

PRECISION
EXTRUSION
TECHNOLOGY

E-XHEAD.COM

E-XHEAD™
swiss made

Technology to improve
your extrusion line
performance

EXTRUSION TOOLING

*HIGH PRECISION TOOLING
EXTREME QUALITY
QUICK DELIVERY
ANY TYPE FOR ANY CROSSHEAD*

E-XHEAD PRECISION EXTRUSION CROSSHEADS FOR ALL EXTRUDERS



CONTENTS

Introduction

Technical description Material used for manufacturing Identification of tools	Page 3
---	--------

Calculation of a tubing tool Quality control of Tooling Size comparison to other heads	Page 4
--	--------

Tooling Type EX-0

Wire Guide Ø6mm Pressure - Semi-Pressure - Tube	Page EX-01
--	------------

Wire Guide Ø10mm Pressure - Semi-Pressure - Tube	Page EX-04
---	------------

Tooling Type EX-1

Wire Guide Ø17mm (Cable Size 6/10) Pressure - Semi-Pressure - Tube	Page EX-1
---	-----------

Tooling Type EX-2

Wire Guide Ø30.74mm (Cable Size 16/20) Pressure - Semi-Pressure - Tube	Page EX-2
---	-----------

Tooling Reduction EX- . . G . .

Reduction Wire Guide	Page 9
----------------------	--------

Data Form

Data Form for any Quotation or Order	Page 10
--------------------------------------	---------

EX

E-XHEAD.com

Technical description

The tolerances of manufacturing of cables are more and more tight. To guarantee a precise machining with a realistic manufacturing price, the life time of the tools is very important.

E-XHEAD manufactures a complete range of extrusion tools requested by your specifications. We are convinced that the quality of our tools and the choice of the materials will give you full satisfaction.

For E-XHEAD, the precision of a tool is not only the dimension tolerance on the Drawing, but also the exact geometric shape. All our tools are controlled individually by our quality department.

Our guides with Hard Metal or Diamond insert are fixed through mechanical system, and are therefore at the extremity of the guide. This allows a perfect guiding and centring of the wire and also a better concentricity.

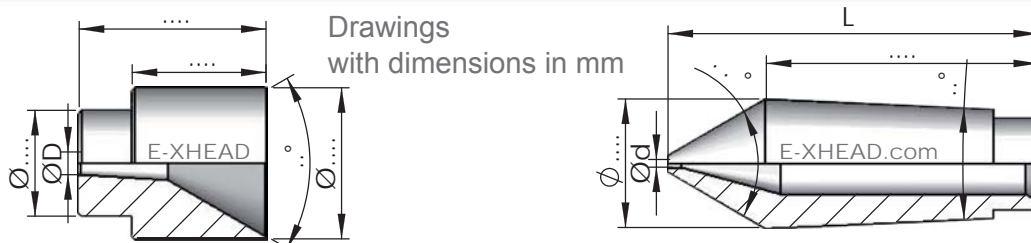
Material used for manufacturing

Type	Material	Features	Specificity
A	Stainless Steel	Basic Steel for our Tools	Chrom steel, good resistance against corrosion and wear.
B	Hastelloy C-276	For tools used in very corrosive environment and with high temperature	Steel with high nickel-chrome content
C	Tungsten Carbide	Very hard material, used for small tools and high abrasion	Hardness > 70 HRc
E	Tungsten Carbide insert	Hard contact insert for bigger tools and high abrasion	Hardness > 70 HRc
G	Diamond Insert	Tooling for high speed lines or very abrasive copper	The highest resistance to abrasion

EX

Identification of tools

EX-??



Drawings with dimensions in mm

Bore max.ØD=...,00	Choice of Material	Bore size maximum Ød=...,00
EX-....-A	-A Hardened Stainless Steel	EX-....-A
EX-....-B	-B Hastelloy	EX-....-B
EX-....-C	-C Tungsten Carbide	EX-....-C
-	-E Tungsten Carbide insert	EX-....-E
-	-G Diamond Insert	EX-....-G

E-XHEAD.com

Please do not hesitate to contact us for any further information on our products range. E-XHEAD® Highly qualified engineers will reply to submit best possible solutions.

Calculation of a tubing tool

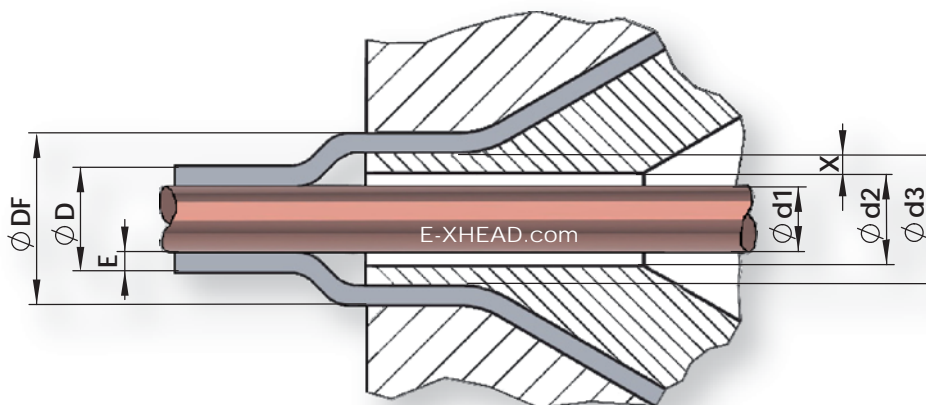
Two main elements are necessary for the calculation of tubing tool:

DDR => Draw Down Ratio

DRB => Draw Ratio Balance

The DDR is in correlation with the polymer and the DRB has to be close to 1

For the calculation of the tools we are using the two formula above:



We have here:

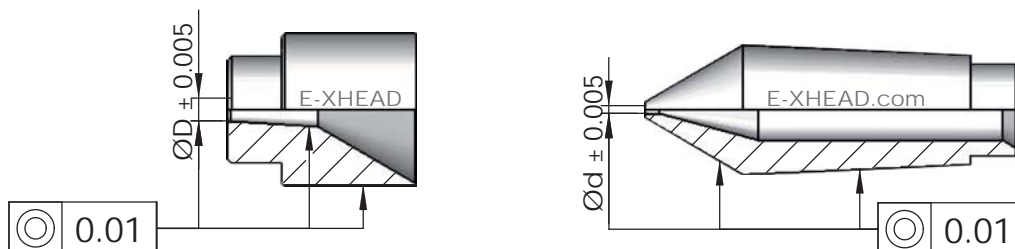
- ØDF => Ø Die outlet
- ØD => ØOver insulation
- E => Thickness insulation
- Ød1 => Ø from the wire
- Ød2 => Ø Inside wire guide
- Ød3 => Ø Outside wire guide
- X => Thickness wall wire guide

$$DDR = \frac{\text{ØDF}^2 - \text{Ød}_3^2}{\text{ØD}^2 - \text{Ød}_1^2}$$

$$DRB = \frac{\text{ØDF} / \text{ØD}}{\text{Ød}_3 / \text{Ød}_1} = 1$$

Quality Control of the tooling

We guarantee you following mesures:



Type	EX-1	EX-2	EX-3	EX-4
Ø Max Conductor	6mm	16mm	25mm	35mm
Ø Max Insulation	10mm	20mm	35mm	45mm

Please do not hesitate to contact us for any further information on our products range.
E-XHEAD® Highly qualified engineers will reply to submitt best possible solutions.

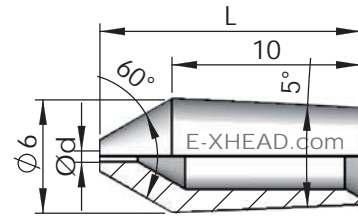
EX

E-XHEAD.com

Wire Guide Ø6mm

Pressure

EX-01

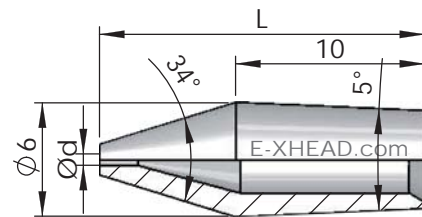


Material	Wire Guide max.Ød3,50
Hardened Stainless Steel	EX-0110-A
Hastelloy	EX-0110-B
Tungsten Carbide	EX-0110-C
Diamond Insert	EX-0110-G

Wire Guide Ø6mm

Semi-Pressure

EX-02

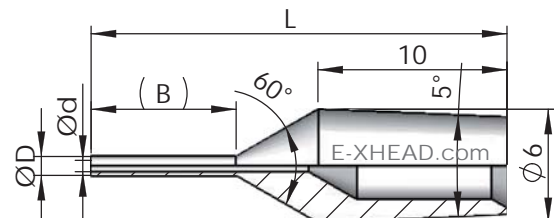


Material	Wire Guide max.Ød3,50
Hardened Stainless Steel	EX-0210-A
Hastelloy	EX-0210-B
Tungsten Carbide	EX-0210-C
Diamond Insert	EX-0210-G

Wire Guide Ø6mm

Tube

EX-03



Material	Wire Guide max.Ød3,50
Hardened Stainless Steel	EX-0310-A
Hastelloy	EX-0310-B
Tungsten Carbide	EX-0310-C

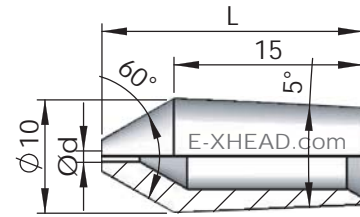
EX

E-XHEAD.com

Wire Guide Ø10mm

Pressure

EX-04

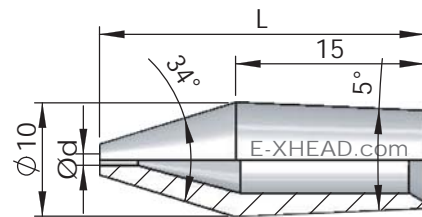


Material	Wire Guide max.Ød5,00
Hardened Stainless Steel	EX-0410-A
Hastelloy	EX-0410-B
Tungsten Carbide	EX-0410-C
Diamond Insert	EX-0410-G

Wire Guide Ø10mm

Semi-Pressure

EX-05



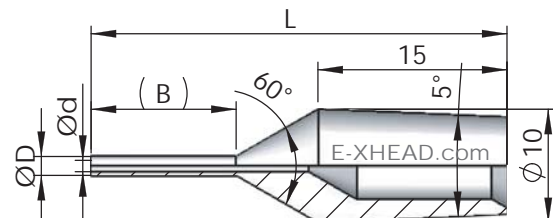
Material	Wire Guide max.Ød5,00
Hardened Stainless Steel	EX-0510-A
Hastelloy	EX-0510-B
Tungsten Carbide	EX-0510-C
Diamond Insert	EX-0510-G

EX

Wire Guide Ø10mm

Tube

EX-06



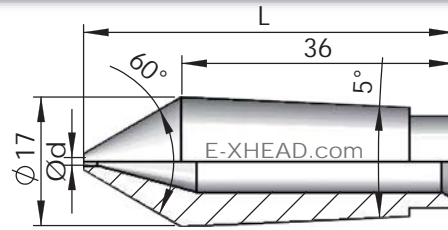
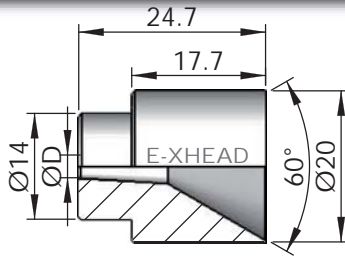
Material	Wire Guide max.Ød4,50
Hardened Stainless Steel	EX-0610-A
Hastelloy	EX-0610-B
Tungsten Carbide	EX-0610-C

E-XHEAD.com

Die Ø20 / Wire Guide Ø17mm

Pressure

EX-11



Die max.ØD10,00

EX-1120-A

EX-1120-B

EX-1120-C

-

-

Material

Hardened Stainless Steel

Hastelloy

Tungsten Carbide

Tungsten Carbide insert

Diamond Insert

Wire Guide max.Ød6,00

EX-1111-A

EX-1111-B

EX-1111-C

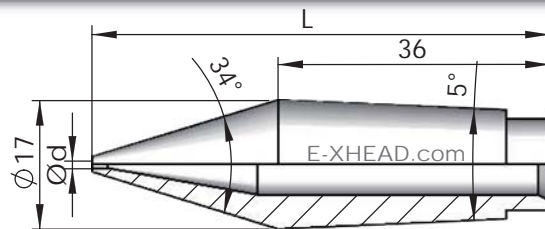
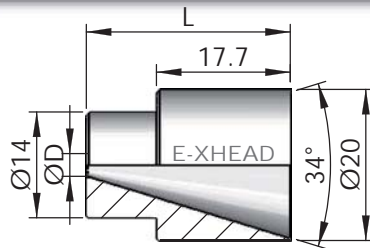
EX-1111-E

EX-1111-G

Die Ø20 / Wire Guide Ø17mm

Semi-Pressure

EX-12



Die max.ØD10,00

EX-1220-A

EX-1220-B

EX-1220-C

-

-

Material

Hardened Stainless Steel

Hastelloy

Tungsten Carbide

Tungsten Carbide insert

Diamond Insert

Wire Guide max.Ød6,00

EX-1211-A

EX-1211-B

EX-1211-C

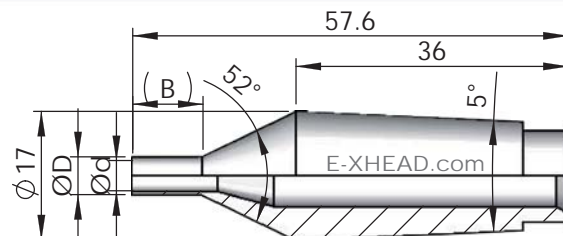
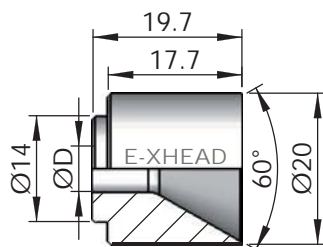
EX-1211-E

EX-1211-G

Die Ø20 / Wire Guide Ø17mm

Tube

EX-13



Die max.ØD10,00

EX-1320-A

EX-1320-B

EX-1320-C

Material

Hardened Stainless Steel

Hastelloy

Tungsten Carbide

Wire Guide max.Ød6,00

EX-1311-A

EX-1311-B

EX-1311-C

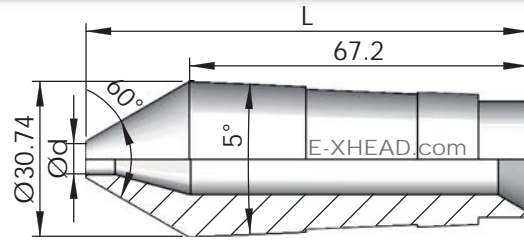
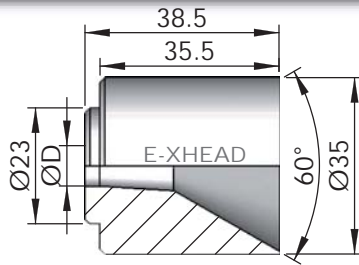
EX

E-XHEAD.com

Die Ø35 / Wire Guide Ø30.74mm

Pressure

EX-21



Die max.ØD20,00
EX-2120-A
EX-2120-B
-
-

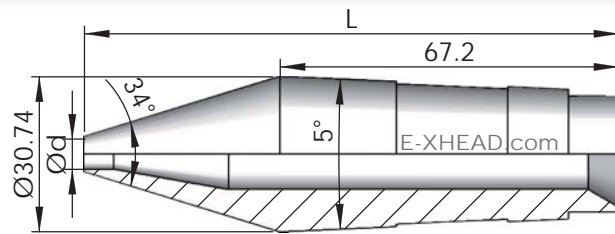
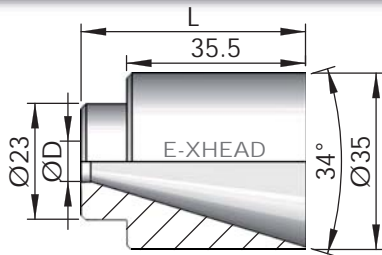
Material
Hardened Stainless Steel
Hastelloy
Tungsten Carbide insert
Diamond Insert

Wire Guide max.Ød16,00
EX-2110-A
EX-2110-B
EX-2110-E
EX-2110-G

Die Ø35 / Wire Guide Ø30.74mm

Semi-Pressure

EX-22



Die max.ØD20,00
EX-2220-A
EX-2220-B
-
-

Material
Hardened Stainless Steel
Hastelloy
Tungsten Carbide insert
Diamond Insert

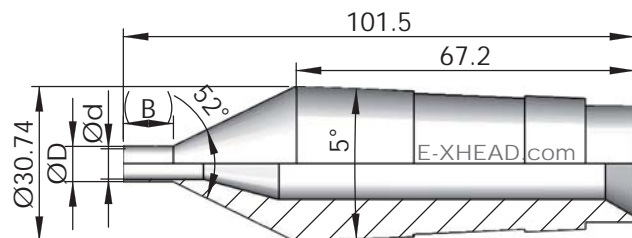
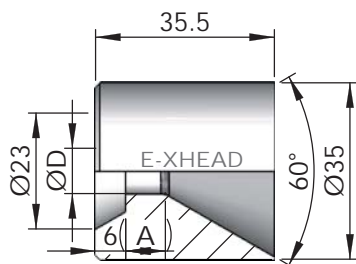
Wire Guide max.Ød16,00
EX-2210-A
EX-2210-B
EX-2210-E
EX-2210-G

EX

Die Ø35 / Wire Guide Ø30.74mm

Tube

EX-23



Die max.ØD20,00
EX-2320-A
EX-2320-B

Material
Hardened Stainless Steel
Hastelloy

Wire Guide max.Ød16,00
EX-2310-A
EX-2310-B

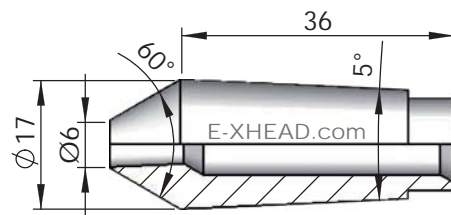
E-XHEAD.com

Please do not hesitate to contact us for any further information on our products range.
E-XHEAD® Highly qualified engineers will reply to submit best possible solutions.

Wire Guide $\varnothing 17 / \varnothing 6\text{mm}$

Reduction

EX-11G01



Material

Hardened Stainless Steel

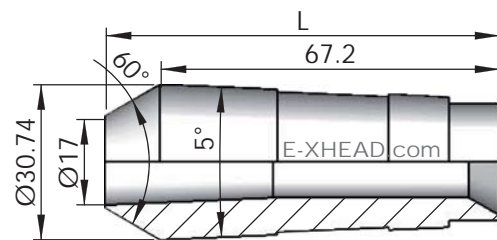
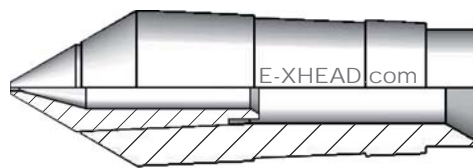
For => EX-0110 / EX-0210 / EX-0310

Wire Guide

EX-11G01-A

Wire Guide $\varnothing 30.74 / \varnothing 17\text{mm}$ Reduction

EX-21G1



Material

Hardened Stainless Steel

For => EX-1111 / EX-1211 / EX-1311

Wire Guide

EX-21G1-A

EX

E-XHEAD.com



Your address :

Country :


Name :

Date :

Your number :

From :

List of Tools

Position	 Designation	Art. N° E-XHEAD	Ød Bore in mm	ØD Bore Die in mm ØD Outside tubing	Quantity	Price	Total price
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							

Total **EUR**

Packing + Transport

EUR