



FITTINGS

EN 10242 Design Symbol "A"

Malleable cast iron fittings

Tempergussfittings

Raccords en fonte malléable

Raccordi in ghisa malleabile



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TRAKYA DÖKÜM



CERT

DIN-DVGW type examination certificate

DIN-DVGW-Baumusterprüfzertifikat

NV-7641BQ0323

Registration Number
Registriernummer

Field of Application <i>Anwendungsbereich</i>	products of gas and water supply <i>Produkte der Gas- und Wasserversorgung</i>
Owner of Certificate <i>Zertifikatinhaber</i>	Trakya Döküm Sanayi ve Ticaret A.S. Büyükkaristiran Mevkii, TR-39750 Lüleburgaz - Kırklareli
Distributor <i>Vertreiber</i>	Trakya Döküm Sanayi ve Ticaret A.S. Büyükdere Cad. Soyak Binasi No. 38, TR-80290 Mecidiyeköy/Istanbul
Product Category <i>Produktart</i>	metal pipe unions and joints : malleable cast iron fitting (7641)
Product Description <i>Produktbezeichnung</i>	malleable cast iron fitting, design symbol "A"
Model <i>Modell</i>	Td
Test Reports <i>Prüfberichte</i>	laboratory control test: B 19/11/3132 from 27.11.2019 (DBI) mechanical test: B 11/01/1314 from 17.01.2011 (DBI) type testing: B 05/08/0772 from 26.08.2005 (DBI)
Test Basis <i>Prüfgrundlagen</i>	DIN EN 10242 (01.03.1995) DIN EN 10242/A1 (01.06.1999) DIN EN 10242/A2 (01.06.2003) UBA BWGL-Metalle (14.05.2020)

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Datum, Bearbeiter, Blatt, Leiter der Zertifizierungsstelle

DVGW CERT GmbH is an accredited body by DAkkS according to DIN EN ISO/IEC 17065:2013 for certification of products for energy and water supply industry.

DVGW CERT GmbH ist von der DAkkS nach DIN EN ISO/IEC 17065:2013 akkreditierte Stelle für die Zertifizierung von Produkten der Energie- und Wasserversorgung.



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EXPERIENCE

Trakya Döküm has been producing malleable cast iron fittings with its modern production facilities and experienced personnel since its foundation in 1980 and is one of the leading malleable cast iron fittings manufacturer in Europe.

High quality malleable cast iron fittings are produced in compliance with EN 10242 Design Symbol "A".

QUALITY

The production of quality components starts with meeting recognized international standards and the team at Trakya Döküm is focused on the need to achieve this. Trakya Döküm is registered to IATF 16949 and ISO 9001 Quality Management Systems as well as ISO 14001 Environmental Management and ISO 45001 Occupational Health and Safety Management Systems. Trakya Döküm also have Greenhouse Gases Emission Verification Statement in accordance with ISO 14064.

GENERAL INFORMATION

Product standards

Trakya Döküm malleable cast iron pipe fittings meet requirements of the European malleable cast iron fittings standard EN 10242 and the international fittings standard ISO 49. Both standards are almost equal. Withdrawing their own standards (e.g. DIN 2950), most European countries have adopted European fittings standard (EN 10242) as a national version (DIN EN 10242, ÖNORM EN 10242, SN EN 10242, etc.).

However, the British Standard is an exception. BS 143 & 1256 has only been partially replaced by BS EN 10242. Parts of BS 143 & 1256 remain valid since on the one hand also fittings made of copper based materials are covered and on the other hand some types/shapes of malleable cast iron fittings, which are not covered by BS EN 1024, are included.

In EN 10242 and ISO 49 the different combinations of malleable cast iron grades and types of jointing threads, offered by the different manufacturers are grouped into so called «Design Symbols». These

«Design Symbols» have been introduced to facilitate the specification/designation of the fittings execution for tendering or ordering process. They are not intended to be used for marking of the fitting or packaging.

Trakya Döküm malleable cast iron fittings are exclusively manufactured from blackheart malleable cast iron type EN-GJMB-350-10 and with Rp and R jointing threads. Thus, they comply with Design Symbol A.

Design Symbols for malleable cast iron fittings

Design Symbol	Type of material acc. to EN 1562	Tensile strength in N/mm ²	Elongation in %	Jointing thread
A	EN-GJMW-400-5	400	5	Parallel internal thread Rp and taper external thread R acc. to EN 10226-1/ISO 7-1
	EN-GJMB-350-10	350	10	
B	EN-GJMW-350-4	350	4	Taper internal thread Rc* and taper external thread R acc. to EN 10226-2/ISO 7-1
	EN-GJMB-300-6	300	6	
C*	EN-GJMW-400-5	400	5	Taper internal thread Rc* and taper external thread R acc. to EN 10226-2/ISO 7-1
	EN-GJMB-350-10	350	10	
D*	EN-GJMW-350-4	350	4	Taper internal thread Rc* and taper external thread R acc. to EN 10226-2/ISO 7-1
	EN-GJMB-300-6	300	6	

* Not used at Continental Europe, respectively partially prohibited by national regulations.

DESIGNATION OF FITTINGS

The data in this catalogue are based on the international standardization of malleable cast iron fittings, as they are defined in the standard EN 10242 and ISO-49. For the designation of fittings by words, short names for basic types (e.g. bend, elbow, tee, cross) and some additional words for the most important characteristic of related types are used, e.g.:

Elbow

90° elbow with internal threads

Elbow, male and female

90° elbow with external and internal threads

Elbow 45

45° elbow with internal threads

In the catalogue, correlation, between the fitting types shown in the ISO 49 and EN 10242 standards and Trakya Döküm fittings types are shown. The international ISO 49 symbols (A1, A4, B1 etc.) are also included in many national standards on malleable cast iron fittings.

FITTINGS

The following short designation is relevant for contacts between user, distributor and producer: black (b) or galvanized (g) execution, catalogue number, fitting size (on dimensional tables abbreviated by DN), number of pieces.

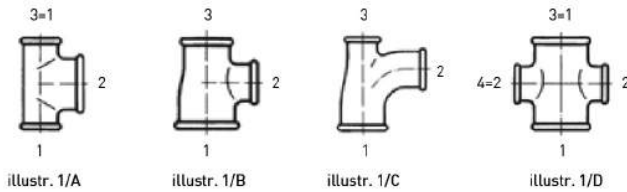
For the sequence of the sizes the following rules apply:

For **equal fittings** it is sufficient to give the individual jointing thread size once.

For **reducing fittings with 2 jointing threads** larger size is given first followed by the smaller size.

For **fittings with 3 or more jointing threads** (illustr. 1/A and 1/D), in case of equal jointing threads on the run, it is sufficient to give first the size of the run, followed by the size of the branch.

For **3 different jointing threads sizes or fittings reduced in the run**, the sequence for the designation of connections will be according to illustr. 1/B and 1/C.



FITTING SIZES

Fitting sizes are designated based on the thread sizes defined in ISO 7-1. Connection sizes of pipes, flanges or plumbing fixtures are designated according to thread sizes or nominal diameters (DN).

The following table shows the relationship between size of fittings and nominal diameter (DN):

Thread size / Fitting size (inch)												
1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6
Nominal diameter DN (mm)												
6	8	10	15	20	25	32	40	50	65	80	100	150

MATERIAL – MALLEABLE CAST IRON

Malleable cast iron is an iron-carbon alloy which combines the outstanding properties of cast iron (pourability) and steel (strength and ductility).

The chemical composition of the cast iron produces excellent castability, which makes malleable cast iron particularly suitable for making complicated shapes and producing thin walled parts.

In its cast state malleable cast iron is hard, brittle and unworkable. It acquires its final microstructure only after subsequent heat treatment known as annealing.

As a result of annealing process very good workability and very good ductility are achieved while sufficiently high material strength is maintained.

HOT DIP GALVANISING

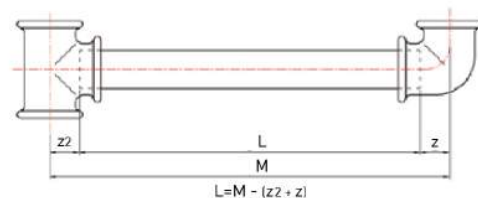
Galvanising is a very commonly used process for increasing the corrosion resistance of iron based materials. The corrosion proofing effect of zinc is based on its anticorrosive properties. Zinc is in fact a relatively base metal and corrodes quickly in the presence of oxygen, but in the process it forms a very homogeneous outer layer, which protects from further corrosion.

Hot dip galvanising achieves a zinc coating by repeatedly dipping the prepared workpieces in molten zinc bath. In the process, several iron-zinc alloy layers form on the workpiece surface which guarantee optimal bonding of zinc coating on the workpiece.

Trakya Döküm malleable cast iron fittings are hot dip galvanized to the requirements in EN 10242, using special procedural technique ensuring that uniform coating thicknesses (minimum 500 g/m² equivalent to 70 µm) are achieved.

LAYING LENGTH Z

The laying length z is the distance between pipe end and fittings axis. It can be calculated from the fittings length by subtracting the average length of engagement. z values are given in catalogue.



THREADS

As **jointing thread** on fittings and on tube extremities the pipe thread according to **ISO 7/1** is used.

Example of designation for thread size 1 1/4
 parallel internal thread: ISO 7/1-Rp 1 1/4
 taper external thread: ISO 7/1-R 1 1/4

The fastening thread to **ISO 228/1** is used only in few cases, e.g. on nuts and longscrews.

Example of designation for thread size 1 1/4
 parallel internal thread: ISO 228/1-G 1 1/4
 taper external thread: ISO 228/1-G 1 1/4 A
 (for tolerance class A)

The main difference is that the ISO 7/1 thread becomes pressure tight in the thread by mating of threads themselves and by using hemp with sealing paste, sealing strips or other materials, whereas the ISO 228/1 thread is a purely mechanical fastening thread.

PIPE THREAD ISO 7/1

The parallel internal thread (Fig.1) of the fittings has a thread length l_2 that allows to screw in the external thread completely until compression and sealing are sufficient even when the allowable gauge length is at its maximum value. The taper external thread (Fig.2) is cut with a conicity of 1:16 (Fig.3)

The total thread length is divided in 3 portions:

-The distance **"a" of the gauge plane** (Fig.2) is laid out with tolerances in such a way that the external thread can be easily screwed in, even into smallest internal thread and that the sparingly applied sealing material will be correctly drawn into the joint.

-The dimension **"b" is the thread portion where the sealing is made**. This thread portion behind the gauge plane has fully formed roots, and its length was chosen in order to provide a sufficient tightening path for the tool, even at maximum allowable internal thread diameter assuring a strong compression between parallel internal and taper external threads.

-The **"washout threads"**, that means the last 1 or 2 threads with partially formed and uncomplete roots, remain usually visible. In case of screwing the external thread too far by engaging the washout threads, there is danger of leakage or cracking.

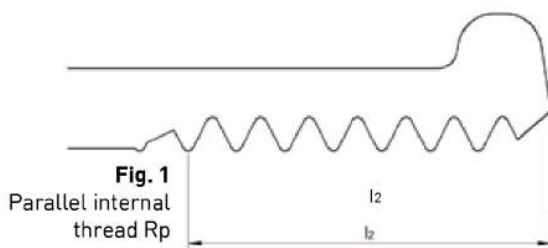


Fig. 3
External thread tapered 1:16

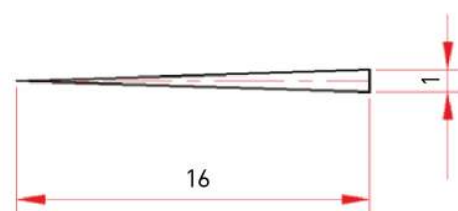
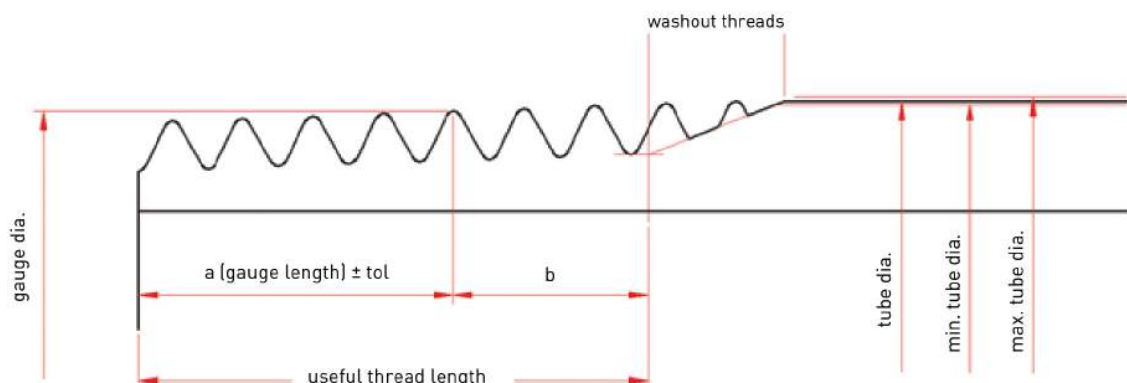


Fig. 2
Taper external thread R on steel tube



FITTINGS

The tube outside diameter is normally large enough to get the crests fully formed along the "useful thread length" a+b when the thread is cut. Even at the smallest allowable tube outside diameter the crests are fully formed beyond the gauge plane, so that no throughout crest root clearance can arise between the threads.

Therefore the pipe thread joint is so defined that the sealing takes mainly place by compressing metal on metal. The sealing material has only the task to equalize small irregularities of the thread surface.

Both figures 4 and 5 show the relations when the threads are screwed together.

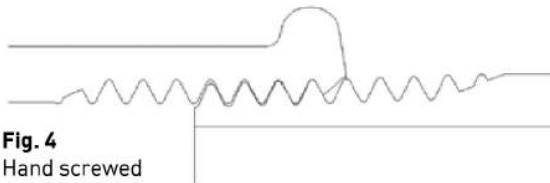


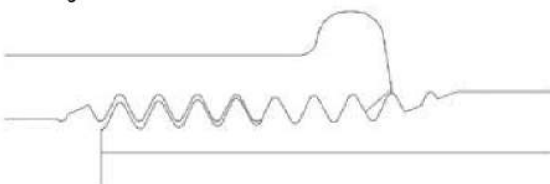
Fig. 4
Hand screwed

Still $2\frac{3}{4}$ to $4\frac{1}{2}$ turns of the external thread remain for tightening by tool according to the following table.

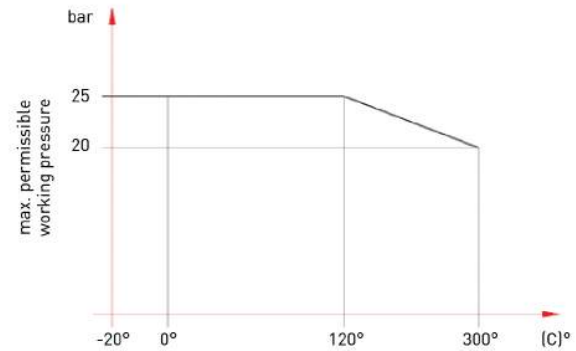
Thread size (inch)	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
Average length of engagement in mm	10	10	13	15	17	19	19	24	27	30	36
From this: Hand screwed length in mm	6	6	8	10	10	13	13	16	18	21	26
By tool tightened length in number of turns	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	2 3/4	3 1/4	4	4	4 1/2

Figure 5 shows the threads screwed together according to the standard. By adjusting the direction of the lateral outlet of a fitting (or overall length of an erected pipe) a few more or less threads could be screwed together. The joint is still perfectly pressure - tight. Nevertheless, threads that are not fully formed at their roots, may not be screwed in deeper as the bottom of chamfer on internal thread. Otherwise the compression could be at least partially omitted and the tightness endangered.

Fig. 5
Tool tightened



WORKING PRESSURE AND TEMPERATURE



CORRELATION OF ISO/EN SYMBOLS AGAINST TRAKYA DÖKÜM CATALOGUE NUMBERS

ISO/EN	Trakya Döküm	ISO/EN	Trakya Döküm
A1	90	M2 red	240
A1	90R	M4	529a
A1/45°	120	M4 red	246
A4	92	N4	241
A4	92R	N8	280
A4/45°	121	N8 red	245
B1	130	P1	374
B1	130R	P4	310
C1	180	T1	300
C1	180R	T8	291
D1	2a	T9	290
D4	1a	U1	330
E1	131	U2	331
G1	2	U11	340
G1/45°	41	U12	341
G4	1	UA1	95
G4/45°	40	UA2	97
G8	3	UA11	96
M2	270	UA12	98
M2 R-L	271		

Trakya Döküm	ISO/EN	Trakya Döküm	ISO/EN
1	G4	241	N4
1a	D4	245	N8 red
2	G1	246	M4 red
2a	D1	270	M2
40	G4/45°	271	M2 R-L
41	G1/45°	280	N8
85		290	T9
90	A1	291	T8
90R	A1	300	T1
92	A4	310	P4
92R	A4	330	U1
120	A1/45°	331	U2
121	A4/45°	340	U11
130	B1	341	U12
130R	B1	370	
131	E1	371	
180	C1	372	
180R	C1	374	P1
240	M2 red	529A	M4

Product Range

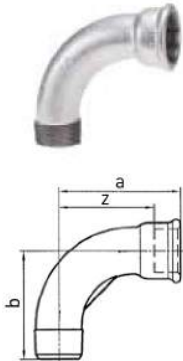
Sortimentübersicht / Gamme / Gamma



 1	 1A	 2	 2A	 40	 41
 85	 90	 90R	 92	 92R	 120
 121	 130	 130R	 131	 180	 180R
 240	 241	 245	 246	 270	 271
 280	 290	 291	 300	 310	 330
 331	 340	 341	 370	 371	 372
 374	 529A				

1 ISO/EN (G4) Long sweep bend 90°

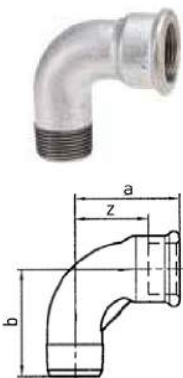
Bogen 90°, Lang / Courbe à grand rayon 90° / Curva lunga 90°



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	b	z
1/2	FS00010002	7,25	FG00010002	9,05	10	90	55	48	42
3/4	FS00010003	12,35	FG00010003	15,50	10	50	69	60	54
1	FS00010004	16,80	FG00010004	21,10		30	85	75	68
1 1/4	FS00010005	29,25	FG00010005	36,35		15	105	95	86
1 1/2	FS00010006	37,70	FG00010006	48,05		12	116	105	97
2	FS00010007	62,40	FG00010007	77,90		6	140	130	116

1A ISO/EN (D4) Short bend 90°

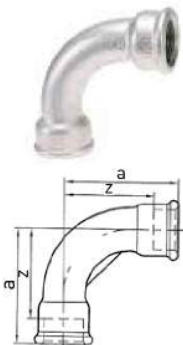
Bogen 90°, kurz / Courbe courte 90° / Curva corta 90°



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	b	z
1/2	FS001A0002	6,60	FG001A0002	8,25	10	90	45	45	32
3/4	FS001A0003	10,30	FG001A0003	12,50	10	50	50	50	35
1	FS001A0004	13,70	FG001A0004	16,80		30	63	63	46
1 1/4	FS001A0005	20,00	FG001A0005	25,30		15	76	76	57
1 1/2	FS001A0006	29,15	FG001A0006	36,35		12	85	85	66
2	FS001A0007	51,30	FG001A0007	63,60		6	102	102	78

2 ISO/EN (G1) Long sweep bend 90°

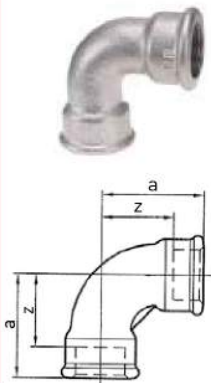
Bogen 90°, lang / Courbe à grand rayon 90° / Curva lunga 90°



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z
1/2	FS00020002	8,25	FG00020002	10,20	10	80	55	42
3/4	FS00020003	12,80	FG00020003	15,75	10	40	69	54
1	FS00020004	16,80	FG00020004	21,35		25	85	68
1 1/4	FS00020005	29,70	FG00020005	36,50		12	105	86
1 1/2	FS00020006	36,20	FG00020006	44,85		10	116	97
2	FS00020007	50,45	FG00020007	62,95		5	140	116
3	FS00020009	176,00	FG00020009	222,75		3	205	175

2A ISO/EN (D1) Short bend 90°

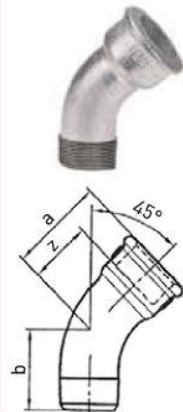
Bogen 90°, kurz / Courbe courte 90° / Curva corta 90°



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z
3/8	FS002A0001	6,75	FG002A0001	8,10	10	100	36	26
1/2	FS002A0002	6,30	FG002A0002	7,95	10	80	45	32
3/4	FS002A0003	8,45	FG002A0003	10,75	10	50	50	35
1	FS002A0004	13,15	FG002A0004	16,90		25	63	46
1 1/4	FS002A0005	19,65	FG002A0005	25,15		15	76	57
1 1/2	FS002A0006	26,85	FG002A0006	33,90		10	85	66
2	FS002A0007	42,00	FG002A0007	53,70		5	102	78
2 1/2	FS002A0008	78,80	FG002A0008	99,40		3	119	92
3	FS002A0009	135,85	FG002A0009	171,95		2	127	97

40 ISO/EN (G4/45°) Long sweep bend 45°

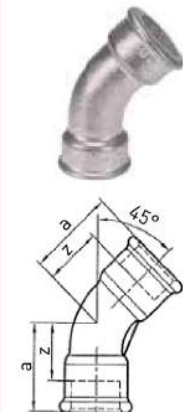
Bogen 45°, lang / Courbe à grand rayon 45° / Curva lunga 45°



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	b	z
1/2	FS00400002	8,25	FG00400002	10,20	10	90	36	30	23
3/4	FS00400003	11,10	FG00400003	13,80	10	50	43	36	28
1	FS00400004	15,50	FG00400004	19,05	10	40	51	42	34
1 1/4	FS00400005	26,95	FG00400005	33,65		20	64	54	45
1 1/2	FS00400006	32,35	FG00400006	39,55		12	68	58	49
2	FS00400007	50,30	FG00400007	62,65		7	81	70	57

41 ISO/EN (G1/45°) Long sweep bend 45°

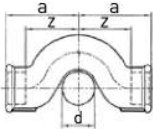
Bogen 45°, lang / Courbe à grand rayon 45° / Curva lunga 45°



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z
1/2	FS00410002	9,85	FG00410002	12,05	10	80	36	23
3/4	FS00410003	12,15	FG00410003	15,25	10	40	43	28
1	FS00410004	15,70	FG00410004	19,45		25	51	34
1 1/4	FS00410005	27,75	FG00410005	34,85		15	64	45
1 1/2	FS00410006	36,30	FG00410006	46,05		10	68	49
2	FS00410007	51,30	FG00410007	65,30		5	81	57

85 Crossover

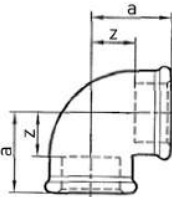
Überspringbogen / Dos d'âne / Scavalcatubo a curva



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	d	z
1/2	FS00850002	10,25	FG00850002	12,90		50	48	0,5 in.	36
3/4	FS00850003	15,90	FG00850003	19,70		35	60	0,75 in.	45
1	FS00850004	31,05	FG00850004	40,35		15	70	1 in.	53

90 ISO/EN (A1) Elbow 90°, equal

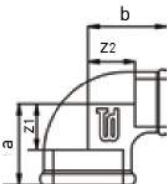
Winkel 90°, egal / Coude 90°, égal / Gomito 90°, uguale



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z
3/8	FS00900001	3,70	FG00900001	4,75	10	150	25	15
1/2	FS00900002	2,40	FG00900002	3,25	10	120	28	15
3/4	FS00900003	3,85	FG00900003	5,10	10	70	33	18
1	FS00900004	5,90	FG00900004	7,50		50	38	21
1 1/4	FS00900005	11,50	FG00900005	14,35		25	45	26
1 1/2	FS00900006	18,55	FG00900006	23,00		15	50	31
2	FS00900007	21,45	FG00900007	27,20		10	58	34
2 1/2	FS00900008	62,40	FG00900008	79,35		6	69	42
3	FS00900009	86,85	FG00900009	108,75		4	78	48
4	FS00900000	153,00	FG00900000	193,55		2	96	60

90R ISO/EN (A1) Elbow 90°, reducing

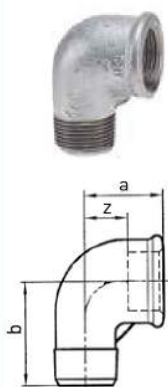
Winkel 90°, reduziert / Coude 90°, réduit / Gomito 90°, ridotto



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)			
							a	b	z1	z2
3/4-1/2	FS090R0032	5,85	FG090R0032	6,80	10	70	30	31	15	18
1-3/8	FS090R0041	9,90	FG090R0041	11,70	10	50	32	34	13	21
1-1/2	FS090R0042	7,75	FG090R0042	10,05	10	50	32	34	15	21
1-3/4	FS090R0043	8,50	FG090R0043	10,50		50	35	36	18	21
1 1/4-1/2	FS090R0052	13,00	FG090R0052	15,55		40	34	38	15	25
1 1/4-3/4	FS090R0053	17,00	FG090R0053	21,10		40	36	41	17	26
1 1/4-1	FS090R0054	13,50	FG090R0054	16,80		30	40	42	21	25
1 1/2-3/4	FS090R0063	20,80	FG090R0063	25,75		25	38	44	19	29
1 1/2-1	FS090R0064	19,30	FG090R0064	24,55		25	42	46	23	29
1 1/2-1 1/4	FS090R0065	21,55	FG090R0065	26,70		20	46	48	27	29
2-1	FS090R0074	33,95	FG090R0074	42,20		12	46	53	22	36
2-1 1/4	FS090R0075	36,30	FG090R0075	45,80		12	48	53	24	34
2-1 1/2	FS090R0076	34,45	FG090R0076	43,00		12	52	55	28	36

92 ISO/EN (A4) Elbow 90°, equal

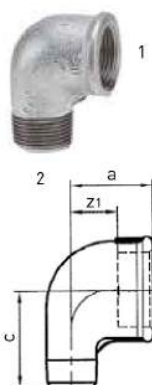
Winkel 90°, egal / Coude 90°, égal / Gomito 90°, uguale



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	b	z
3/8	FS00920001	4,50	FG00920001	5,30	10	150	25	32	15
1/2	FS00920002	3,10	FG00920002	3,70	10	110	28	37	15
3/4	FS00920003	4,75	FG00920003	5,85	10	70	33	43	18
1	FS00920004	7,55	FG00920004	9,70		40	38	52	21
1 1/4	FS00920005	13,75	FG00920005	16,75		25	45	60	26
1 1/2	FS00920006	20,00	FG00920006	25,05		15	50	65	31
2	FS00920007	26,00	FG00920007	32,85		10	58	74	34
2 1/2	FS00920008	65,50	FG00920008	81,85		6	69	88	42
3	FS00920009	86,05	FG00920009	107,80		4	78	98	48
4	FS00920000	144,55	FG00920000	182,95		2	96	118	60

92R ISO/EN (A4) Elbow 90°, male thread reduced

Winkel 90°, Aussengewinde reduziert / Coude 90°, filetage mâle réduit / Gomito 90°, con filetto maschio ridotto



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	c	z1
3/4-1/2	FS092R0032	11,90	FG092R0032	14,95	10	70	30	40	15

120 ISO/EN (A1/45°) Elbow 45°

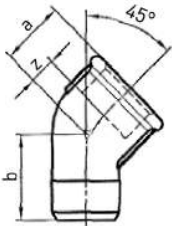
Winkel 45° / Coude 45° / Gomito 45°



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z
1/2	FS01200002	8,45	FG01200002	10,65	10	120	22	9
3/4	FS01200003	10,25	FG01200003	13,10	10	70	25	10
1	FS01200004	15,20	FG01200004	19,00		50	28	11
1 1/4	FS01200005	27,20	FG01200005	34,55		30	33	14
1 1/2	FS01200006	33,45	FG01200006	42,15		20	36	17
2	FS01200007	43,55	FG01200007	55,05		10	43	19
2 1/2	FS01200008	90,85	FG01200008	114,90		6	48	21
3	FS01200009	89,55	FG01200009	113,35		4	54	24

121 ISO/EN (A4/45°) Elbow 45°

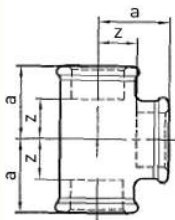
Winkel 45° / Coude 45° / Gomito 45°



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	b	z
1/2	FS01210002	7,75	FG01210002	9,75	10	130	22	28	9
3/4	FS01210003	10,05	FG01210003	12,35	10	70	25	32	10
1	FS01210004	15,15	FG01210004	19,10		50	28	37	11
1 1/4	FS01210005	28,00	FG01210005	35,55		25	33	43	14
1 1/2	FS01210006	30,40	FG01210006	38,25		20	36	46	17
2	FS01210007	38,90	FG01210007	48,45		10	43	55	19

130 ISO/EN (B1) Tee, equal

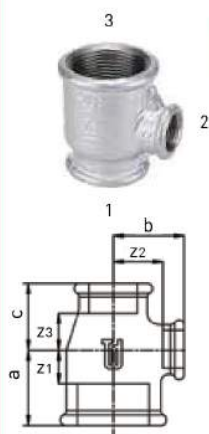
T-Stück, egal / Té, égal / Ti, uguale



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z
3/8	FS01300001	5,45	FG01300001	6,60	10	120	25	15
1/2	FS01300002	3,50	FG01300002	4,30	10	70	28	15
3/4	FS01300003	5,90	FG01300003	7,50		50	33	18
1	FS01300004	8,60	FG01300004	11,00		30	38	21
1 1/4	FS01300005	15,70	FG01300005	19,40		15	45	26
1 1/2	FS01300006	23,70	FG01300006	29,70		10	50	31
2	FS01300007	34,40	FG01300007	42,20		9	58	34
2 1/2	FS01300008	77,35	FG01300008	96,80		4	69	42
3	FS01300009	103,45	FG01300009	129,35		3	78	48
4	FS01300000	198,95	FG01300000	251,75		2	96	60

130R ISO/EN (B1) Tee, reducing or increasing on the branch, reducing on the run

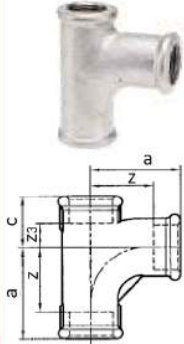
T-Stück, Abzweig reduziert oder vergrößert, Durchgang reduziert / Tè, réduit ou agrandi aux embranchements ou réduit au niveau du passage / Ti, ridotto o ingrandito nella diramazione, ridotto nel passaggio



SIZE (Inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)				
							a	b	c	z1	z2
1/2-3/4-1/2	FS130R0232	7,65	FG130R0232	9,60	70	31	30	31	18	15	18
3/4-1/2-1/2	FS130R0322	6,90	FG130R0322	8,50	70	30	31	28	15	18	15
3/4-1/2-3/4	FS130R0323	6,35	FG130R0323	8,05	60	30	31	30	15	18	15
3/4-3/4-1/2	FS130R0332	8,05	FG130R0332	10,15	60	33	33	31	18	18	18
3/4-1-1/2	FS130R0342	15,50	FG130R0342	19,85	40	36	35	34	21	18	21
3/4-1-3/4	FS130R0343	13,30	FG130R0343	16,25	40	36	35	36	21	18	21
1-1/2-1/2	FS130R0422	14,35	FG130R0422	17,70	50	32	34	28	15	21	15
1-1/2-3/4	FS130R0423	10,20	FG130R0423	12,80	50	32	34	30	15	21	15
1-1/2-1	FS130R0424	8,40	FG130R0424	10,40	40	32	34	32	15	21	15
1-3/4-1/2	FS130R0432	12,95	FG130R0432	16,05	35	35	36	31	18	21	18
1-3/4-3/4	FS130R0433	10,30	FG130R0433	13,00	35	35	36	33	18	21	18
1-3/4-1	FS130R0434	9,15	FG130R0434	11,20	35	35	36	35	18	21	18
1-1 1/4-3/4	FS130R0453	24,10	FG130R0453	30,10	25	42	40	41	25	21	26
1-1 1/4-1	FS130R0454	20,25	FG130R0454	25,55	25	42	40	42	25	21	25
1 1/4-1/2-1	FS130R0524	16,05	FG130R0524	19,95	30	34	38	32	15	25	15
1 1/4-1/2-1 1/4	FS130R0525	13,75	FG130R0525	17,35	30	34	38	34	15	25	15
1 1/4-3/4-1	FS130R0534	18,70	FG130R0534	23,30	30	36	41	35	17	26	18
1 1/4-3/4-1 1/4	FS130R0535	14,90	FG130R0535	18,25	25	36	41	36	17	26	17
1 1/4-1-3/4	FS130R0543	21,85	FG130R0543	27,30	25	40	42	36	21	25	21
1 1/4-1-1	FS130R0544	18,50	FG130R0544	22,95	20	40	42	38	21	25	21
1 1/4-1-1 1/4	FS130R0545	16,50	FG130R0545	20,55	20	40	42	40	21	25	21
1 1/4-1 1/4-1	FS130R0554	20,25	FG130R0554	25,75	20	45	45	42	26	26	25
1 1/4-1 1/2-1 1/4	FS130R0565	31,70	FG130R0565	40,10	15	48	46	48	29	27	29
1 1/2-1/2-1 1/2	FS130R0626	18,55	FG130R0626	23,15	15	36	42	36	17	29	17
1 1/2-3/4-1 1/4	FS130R0635	27,50	FG130R0635	35,15	15	38	44	36	19	29	17
1 1/2-3/4-1 1/2	FS130R0636	19,70	FG130R0636	24,90	15	38	44	38	19	29	17
1 1/2-1-1 1/4	FS130R0645	24,15	FG130R0645	30,45	15	42	46	40	23	29	21
1 1/2-1-1 1/2	FS130R0646	21,65	FG130R0646	27,35	15	42	46	42	23	29	23
1 1/2-1 1/4-1 1/4	FS130R0655	29,50	FG130R0655	37,70	15	46	48	45	27	29	26
1 1/2-1 1/4-1 1/2	FS130R0656	28,85	FG130R0656	36,90	15	46	48	46	27	29	27
2-1/2-2	FS130R0727	26,80	FG130R0727	34,15	10	38	48	38	14	35	14
2-3/4-2	FS130R0737	34,75	FG130R0737	44,05	10	40	50	40	16	35	16
2-1-1 1/2	FS130R0746	38,40	FG130R0746	48,35	10	44	52	42	20	35	23
2-1-2	FS130R0747	27,50	FG130R0747	34,40	10	44	52	44	20	35	20
2-1 1/4-1 1/2	FS130R0756	38,15	FG130R0756	48,00	10	48	54	46	24	35	27
2-1 1/4-2	FS130R0757	34,75	FG130R0757	44,05	10	48	54	48	24	35	24
2-1 1/2-2	FS130R0767	40,75	FG130R0767	50,75	10	52	55	52	28	36	28
2-2-1	FS130R0774	41,05	FG130R0774	51,80	7	58	58	52	34	34	35
2 1/2-2-2 1/2	FS130R0878	75,10	FG130R0878	94,95	5	61	66	61	34	42	34
3-2-3	FS130R0979	102,65	FG130R0979	123,95	3	64	73	64	34	49	34

131 ISO/EN (E1) Pitcher tee, equal

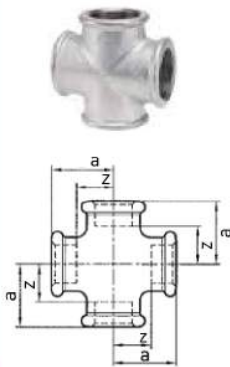
Bogen T-Stück, egal / Té cintré, égal / Ti a una curva, uguale



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)			
							a	c	z	z3
1/2	FS01310002	13,70	FG01310002	17,15	10	60	45	24	32	11
3/4	FS01310003	17,00	FG01310003	21,65	10	30	50	28	35	13
1	FS01310004	25,85	FG01310004	32,70	10	20	63	33	46	16
2	FS01310007	72,80	FG01310007	93,25		2	102	53	78	29

180 ISO/EN (C1) Cross, equal

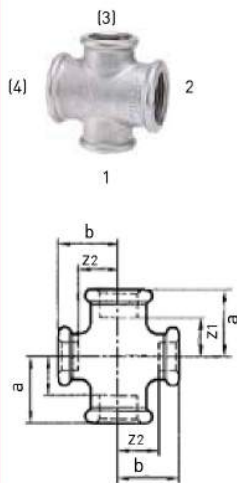
Kreuz, egal / Croix, égal / Croce, uguale



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z
1/2	FS01800002	12,25	FG01800002	15,25	10	70	28	15
3/4	FS01800003	18,55	FG01800003	22,70	10	40	33	18
1	FS01800004	22,65	FG01800004	28,40		25	38	21
1 1/4	FS01800005	30,05	FG01800005	38,10		10	45	26
1 1/2	FS01800006	39,75	FG01800006	50,20		10	50	31
2	FS01800007	59,05	FG01800007	74,90		6	58	34
2 1/2	FS01800008	135,45	FG01800008	171,50		3	69	42
3	FS01800009	155,95	FG01800009	197,45		2	78	48

180R ISO/EN (C1) Cross, reducing

Kreuz, reduziert / Croix, réduit / Croce, ridotta



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)			
							a	b	z1	z2
3/4-1/2-3/4-1/2	FS180R3232	17,00	FG180R3232	21,30		50	30	31	15	18
1-1/2-1-1/2	FS180R4242	33,75	FG180R4242	42,55		30	32	34	15	21
1-3/4-1-3/4	FS180R4343	33,75	FG180R4343	42,55		30	35	36	18	21
1 1/4-1-1 1/4-1	FS180R5454	37,35	FG180R5454	46,70		15	40	42	21	25
1 1/2-1-1 1/2-1	FS180R6464	51,85	FG180R6464	65,80		15	42	46	23	29

240 ISO/EN (M2) Socket, reducing

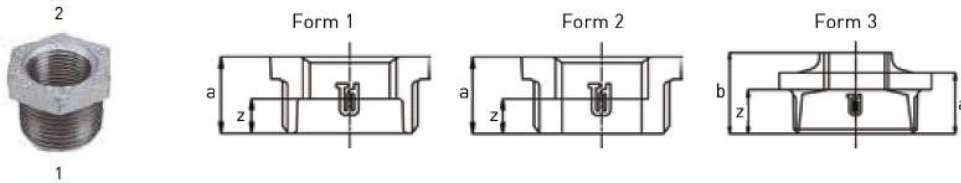
Muffe, reduziert / Manchon, réduit / Manicotto, ridotto



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	Z2
1/2-3/8	FS02400021	4,70	FG02400021	5,55	10	140	36	13
3/4-3/8	FS02400031	6,05	FG02400031	7,65	10	80	39	14
3/4-1/2	FS02400032	5,05	FG02400032	6,50	10	100	39	11
1-1/2	FS02400042	6,65	FG02400042	8,20	10	70	45	15
1-3/4	FS02400043	5,90	FG02400043	7,55	10	60	45	13
1 1/4-3/4	FS02400053	10,85	FG02400053	13,65		50	50	16
1 1/4-1	FS02400054	10,60	FG02400054	13,30		50	50	14
1 1/2-1/2	FS02400062	18,95	FG02400062	23,85		30	55	23
1 1/2-3/4	FS02400063	16,65	FG02400063	21,10		35	55	21
1 1/2-1	FS02400064	12,85	FG02400064	16,15		35	55	19
1 1/2-1 1/4	FS02400065	13,95	FG02400065	17,70		35	55	17
2-1/2	FS02400072	26,30	FG02400072	32,90		20	65	28
2-3/4	FS02400073	27,30	FG02400073	34,20		20	65	26
2-1	FS02400074	24,70	FG02400074	31,70		20	65	24
2-1 1/4	FS02400075	22,40	FG02400075	27,85		20	65	22
2-1 1/2	FS02400076	21,05	FG02400076	26,60		20	65	22
3-11/2	FS02400096	61,45	FG02400096	77,70		7	80	31
3-2	FS02400097	89,75	FG02400097	113,45		7	80	26
3-21/2	FS02400098	102,25	FG02400098	129,10		7	80	23
4-2	FS02400007	154,90	FG02400007	196,25		4	94	34
4-3	FS02400009	166,10	FG02400009	210,40		4	94	28

241 ISO/EN (N4) Reducing bush

Reduziernippel / Mamelon, réduit / Nipplo di riduzione



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	z	b
1/2-3/8	FS02410021	2,45	FG02410021	3,30	10	250	24	14	
3/4-3/8	FS02410031	3,70	FG02410031	4,50	10	100	26	18	
3/4-1/2	FS02410032	2,60	FG02410032	3,50	10	200	26	13	
1-3/8	FS02410041	6,05	FG02410041	7,45	10	90	29	19	
1-1/2	FS02410042	3,85	FG02410042	4,90	10	100	29	16	
1-3/4	FS02410043	3,45	FG02410043	4,60	10	100	29	14	
1 1/4-1/2	FS02410052	7,00	FG02410052	8,25		60	31	18	
1 1/4-3/4	FS02410053	6,00	FG02410053	7,40		70	31	16	
1 1/4-1	FS02410054	4,60	FG02410054	5,60		70	31	14	
1 1/2-1/2	FS02410062	8,55	FG02410062	10,95		50	31	18	
1 1/2-3/4	FS02410063	9,85	FG02410063	12,10		50	31	16	
1 1/2-1	FS02410064	6,55	FG02410064	8,20		60	31	14	
1 1/2-1 1/4	FS02410065	6,65	FG02410065	8,30		70	31	12	
2-1/2	FS02410072	17,25	FG02410072	22,05		30	35	35	48
2-3/4	FS02410073	17,15	FG02410073	21,65		30	35	33	48
2-1	FS02410074	14,10	FG02410074	17,85		30	35	18	
2-1 1/4	FS02410075	13,45	FG02410075	17,05		35	35	16	
2-1 1/2	FS02410076	12,05	FG02410076	15,30		35	35	16	
2 1/2-1	FS02410084	28,35	FG02410084	35,30		15	40	37	54
2 1/2-1 1/4	FS02410085	32,60	FG02410085	40,85		15	40	35	54
2 1/2-1 1/2	FS02410086	31,00	FG02410086	38,55		15	40	21	
2 1/2-2	FS02410087	23,45	FG02410087	29,70		20	40	16	
3-1	FS02410094	43,75	FG02410094	55,30		10	44	42	59
3-1 1/4	FS02410095	43,75	FG02410095	55,30		10	44	40	59
3-1 1/2	FS02410096	40,90	FG02410096	51,30		10	44	40	59
3-2	FS02410097	30,70	FG02410097	38,30		10	44	20	
3-2 1/2	FS02410098	34,60	FG02410098	43,10		10	44	17	
4-2	FS02410007	87,40	FG02410007	110,60		7	51	46	69
4-2 1/2	FS02410008	64,90	FG02410008	82,35		7	51	42	69
4-3	FS02410009	62,30	FG02410009	79,00		7	51	21	

245 ISO/EN (N8) Hexagon nipple, reducing

Doppelnippel, reduziert / Mamelon, réduit / Nipplo doppio, ridotto



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm) a
1/2-3/8	FS02450021	6,05	FG02450021	7,65	10	220	44
3/4-1/2	FS02450032	5,50	FG02450032	6,70	10	130	47
1-1/2	FS02450042	10,60	FG02450042	13,45	10	90	53
1-3/4	FS02450043	6,05	FG02450043	7,70	10	70	53
1 1/4-1/2	FS02450052	16,30	FG02450052	20,55		40	57
1 1/4-3/4	FS02450053	14,15	FG02450053	17,45		50	57
1 1/4-1	FS02450054	9,95	FG02450054	12,15		45	57
1 1/2-3/4	FS02450063	14,15	FG02450063	17,70		25	59
1 1/2-1	FS02450064	22,20	FG02450064	28,25		35	59
1 1/2-1 1/4	FS02450065	11,95	FG02450065	15,25		35	59
2-1	FS02450074	20,10	FG02450074	25,30		20	68
2-1 1/4	FS02450075	25,20	FG02450075	31,50		20	68
2-1 1/2	FS02450076	22,85	FG02450076	28,95		20	68
2 1/2-2	FS02450087	56,05	FG02450087	70,15		10	75
3-2	FS02450097	67,95	FG02450097	85,90		7	83
3-2 1/2	FS02450098	89,05	FG02450098	112,65		7	83
4-3	FS02450009	166,95	FG02450009	211,40		5	94

246 ISO/DIN (M4) Socket, reducing
Muffe, reduziert / Manchon, réduit / Manicotto, ridotto



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z
1/2-3/8	FS02460021	5,00	FG02460021	6,20	10	150	43	30
3/4-1/2	FS02460032	5,30	FG02460032	6,60	10	90	48	33
1-1/2	FS02460042	8,20	FG02460042	10,10	10	50	55	38
1 1/2-1	FS02460064	18,30	FG02460064	22,70		30	63	44

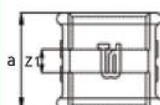
270 ISO/EN (M2) Socket
Muffe / Manchon, égal / Manicotto, uguale



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z1
3/8	FS02700001	3,75	FG02700001	4,50	10	200	30	10
1/2	FS02700002	3,05	FG02700002	3,70	10	120	36	10
3/4	FS02700003	3,95	FG02700003	5,05	10	100	39	9
1	FS02700004	5,10	FG02700004	6,65	10	60	45	11
1 1/4	FS02700005	8,40	FG02700005	10,40		40	50	12
1 1/2	FS02700006	11,65	FG02700006	14,95		25	55	17
2	FS02700007	17,55	FG02700007	22,10		15	65	17
2 1/2	FS02700008	49,15	FG02700008	61,35		12	74	20
3	FS02700009	58,85	FG02700009	73,70		8	80	20
4	FS02700000	135,05	FG02700000	170,75		3	94	22

271 ISO/EN (M2 R-L) Socket, right and left hand thread

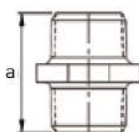
Muffe mit Rechts-und Linksgewinde / Manchon filetage droite/gauche / Manicotto con filettatura destra/sinistra



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	Z1
3/8	FS02710001	5,05	FG02710001	6,40	10	200	30	10
1/2	FS02710002	4,60	FG02710002	5,70	10	150	36	10
3/4	FS02710003	5,90	FG02710003	7,60	10	100	39	9
1	FS02710004	7,85	FG02710004	9,80	10	60	45	11
1 1/4	FS02710005	14,95	FG02710005	18,75		40	50	12
1 1/2	FS02710006	16,55	FG02710006	20,55		25	55	17
2	FS02710007	29,05	FG02710007	36,50		15	65	17

280 ISO/EN (N8) Hexagon nipple

Doppelnippel / Mamelon / Niplo doppio



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	
3/8	FS02800001	5,00	FG02800001	6,20	10	250	38	
1/2	FS02800002	2,60	FG02800002	3,30	10	170	44	
3/4	FS02800003	3,45	FG02800003	4,25	10	110	47	
1	FS02800004	4,80	FG02800004	6,10	10	70	53	
1 1/4	FS02800005	8,25	FG02800005	10,25		40	57	
1 1/2	FS02800006	9,80	FG02800006	11,85		30	59	
2	FS02800007	17,00	FG02800007	21,35		15	68	
2 1/2	FS02800008	31,00	FG02800008	38,80		10	75	
3	FS02800009	37,55	FG02800009	46,70		7	83	
4	FS02800000	135,05	FG02800000	171,75		4	95	

290 ISO/EN (T9) Plug, beaded

Stopfen mit Rand / Bouchon avec collet / Tappo con bordo



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm) C min
3/8	FS02900001	2,20	FG02900001	2,55	10	400	24
1/2	FS02900002	2,15	FG02900002	2,55	10	220	26
3/4	FS02900003	2,85	FG02900003	3,50	10	150	32
1	FS02900004	3,20	FG02900004	3,85	10	100	36
1 1/4	FS02900005	5,70	FG02900005	7,20		65	39
1 1/2	FS02900006	7,30	FG02900006	8,85		50	41
2	FS02900007	12,65	FG02900007	15,55		30	48
2 1/2	FS02900008	27,00	FG02900008	34,20		15	54
3	FS02900009	34,95	FG02900009	44,05		10	60
4	FS02900000	61,45	FG02900000	77,70		6	70

291 ISO/EN (T8) Plug, plain

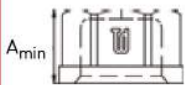
Stopfen ohne Rand / Bouchon sans collet / Tappo senza bordo



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm) B min
1/2	FS02910002	2,25	FG02910002	3,05	10	300	18
3/4	FS02910003	3,30	FG02910003	4,45	10	150	20
1	FS02910004	4,35	FG02910004	5,25	10	100	23
1 1/4	FS02910005	5,90	FG02910005	7,45		75	29
1 1/2	FS02910006	9,95	FG02910006	12,35		50	30
2	FS02910007	13,60	FG02910007	17,00		30	36
3	FS02910009	31,90	FG02910009	40,00		10	44
4	FS02910000	110,05	FG02910000	139,30		6	58

300 ISO/EN (T1) Cap

Kappe / Bouchon / Calotta



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm) A min
1/2	FS03000002	3,30	FG03000002	4,15	10	190	19
3/4	FS03000003	3,95	FG03000003	5,00	10	120	22
1	FS03000004	4,75	FG03000004	5,85	10	80	24
1 1/4	FS03000005	7,20	FG03000005	8,70		55	27
1 1/2	FS03000006	8,85	FG03000006	10,80		45	27
2	FS03000007	16,25	FG03000007	20,45		30	32
2 1/2	FS03000008	30,00	FG03000008	37,75		10	35
3	FS03000009	32,75	FG03000009	40,95		12	38
4	FS03000000	70,40	FG03000000	89,40		7	45

310 ISO/EN (P4) Backnut

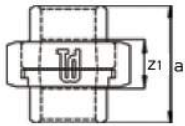
Gegenmutter / Contre-écrou / Controdado



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm) a (mm)
1/2	FS03100002	2,40	FG03100002	3,15	10	270	8
3/4	FS03100003	2,70	FG03100003	3,30	10	250	9
1	FS03100004	4,05	FG03100004	4,80	10	130	10
1 1/4	FS03100005	5,85	FG03100005	6,95		100	11
1 1/2	FS03100006	6,40	FG03100006	8,00		90	12
2	FS03100007	12,50	FG03100007	15,50		50	13
2 1/2	FS03100008	27,90	FG03100008	35,15		35	16

330 ISO/EN (U1) Union flat seat

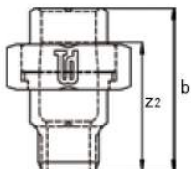
Verschraubung, flach dichtend / Manchon union à joint plat / Bocchettone a sede piana



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z1
1/2	FS03300002	10,85	FG03300002	13,05		50	48	22
3/4	FS03300003	12,30	FG03300003	15,20		30	52	22
1	FS03300004	13,65	FG03300004	17,30		30	58	24
1 1/4	FS03300005	23,70	FG03300005	29,80		15	65	27
1 1/2	FS03300006	30,40	FG03300006	38,50		15	70	32
2	FS03300007	49,90	FG03300007	63,85		10	78	30
2 1/2	FS03300008	116,35	FG03300008	147,10		6	85	31
3	FS03300009	170,65	FG03300009	215,85		3	95	35

331 ISO/EN (U2) Union flat seat

Verschraubung, flach dichtend / Manchon union à joint plat / Bocchettone a sede piana



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							b	z2
1/2	FS03310002	12,55	FG03310002	15,35	10	40	66	53
3/4	FS03310003	13,70	FG03310003	17,15	10	30	72	57
1	FS03310004	16,65	FG03310004	20,75		25	80	63
1 1/4	FS03310005	28,40	FG03310005	37,45		10	90	71
1 1/2	FS03310006	35,80	FG03310006	45,15		12	95	76
2	FS03310007	55,50	FG03310007	70,65		7	106	82

340 ISO/EN (U11) Union taper seat

Verschraubung, kegelig dichtend / Manchon union à joint conique / Bocchettone a sede conica



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z1
1/2	FS03400002	12,95	FG03400002	16,15		50	48	22
3/4	FS03400003	14,50	FG03400003	18,30		30	52	22
1	FS03400004	16,90	FG03400004	21,10		30	58	24
1 1/4	FS03400005	27,90	FG03400005	36,30		15	65	27
1 1/2	FS03400006	32,80	FG03400006	42,50		15	70	32
2	FS03400007	53,55	FG03400007	69,90		10	78	30
2 1/2	FS03400008	121,30	FG03400008	153,60		6	85	31
3	FS03400009	169,20	FG03400009	214,20		3	95	35
4	FS03400000	341,30	FG03400000	432,40		2	110	38

341 ISO/EN (U12) Union taper seat

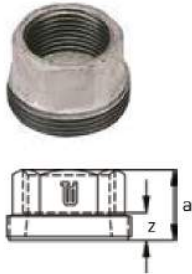
Verschraubung, kegelig dichtend / Manchon union à joint conique / Bocchettone a sede conica



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							b	z2
1/2	FS03410002	12,70	FG03410002	15,75		50	66	53
3/4	FS03410003	15,30	FG03410003	18,95		30	72	57
1	FS03410004	18,90	FG03410004	23,55		30	80	63
1 1/4	FS03410005	29,90	FG03410005	37,50		15	90	71
1 1/2	FS03410006	38,10	FG03410006	48,00		12	95	76
2	FS03410007	60,90	FG03410007	76,50		7	106	82
2 1/2	FS03410008	132,65	FG03410008	167,60		3	118	91
3	FS03410009	207,05	FG03410009	262,05		2	130	100
4	FS03410000	379,20	FG03410000	480,45		1	153	117

370 Union bush flat seat

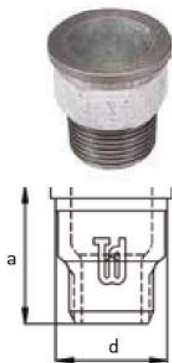
Einschraubteil, flach dichtend / Pièce filetée à joint plat / Pezzo filettato a sede piana



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	z	
1/2	FS03700002	4,25	FG03700002	5,00	175	25	12		*
3/4	FS03700003	5,25	FG03700003	6,50	125	28	13		*
1	FS03700004	6,15	FG03700004	7,85	100	31	14		*
1 1/4	FS03700005	8,85	FG03700005	10,95	50	33	14		**
1 1/2	FS03700006	11,55	FG03700006	14,00	40	36	17		**
2	FS03700007	20,15	FG03700007	25,05	25	42	18		**
2 1/2	FS03700008	40,45	FG03700008	51,15	15	46	19		**
3	FS03700009	59,25	FG03700009	74,95	10	52	22		**

371 Union end flat seat, equal

Einlegeteil, flach dichtend, egal / Pièce folle à joint plat, égal / Pezzo folle a sede piana, uguale



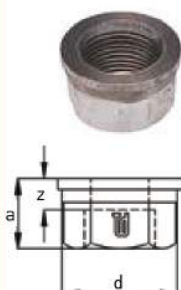
SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	d	
1/2	FS03710002	7,25	FG03710002	8,95	175	40	31,8		*
3/4	FS03710003	6,80	FG03710003	8,25	125	42	35,8		*
1	FS03710004	8,10	FG03710004	10,15	80	47	41,3		*
1 1/4	FS03710005	14,15	FG03710005	17,45	40	55	52,7		**
1 1/2	FS03710006	16,15	FG03710006	20,20	32	58	58,7		**
2	FS03710007	22,85	FG03710007	28,45	20	63	73,7		**

* 6 Kant / Sechseck / Esagono / 6 pans

** 8 Kant / Octagon / Ottagono / 8 pans

372 Union end flat seat, equal

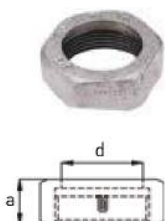
Einlegeteil, flach dichtend, egal / Pièce folle à joint plat, égal / Pezzo folle a sede piana, uguale



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)			
							a	d	z	
1/2-1 1/8	FS0372002B	4,70	FG0372002B	6,25	175	175	21	31,8	8	*
3/4-1 1/4	FS0372003C	4,80	FG0372003C	6,50	125	125	22	35,8	7	*
1-1 1/2	FS0372004D	4,85	FG0372004D	7,05	100	100	25	41,3	8	*
1 1/4-2	FS0372005E	7,60	FG0372005E	9,60	50	50	30	52,7	11	**
1 1/2-2 1/4	FS0372006F	10,20	FG0372006F	12,90	40	40	32	58,7	13	**
2-2 3/4	FS0372007G	16,35	FG0372007G	20,25	25	25	34	73,7	10	**
2 1/2-3 1/2	FS0372008H	36,00	FG0372008H	45,30	15	15	37	92,2	10	**
3-4	FS0372009J	65,10	FG0372009J	82,35	10	10	41	104,7	11	**

374 Union nut

Überwurfmutter / Ecroû / Dado



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)		
							a	d	
1/2-1 1/8	FS037402BS	3,25	FG037402BS	4,30	175	175	19	32	*
3/4-1 1/4	FS037403CS	4,35	FG037403CS	5,40	100	100	20	36	*
1-1 1/2	FS037404DS	4,75	FG037404DS	6,20	90	90	22	41,5	*
1 1/4-2	FS037405ES	7,65	FG037405ES	9,95	50	50	24	53	**
1 1/2-2 1/4	FS037406FS	9,60	FG037406FS	11,70	40	40	25	59	**
2-2 3/4	FS037407GS	13,50	FG037407GS	17,00	30	30	27	74	**
2 1/2-3 1/2	FS037408HS	33,30	FG037408HS	42,15	15	15	30	92,5	**
3-4	FS037409JS	43,00	FG037409JS	54,25	10	10	31	105	**

529A ISO/EN(M4) Socket, internal and external thread

Muffe mit Innen- und Aussengewinde / Manchon avec filetage mâle et femelle / Manicotto con filettatura interno e esterno



SIZE (inch)	BLACK CODE	INDEX BLACK	GALVANISED CODE	INDEX GALVANISED	BAG (pcs)	CARTON (pcs)	DIMENSIONS (mm)	
							a	z
1/2	FS529A0002	5,30	FG529A0002	6,70	10	150	43	30
3/4	FS529A0003	7,65	FG529A0003	9,80	10	100	48	33
1	FS529A0004	11,95	FG529A0004	15,25	70	70	55	38

* 6 Kant / Sechseck / Esagono / 6 pans

** 8 Kant / Octagon / Ottagono / 8 pans

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