x 20	6,25	6,12	25,5 x 24,5		up to Class C250 as per Standard EN 1433	

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



GRATINGS



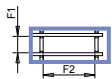
smart
200

APPLICATIONS OF GALVANISED STEEL

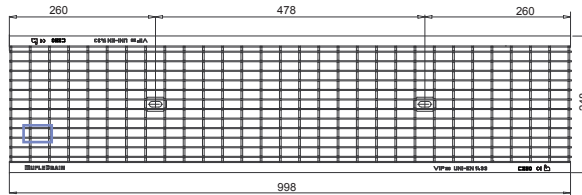
- Kerbs
- Historical town centres (slow traffic)
- Parking areas
- Parking decks

APPLICATIONS OF STAINLESS STEEL

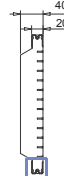
- Kerbs
- Historical town centres (slow traffic)
- Parking areas
- Parking decks
- Areas with low-load transit in food factories
- Areas with low-load transit in chemically aggressive environments



DETAIL OF
HOOKING
SYSTEM



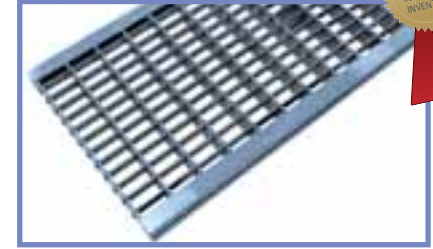
VIEW FROM ABOVE



SIDE
VIEW



DETAIL OF
UPRIGHT
BEND



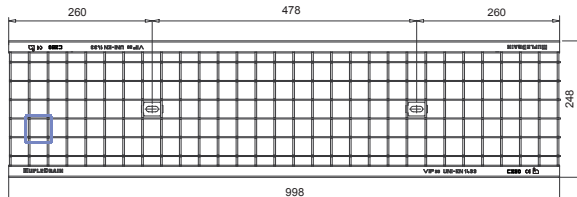
ANTI-HELL MESH GRATING



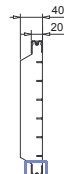
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502156		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 248 x 20	9,50	16,98	31,0 x 15,0		up to Class C250 as per Standard EN 1433
502179		pickled stainless steel AISI 304 ²						
502173		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 248 x 20	4,75	8,49			
502192		pickled stainless steel AISI 304 ²						



DETAIL OF
SQUARE
MESH



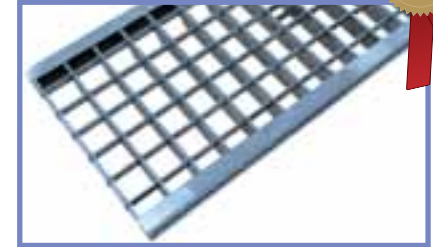
VIEW FROM ABOVE



SIDE
VIEW



DETAIL OF
UPRIGHT
BEND



SQUARE MESH GRATING



CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM	
							tie-tod	no fixing
502155		hot dip galvanised steel DD11 (1.0332) ⁵	998 x 248 x 20	8,70	18,00	31,0 x 31,0		up to Class C250 as per Standard EN 1433
502178		pickled stainless steel AISI 304 ²						
502172		hot dip galvanised steel DD11 (1.0332) ⁵	498 x 248 x 20	4,35	9,00			
502191		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.



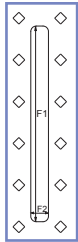
GRATINGS



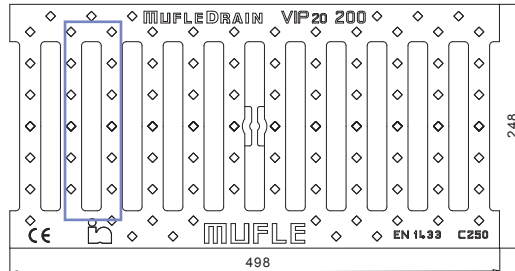
smart
200

APPLICATIONS OF DUCTILE IRON

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



SLOT DETAIL

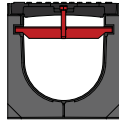


VIEW FROM ABOVE



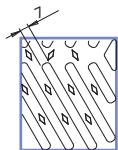
SIDE VIEW



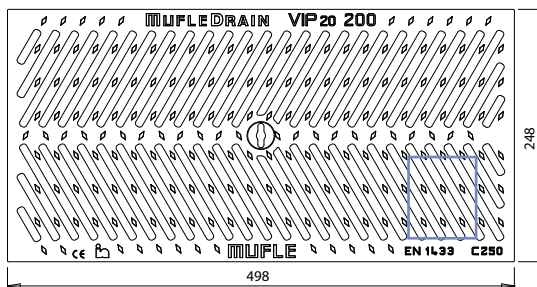
SLOTTED GRATING 20 mm								25 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing	
502124		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 248 x 20	7,00	4,32	180,0 x 20,0		up to Class C250 as per Standard EN 1433	

APPLICATIONS OF DUCTILE IRON

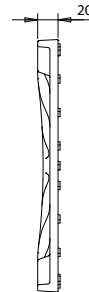
- Parking
- Parking decks
- Kerb side areas
- Historical town centres



SLOT DETAIL




VIEW FROM ABOVE



SIDE VIEW



SLOTTED GRATING 7 mm								20 mm	
CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM		
							tie-tod	no fixing ¹¹	
502195		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 248 x 20	7,70	4,00	107,0 x 7,0		up to Class C250 as per Standard EN 1433	

6- Classification according to Standard EN 1563 (2009).

11- It is forecasted no fixing system for the channel 150/40 and 200/40.

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



GRATINGS

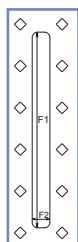


D 400

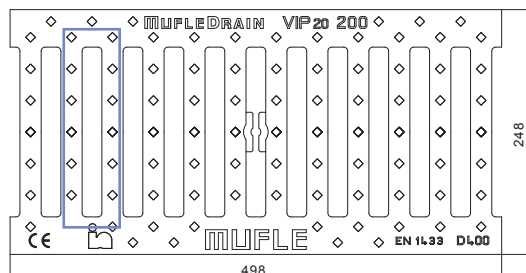
smart
200

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



SLOTTED GRATING 20 mm



CODE	PRICE €	MATERIAL	DIMENSIONS L x l x h mm	WEIGHT Kg	SECTION DRAINAGE cm ²	OPENINGS F1 x F2 mm	FIXING SYSTEM tie-tod
502125		GJS 500/7 ⁶ ductile iron water based paint coated	498 x 248 x 20	7,70	4,32	180,0 x 20,0	



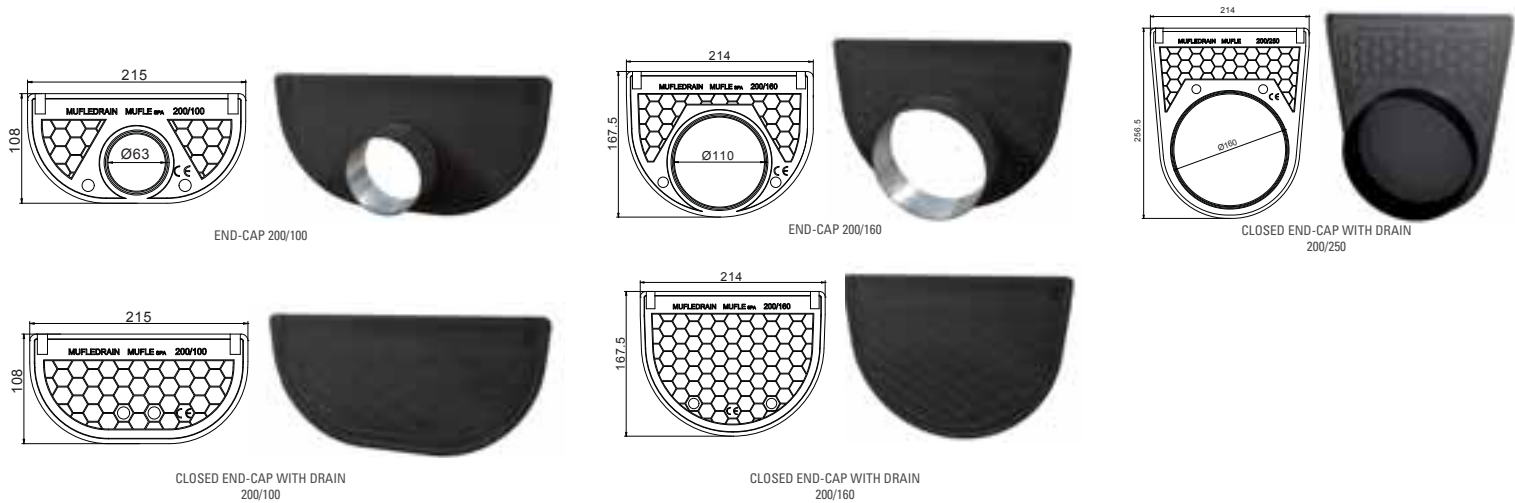
Class - D400 ductile iron gratings for SMART channels cannot be certified according to Standard EN 1433 because of the thickness of the edge subject to traffic and the contact surface, which on the contrary is suitable up to Class C250. Nevertheless the gratings passed the load tests specified for Class D400. We recommend using the combination "SMART channel + D400 - Class ductile iron grating" for transversal canalisation systems (road crossings) with low-speed vehicular traffic (max 15 km/h).

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



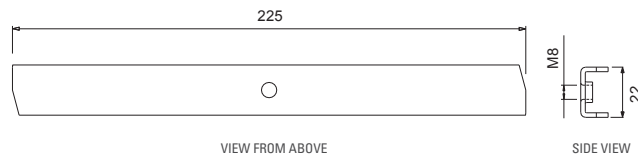
ACCESSORIES

smart
200



END CAPS

CODE	PRICE €	MATERIAL	VALID FOR GRATINGS	SCREW	KIT FOR 1ml
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 preformed outlet	PE-HD	200/250	1 x Ø 160



KIT TIE-ROD + SCREWS

CODE	PRICE €	MATERIAL	VALID FOR GRATINGS	SCREW	KIT FOR 1ml
500427		galvanised steel	SMART galvanised steel	M8 x 55 TBL combi	2 tie-rods + 2 screws
500428		stainless steel	SMART stainless steel	M8 x 55 TBL combi	2 tie-rods + 2 screws
500429		black galvanised steel	SMART ductile iron	M8 x 55 black with hexagonal head	2 tie-rods + 2 screws

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

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/length.



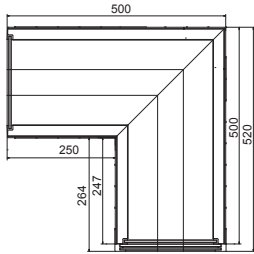
N.B. Sizes and weights are subject to usual manufacturing tolerance values.



SPECIAL PIECES AND DRAIN BOX WITH SYPHON

**smart
200**

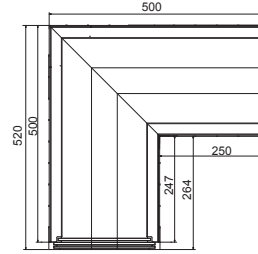
LEFT CORNER



SMART 200

CODE	PRICE €	MODEL
701142		200/250
701106		200/160
701107		200/100

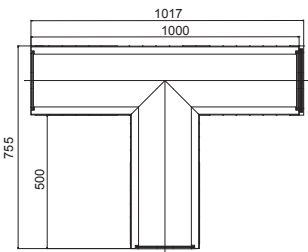
RIGHT CORNER



SMART 200

CODE	PRICE €	MODEL
701143		200/250
701114		200/160
701115		200/100

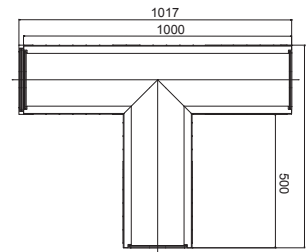
LEFT TI



SMART 200

CODE	PRICE €	MODEL
701144		200/250
701122		200/160
701123		200/100

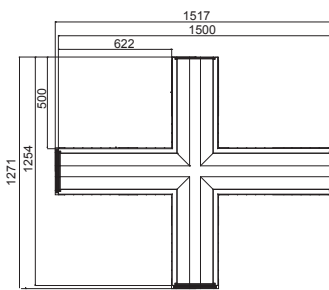
RIGHT TI



SMART 200

CODE	PRICE €	MODEL
701145		200/250
701130		200/160
701131		200/100

CROSS

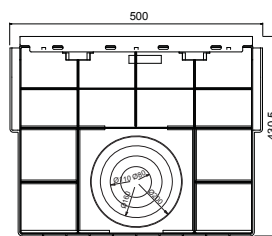


SMART 200

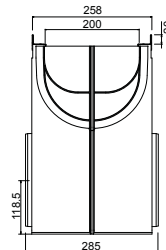
CODE	PRICE €	MODEL
701146		200/250
701138		200/160
701139		200/100

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

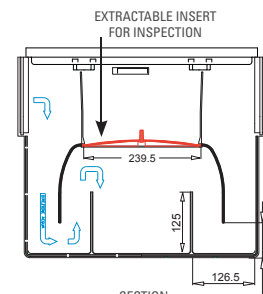
DRAIN BOX WITH SYPHON¹⁷



FRONT VIEW



SIDE VIEW



SECTION

SMART 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 OUTLETS mm
701018		galvanised steel DX51D ³	PE-HD	500 x 258 x 427	500 x 200 x 400	285	118,5	3,85	2 x Ø 110; 2 x Ø 160; 2 x Ø 200
701021		stainless steel AISI 304 ²	PE-HD	500 x 258 x 427	500 x 200 x 400	285	118,5	3,85	2 x Ø 110; 2 x Ø 160; 2 x Ø 200

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
 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.