

NEW

T BLACK

(IT)

I Maschi in HSS-Co-PM della serie T-BLACK garantiscono la massima efficienza nei processi di maschiatura grazie alla geometria innovativa ed al rivestimento TiCN TOP.

(EN)

HSS-Co-PM series T-BLACK taps guarantee maximum efficiency in tapping processes thanks to the innovative geometry and TiCN TOP.

I AM! BACK!

ILIX[®]
PRECISION



I Maschi in HSS-Co-PM della serie T-BLACK grazie alla geometria innovativa ed al rivestimento TiCN TOP offrono una maggiore resistenza all'usura ed un basso coefficiente di attrito in fase di lavorazione.

HSS-Co-PM series T-BLACK taps thanks to the innovative geometry and TiCN TOP coating offers an increased wear resistance and a low coefficient of friction during machining.

T-BLACK



(1A) - T-BLACK



(1B)
Maschio tradizionale
Traditional tap



RIVESTIMENTO TiCN TOP DEPOSITATI CON TECNICA PVD CONFERISCE UN'OTTIMA RESISTENZA ALL'USURA E SCORREVOLEZZA DEL TRUCIOLO.

TiCN TOP coatings obtained with PVD technique provide very good wear resistance and chip flow.

RASTREMAZIONE POSTERIORE PER RIDURRE LA FORMAZIONE DI MATASSE TRUCIOLO FIGURA (1A-1B) SULLA PARTE FINALE DEL MASCHIO, DIMINUENDO IL MOMENTO TORCENTE NELLA FASE DI INVERSIONE.

Back tapering to reduce the formation of chips, photo (1A-1B) at the end of the tap, decreasing the torque in the reversal phase.

ELICA 40° PER RIDURRE LE FORZE DI TAGLIO E GARANTIRE UNA RAPIDA ED EFFICACE EVACUAZIONE DEL TRUCIOLO.

Helix angle 40° reduces cutting forces and provides a fast and efficient chip evacuation.

IDEALE PER ACCIAI BASSO ED ALTO LEGATI E ACCIAI INOSSIDABILI.

Suitable for low and high-alloy steels and stainless steels.

GAMME DI FILETTATURA (M-MF-UNC-UNF-G).









(M-MF-UNC-UNF-G) threading ranges.

T-Black

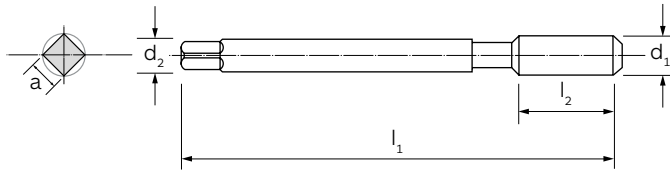
Gamma prodotti Products range	4-11
Parametri di taglio Cutting data	12-13
Legenda iconografica Iconography legend	12-13
Prefori di maschiatura Tapping drill sizes	14-15

PANORAMICA | OVERVIEW

Guida alla selezione dell'utensile | Tool selection guide

Codice Utensile Tool code	Materiale utensile Tool material	Tipologia filetto Thread Type	DIN	Tipologia foro Hole type	Angolo elicica Helix angle	Tolleranza Tolerance	Forma imbocco Chamfer Form	Rivestimento Coating	Gamma diametri Diameters range	P	M	K	N	S	H	Pagina utensile Tool page
 6668TB	HSS-Co PM	M	371		40°	6H	C 2,5-3	TiCN TOP	4 ÷ 10							4
 6669TB	HSS-Co PM	M	376		40°	6H	C 2,5-3	TiCN TOP	12 ÷ 24							5
 6830TB	HSS-Co PM	MF	374		40°	6H	C 2,5-3	TiCN TOP	8 ÷ 20							6
 6831TB	HSS-Co PM	UNC	2184 -1		40°	2B	C 2,5-3	TiCN TOP	nr.6 ÷ 3/8							7
 6832TB	HSS-Co PM	UNC	2184 -1		40°	2B	C 2,5-3	TiCN TOP	7/16 ÷ 1							8
 6833TB	HSS-Co PM	UNF	2184 -1		40°	2B	C 2,5-3	TiCN TOP	nr.6 ÷ 3/8							9
 6834TB	HSS-Co PM	UNF	2184 -1		40°	2B	C 2,5-3	TiCN TOP	7/16 ÷ 1							10
 6835TB	HSS-Co PM	G (BSP)	5156		40°	-	C 2,5-3	TiCN TOP	1/8 ÷ 1							11

MF
374

DIN 13
DIN
P. 12

MATERIALE | MATERIAL
RIVESTIMENTO | COATING
ANGOLO ELICA | HELIX ANGLE
DIREZIONE TAGLIO | CUTTING DIRECTION
LUBRIFICAZIONE INTERNA | INTERNAL COOLANT
TOLLERANZA | TOLERANCE
FORMA D'IMBOCCO/FILETTI | CHAMFER FORM/THREADS
TIPO DI FORO | HOLE TYPE
HSS-Co-PM
TiCN Top
40°

-
6H
C/2,5-3

P
M
K
N
S
-
**GRUPPO MATERIALI
MATERIAL GROUPS**
P | Acciai | Steels
M | Acciai inossidabili | Stainless Steels
K | Ghise | Cast Irons
N | Metalli non ferrosi | Non-ferrous metals
S | Leghe resistenti al calore e Titanio | HRSA and Titanium
H | Acciai Temprati | Hardened Steels

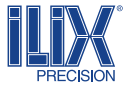
d ₁	P		l ₁	l ₂	d ₂ (h9)	a (h12)	6830TB
----------------	---	--	----------------	----------------	------------------------	------------	--------

8	1,00	7,0	90	12	6,0	4,9	●
9	1,00	8,0	90	12	7,0	5,5	●
10	1,00	9,0	90	14	7,0	5,5	●
10	1,25	8,8	100	14	7,0	5,5	●
11	1,00	10,0	90	14	8,0	6,2	●
12	1,00	11,0	100	16	9,0	7,0	●
12	1,25	10,8	100	16	9,0	7,0	●
12	1,50	10,5	100	16	9,0	7,0	●
14	1,50	12,5	100	20	11,0	9,0	●
16	1,50	14,5	100	20	12,0	9,0	●
18	1,50	16,5	110	25	14,0	11,0	●
20	1,50	19,0	125	25	16,0	12,0	●

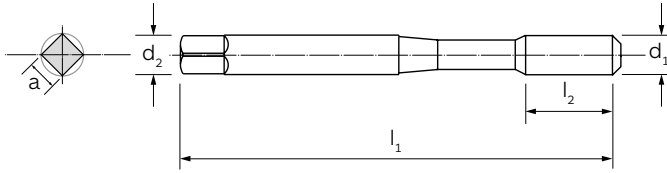
 In fase di ordinazione specificare sempre il Ø (d₁) e il passo (P) | When ordering, please state Ø (d1) and pitch (P)

T-BLACK

Maschi a macchina con gambo rinforzato, in generale dimensioni come DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371



UNC	2184 -1	
ASME B.1.1	DIN	P. 12



MATERIALE | MATERIAL

RIVESTIMENTO | COATING

ANGOLO ELICA | HELIX ANGLE

DIREZIONE TAGLIO | CUTTING DIRECTION

LUBRIFICAZIONE INTERNA | INTERNAL COOLANT

TOLLERANZA | TOLERANCE

FORMA D'IMBOCCO/FILETTI | CHAMFER FORM/THREADS

TIPO DI FORO | HOLE TYPE

GRUPPO MATERIALI
MATERIAL GROUPS

P | Acciai | Steels

M | Acciai inossidabili | Stainless Steels

K | Ghise | Cast Irons

N | Metalli non ferrosi | Non-ferrous metals

S | Leghe resistenti al calore e Titanio | HRSA and Titanium

H | Acciai Temprati | Hardened Steels

HSS-Co-PM

TiCN Top

40°



-

2B

C/2,5-3



P

M

K

N

S

-

d ₁	Filetti/1" Tpi		l ₁	l ₂	d ₂ (h9)	a (h12)		6831TB
----------------	-------------------	--	----------------	----------------	------------------------	------------	--	--------

nr. 6	32	2,85	56	6	4,0	3,0		●
nr. 8	32	3,50	63	7	4,5	3,4		●
nr. 10	24	3,90	70	8	6,0	4,9		●
1/4	20	5,10	80	10	7,0	5,5		●
5/16	18	6,60	90	12	8,0	6,2		●
3/8	16	8,00	90	12	10,0	8,0		●

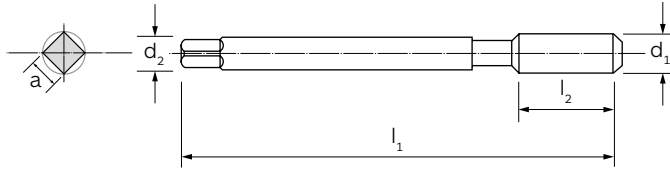
Maschi a macchina con gambo passante, in generale dimensioni come DIN 376
Machine taps with reduced shank, dimensions generally as DIN 376

UNC

ASME B.1.1

**2184
-1**

DIN


P. 12

MATERIALE | MATERIAL
RIVESTIMENTO | COATING
ANGOLO ELICA | HELIX ANGLE
DIREZIONE TAGLIO | CUTTING DIRECTION
LUBRIFICAZIONE INTERNA | INTERNAL COOLANT
TOLLERANZA | TOLERANCE
FORMA D'IMBOCCO/FILETTI | CHAMFER FORM/THREADS
TIPO DI FORO | HOLE TYPE

HSS-Co-PM

TiCN Top

40°



-

2B

C/2,5-3


P
M
K
N
S

-

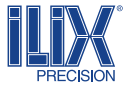
**GRUPPO MATERIALI
MATERIAL GROUPS**
P | Acciai | Steels
M | Acciai Inossidabili | Stainless Steels
K | Ghise | Cast Irons
N | Metalli non ferrosi | Non-ferrous metals
S | Leghe resistenti al calore e Titanio | HRSA and Titanium
H | Acciai Temprati | Hardened Steels

d_1	Filetti/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)				6832TB
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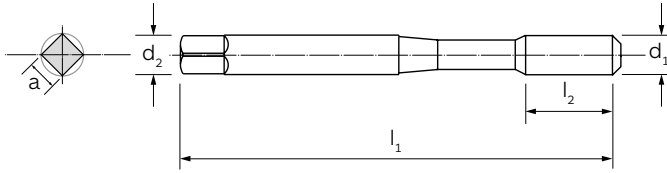
7/16	14	9,40	100	24	8	6,2				●
1/2	13	10,80	110	29	9	7,0				●
5/8	11	13,50	110	32	12	9,0				●
3/4	10	16,50	125	34	14	11,0				●
7/8	9	19,50	140	34	18	14,5				●
1"	8	22,25	160	38	18	14,5				●

T-BLACK

Maschi a macchina con gambo rinforzato, in generale dimensioni come DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371



UNF	2184 -1	
	DIN	P. 12



MATERIALE | MATERIAL

RIVESTIMENTO | COATING

ANGOLO ELICA | HELIX ANGLE

DIREZIONE TAGLIO | CUTTING DIRECTION

LUBRIFICAZIONE INTERNA | INTERNAL COOLANT

TOLLERANZA | TOLERANCE

FORMA D'IMBOCCO/FILETTI | CHAMFER FORM/THREADS

TIPO DI FORO | HOLE TYPE

HSS-Co-PM

TiCN Top

40°



-

2B

C/2,5-3



P

M

K

N

S

-

GRUPPO MATERIALI
MATERIAL GROUPS

P | Acciai | Steels

M | Acciai inossidabili | Stainless Steels

K | Ghise | Cast Irons

N | Metalli non ferrosi | Non-ferrous metals

S | Leghe resistenti al calore e Titanio | HRSA and Titanium

H | Acciai Temprati | Hardened Steels

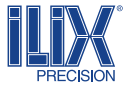
d ₁	Filetti/1" Tpi		l ₁	l ₂	d ₂ (h9)	a (h12)		6833TB
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nr. 6	40	2,95	56	6	4,0	2,1		●
nr. 8	36	3,50	63	7	4,5	2,1		●
nr. 10	32	4,10	70	8	6,0	2,7		●
nr. 12	28	4,70	80	10	6,0	3,0		■
1/4	28	5,50	80	10	7,0	3,4		●
5/16	24	6,90	90	12	8,0	4,9		●
3/8	24	8,50	90	12	10,0	7,0		●

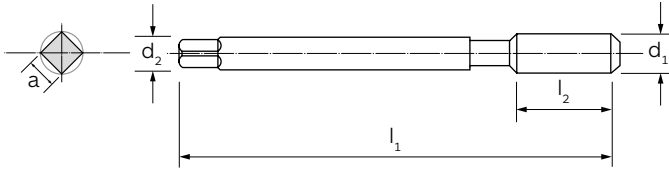
■ Fino ad esaurimento scorte | Till stocks last

T-BLACK

Maschi a macchina, forma secondo DIN 259 e DIN ISO 228
Machine taps, as DIN 259 and DIN ISO 228



G (BSP)	5156	
DIN EN ISO 228	DIN	P. 12



MATERIALE | MATERIAL

RIVESTIMENTO | COATING

ANGOLO ELICA | HELIX ANGLE

DIREZIONE TAGLIO | CUTTING DIRECTION

LUBRIFICAZIONE INTERNA | INTERNAL COOLANT

TOLLERANZA | TOLERANCE

FORMA D'IMBOCCO/FILETTI | CHAMFER FORM/THREADS

TIPO DI FORO | HOLE TYPE

HSS-Co-PM

TiCN Top

40°



-

-

C/2,5-3



P

M

K

N

S

-

GRUPPO MATERIALI
MATERIAL GROUPS

P | Acciai | Steels

M | Acciai Inossidabili | Stainless Steels

K | Ghise | Cast Irons

N | Metalli non ferrosi | Non-ferrous metals

S | Leghe resistenti al calore e Titanio | HRSA and Titanium

H | Acciai Temprati | Hardened Steels

d ₁	Filetti/1" Tpi		l ₁	l ₂	d ₂ (h9)	a (h12)		6835TB
----------------	-------------------	--	----------------	----------------	------------------------	------------	--	--------



1/8	28	8,80	90	14	7	5,5		●
1/4	19	11,80	100	20	11	9,0		●
3/8	19	15,25	100	20	12	9,0		●
1/2	14	19,00	125	25	16	12,0		●
3/4	14	24,50	140	28	20	16,0		●
7/8	14	28,25	150	28	22	18,0		■
1"	11	30,75	160	30	25	20,0		●

■ Fino ad esaurimento scorte | Till stocks last

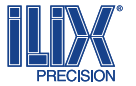
Famiglia prodotto Family product							
		M	MF	MJ	UNC	UNF	BSP/G
Profili di filettatura Threading profiles							

T BLACK		6668TB	-	-	-	-	-
		6669TB	-	-	-	-	-
		-	6830TB	-	-	-	-
		-	-	-	6831TB	-	-
		-	-	-	6832TB	-	-
		-	-	-	-	6833TB	-
		-	-	-	-	6834TB	-
		-	-	-	-	-	6835TB

► **Legenda iconografica | Iconography legend**

Descrizione Icona Icon Description	Pittogramma Pictogram
Tipologia filetto Thread type	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">M <small>DIN 13</small></div> <div style="text-align: center;">MF <small>DIN 13</small></div> <div style="text-align: center;">UNC <small>ASME B.1.1</small></div> <div style="text-align: center;">UNF <small>ASME B.1.1</small></div> <div style="text-align: center;">G <small>(BSP) DIN EN ISO 228</small></div> </div>
DIN	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">371 <small>DIN</small></div> <div style="text-align: center;">374 <small>DIN</small></div> <div style="text-align: center;">376 <small>DIN</small></div> <div style="text-align: center;">2184 -1 <small>DIN</small></div> <div style="text-align: center;">5156 <small>DIN</small></div> </div>
Tipologia foro Hole type	 Foro cieco Blind hole
Angolo Elica Helix angle	 40°

PARAMETRI DI TAGLIO | CUTTING CONDITIONS



T-BLACK

Acciaio debolmente legato Low-Alloyed Steel <800 N/mm ²	Acciaio mediamente legato Medium-Alloyed Steel 700/1000 N/mm ²	Acciaio fortemente legato High-Alloyed Steel 1000/1300 N/mm ²	Acciaio inossidabile Martensitico/Ferritico Stainless Steel Martensitic/Ferritic	Acciaio inossidabile Austenitico Stainless Steel Austenitic	Ghisa grigia Grey cast iron	Ghisa sferoidale Nodular cast iron	Alluminio e leghe di Alluminio Aluminum and Aluminum alloys	Materiali non ferrosi Non ferrous materials	Titanio e leghe di Titanio Titanium and Titanium alloys	HPSA Leghe resistenti al calore Heat resistant alloys	Acciai temprati Hardened steels 38/48 HRC	Acciai temprati Hardened steels 48/58 HRC	Acciai temprati Hardened steels 58/68 HRC
P1	P2	P3	M1	M2	K1	K2	N1	N2	S1	S2	H1	H2	H3

V_c: velocità di taglio (m/min) | cutting speed (m/min)

35	30	20	10	7	-	30	30	20	2	2	-	-	-
35	30	20	10	7	-	30	30	20	2	2	-	-	-
35	30	20	10	7	-	30	30	20	2	2	-	-	-
35	30	20	10	7	-	30	30	20	2	2	-	-	-
35	30	20	10	7	-	30	30	20	2	2	-	-	-
35	30	20	10	7	-	30	30	20	2	2	-	-	-
35	30	20	10	7	-	30	30	20	2	2	-	-	-
35	30	20	10	7	-	30	30	20	2	2	-	-	-

► I parametri di taglio indicati in tabella sono da considerarsi validi in condizioni macchina/pezzo ottimali
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

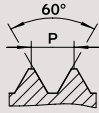
Descrizione Icona Icon Description	Pittogramma Pictogram
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Tolleranza Tolerance	6H 2B
Forma imbocco Chamfer form	C 2,5-3
Profondità di filettatura Threading depth	3xD

► PREFORI DI MASCHIATURA | TAPPING DRILL SIZES

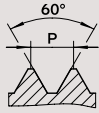
FILETTATURA METRICA | ISO METRIC THREAD

M
DIN 13





Filettatura Metrica ISO Passo Grosso DIN 13
ISO Metric Coarse Thread DIN 13


MF
DIN 13



Filettatura Metrica ISO Passo Fine DIN 13
ISO Metric Fine Thread DIN 13

Ø (M)	P (mm)	
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Ø (MF)	P (mm)	
-----------	-----------	---

Ø (MF)	P (mm)	
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1	0.25	0.75
1,1	0.25	0.85
1,2	0.25	0.95
1,4	0.30	1.10
1,6	0.35	1.25
1,7	0.35	1.35
1,8	0.35	1.45
2	0.40	1.60
2,2	0.45	1.75
2,3	0.40	1.90
2,5	0.45	2.05
2,6	0.45	2.10
3	0.50	2.50
3,5	0.60	2.90
4	0.70	3.30
4,5	0.75	3.70
5	0.80	4.20
6	1.00	5.00
7	1.00	6.00
8	1.25	6.80
9	1.25	7.80
10	1.50	8.50
11	1.50	9.50
12	1.75	10.30
14	2.00	12.00
16	2.00	14.00
18	2.50	15.50
20	2.50	17.50
22	2.50	19.50
24	3.00	21.00
27	3.00	24.00
30	3.50	26.50
33	3.50	29.50
36	4.00	32.00
39	4.00	35.00
42	4.50	37.50
45	4.50	40.50
48	5.00	43.00
52	5.00	47.00
56	5.50	50.50
60	5.50	54.50
64	6.00	58.00
68	6.00	62.00

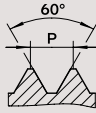
2	0.25	1.75
2,2	0.25	1.95
2,3	0.25	2.10
2,5	0.35	2.20
2,6	0.35	2.30
3	0.35	2.65
3,5	0.35	3.15
4	0.50	3.50
5	0.50	4.50
6	0.50	5.50
6	0.75	5.20
7	0.75	6.20
8	0.50	7.50
8	0.75	7.20
8	1.00	7.00
9	1.00	8.00
10	0.75	9.20
10	1.00	9.00
10	1.25	8.80
11	1.00	10.00
12	1.00	11.00
12	1.25	10.80
12	1.50	10.50
14	1.00	13.00
14	1.25	12.80
14	1.50	12.50
15	1.00	14.00
15	1.50	13.50
16	1.00	15.00
16	1.50	14.50
18	1.00	17.00
18	1.50	16.50
18	2.00	16.00
20	1.00	19.00
20	1.50	18.50
20	2.00	18.00
22	1.00	21.00
22	1.50	20.50
22	2.00	20.00
24	1.00	23.00
24	1.50	22.50
24	2.00	22.00
26	1.50	24.50

27	1.50	25.50
27	2.00	25.00
28	1.50	26.50
30	1.00	29.00
30	1.50	28.50
30	2.00	28.00
32	1.50	30.50
33	1.50	31.50
34	1.50	32.50
35	1.50	33.50
36	1.50	34.50
36	3.00	33.00
38	1.50	36.50
40	1.50	38.50
42	1.50	40.50
45	1.50	43.50
48	1.50	46.50
48	2.00	46.00
48	3.00	45.00
50	1.50	48.50
52	1.50	50.50

► PREFORI DI MASCHIATURA | TAPPING DRILL SIZES

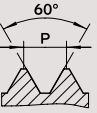
FILETTATURE UNIFICATE AMERICANE | UNIFIED THREAD

UNC
ASME B.1.1



Filettatura Americana
Passo Grosso UNC ASME - B1.1
Unified coarse thread UNC ASME - B1.1

UNF
ASME B.1.1



Filettatura Americana
Passo Fine UNF ASME - B1.1
Unified fine thread UNF ASME - B1.1

Ø (UNC)	Filetti/1" Sp/1"	
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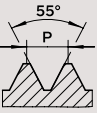
Ø (UNF)	Filetti/1" Sp/1"	
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Nr. 1	64	1,55
Nr. 2	56	1,85
Nr. 3	48	2,10
Nr. 4	40	2,35
Nr. 5	40	2,65
Nr. 6	32	2,85
Nr. 8	32	3,50
Nr. 10	24	3,90
Nr. 12	24	4,50
1/4	20	5,10
5/16	18	6,60
3/8	16	8,00
7/16	14	9,40
1/2	13	10,80
9/16	12	12,20
5/8	11	13,50
3/4	10	16,50
7/8	9	19,50
1"	8	22,25
1 1/8	7	25,00
1 1/4	7	28,00
1 3/8	6	30,75
1 1/2	6	34,00
1 3/4	5	39,50
2"	5	45,00

Nr. 1	72	1,55
Nr. 2	64	1,90
Nr. 3	56	2,15
Nr. 4	48	2,40
Nr. 5	44	2,70
Nr. 6	40	2,95
Nr. 8	36	3,50
Nr. 10	32	4,10
Nr. 12	28	4,70
1/4	28	5,50
5/16	24	6,90
3/8	24	8,50
7/16	20	9,90
1/2	20	11,50
9/16	18	12,90
5/8	18	14,50
3/4	16	17,50
7/8	14	20,40
1"	12	23,25
1 1/8	12	26,50
1 1/4	12	29,50
1 3/8	12	32,75
1 1/2	12	36,00

FILETTATURE A 55° | 55° THREADING

G
(BSP)
DIN EN ISO 228



Filettatura GAS DIN EN ISO 228
Pipe thread DIN EN ISO 228

Ø (G)	Filetti/1" Sp/1"	
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1/16	28	6,80
1/8	28	8,80
1/4	19	11,80
3/8	19	15,25
1/2	14	19,00
5/8	14	21,00
3/4	14	24,50
7/8	14	28,25
1	11	30,75
1 1/8	11	35,50
1 1/4	11	39,50
1 3/8	11	42,00
1 1/2	11	45,00
1 3/4	11	51,00
2"	11	57,00

ILIX[®]
PRECISION



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