

MICRONEWS



**WIRE&TUBE
DÜSSELDORF
2018**

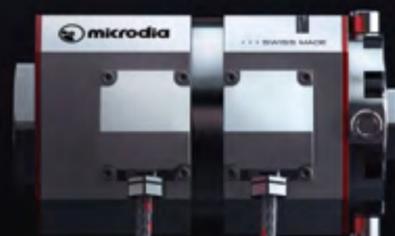
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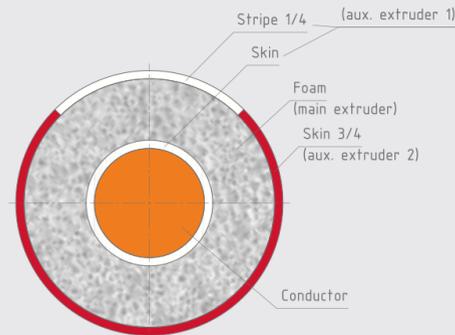
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SWISS
INTELLIGENT
HEADS

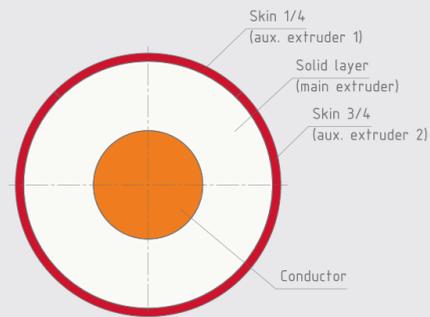
▶
SPEED UP YOUR CABLE PRODUCTION
TO OUTRUN YOUR COMPETITORS.



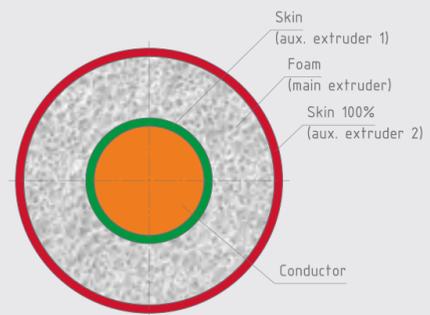
 **microdia**
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SKIN FOAM SKIN + STRIPE

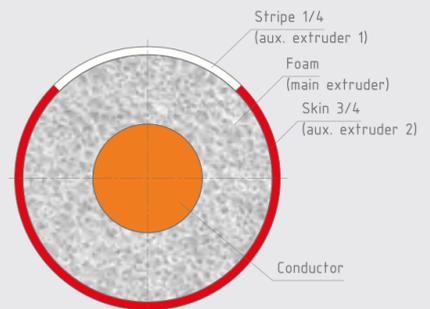


SOLID SKIN COLORING

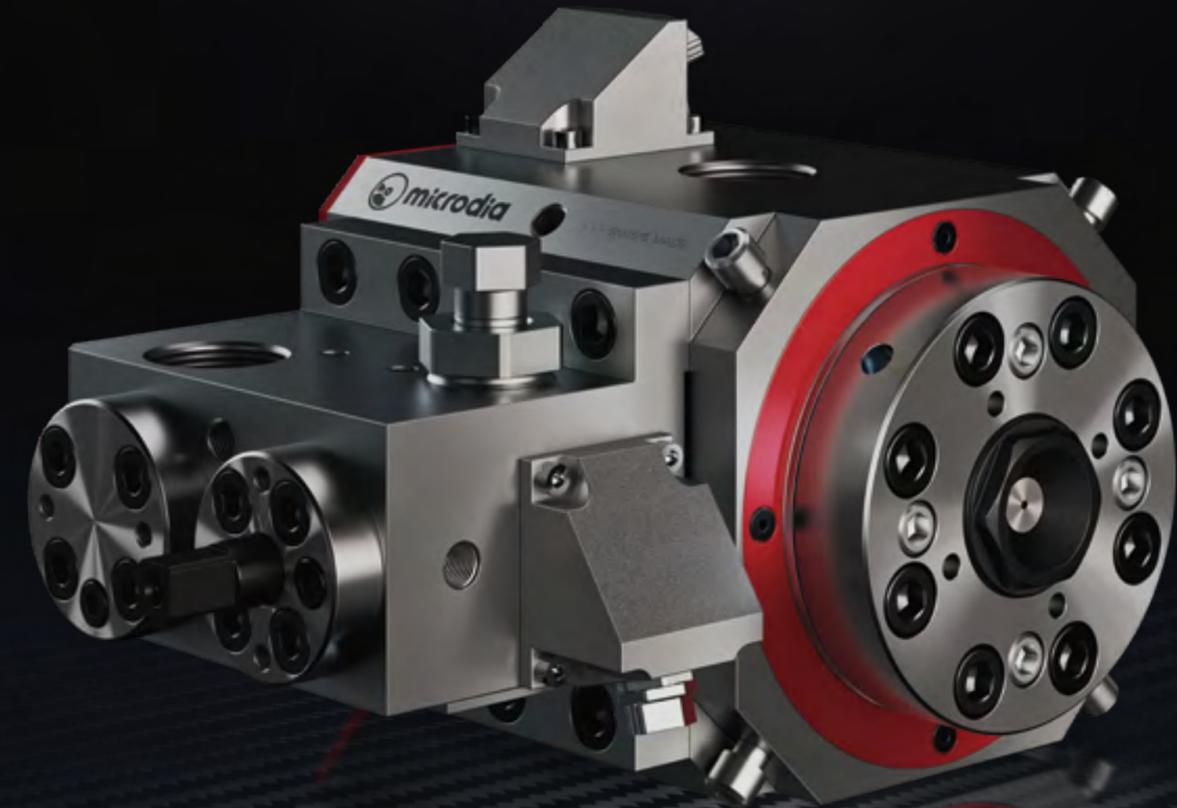


SKIN FOAM SKIN

100% outer skin distributor



FOAM SKIN + STRIPE



9000
10 MFLEX SFS+S 3EX
EXTRUDES LAN SKIN FOAM SKIN + STRIPE
WITH 3 EXTRUDERS ONLY

SAVING

- Three extruders instead of four
- Less heating power
- More floor space
- More space around the cross head
- One less extruder to clean

STRIPE VISIBILITY

- Perfect sectoral shape

PRECISION

MFLEX the proven fixed center with manual fine tuning guarantees a perfect and stable insulation concentricity during the run.

FLEXIBILITY

Without major change, this cross head can extrude:

- Solid
- Solid skin coloring
- Solid skin coloring + stripe
- Foam
- Foam skin
- Foam skin + stripe
- Skin foam skin

9000-10 MFLEX SFS+S 3EX

Extrudes LAN Skin foam skin + stripe with 3 extruders only. A versatile compromise saving floor space and energy.

Products

- LAN Cat. 6-7-8
- Railway signal cables
- Small RF cables
- Mini Coax

Min/Max

mm/inches

Min core diameter	0.1 mm / 0.004"
Max core diameter	5 mm / 0.200"
Max diam. over insulation	10 mm / 0.400"
Max tubing die diameter	10 mm / 0.400"



MAIN FEATURES

- Compact design
- Three heating zones: head, die, tip
- Vacuum pump fitting
- Fast tool change
- Harting power plugs
- Microflex* option (Fluomex 07, 10 & 20)

* Microflex: microdia's original concept refers to a fixed center cross head with manual fine tuning centering, making concentricity factors close to 100% possible.

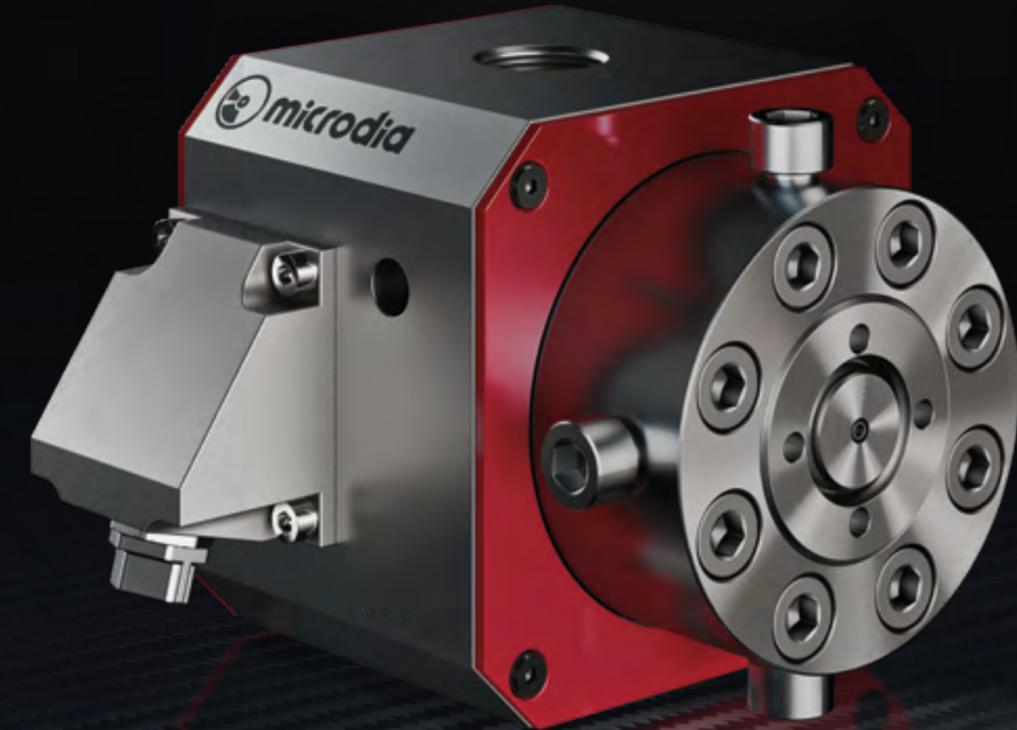
FLUOMEX FAMILY

Model	Max Die opening	Max Core Ø	Mflex	Layers
FLUOMEX 05	5 mm	1.5 mm	Fixed center	Single / double / triple
FLUOMEX 07	10 mm	4 mm	Yes	Single / double / triple
FLUOMEX 10	20 mm	5 mm	Yes	Single / double
FLUOMEX 20	35 mm	12 mm	Yes	Single / double
FLUOMEX 50	50 mm	22 mm	Fixed or manual center	Single



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HEADS

NEW



FLUOMEX SERIES
BEST SOLUTION FOR FLUOROPOLYMER
EXTRUSION APPLICATIONS

CABLE
/ HEATING
AEROSACE

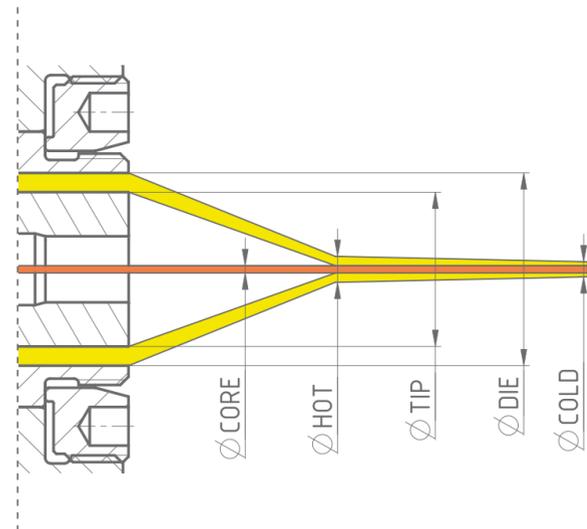
DRB / TUBING TOOL DRAW RATIO BALANCE FACTOR

Ideal tubing extrusion conditions are satisfied when the proportions of die opening and hot insulation cross section are identical.

In that case the DRB will be > 1

$$\text{DRB} = \frac{\frac{\text{Die } \varnothing}{\text{Tip } \varnothing}}{\frac{\text{Insulation } \varnothing}{\text{Core } \varnothing}}$$

TOOLING DIMENSION



$$\frac{\text{Die } \varnothing}{\text{Tip } \varnothing} = \frac{\text{Hot } \varnothing}{\text{Core } \varnothing}$$

FUOROPOLYMER CROSS HEADS.

+ All our fluoropolymer cross heads are made of our new specially formulated **M-alloy** to guarantee:

- Higher corrosion resistance
- Higher hardness
- Higher dimensional stability

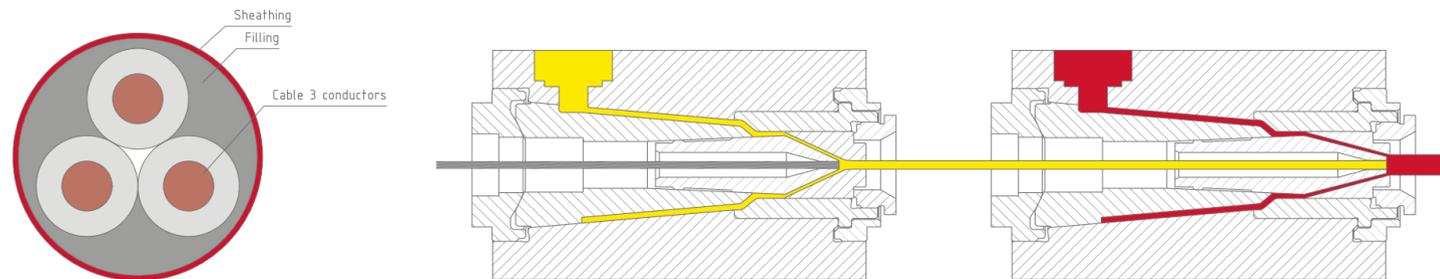


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HEADS

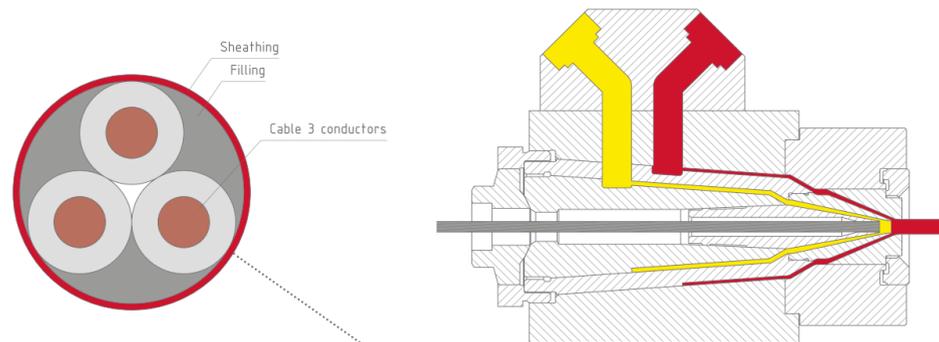
▶
A H A U T E - C O U T U R E F I N I S H F O R
Y O U R W I R E S A N D C A B L E S .



IN TANDEM



WITH 9000 BG



- Smaller outer diameter
- Lighter cable
- Less filling compound
- Less jacketing compound

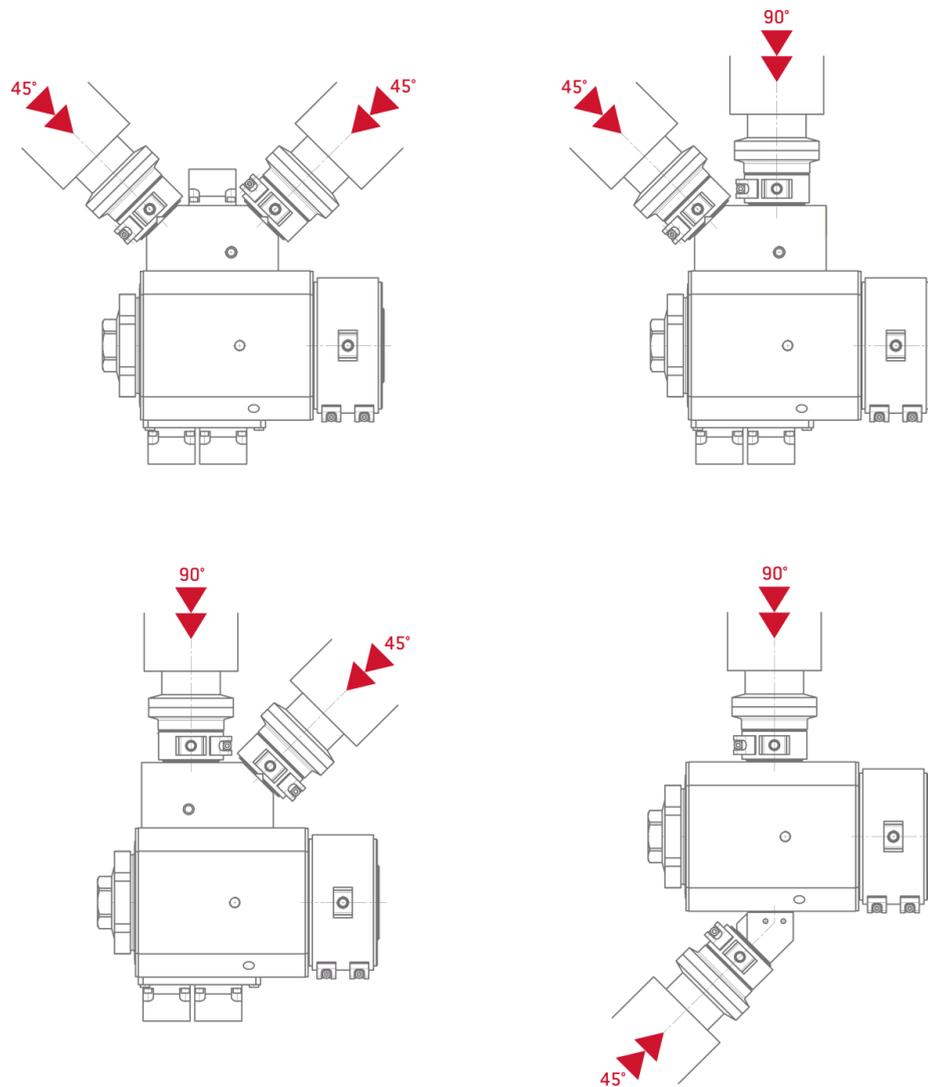
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HEADS



9000 BG SERIES
FILLING & JACKETING
IN ONE PASS

CABLE
/ POWER

ADAPTABLE



VERSATILE

Flexible

- Single layer
- Double layer
- Filling & jacketing
- Skin coloring
- Inner skin & main layer

Suitable

For all industrial compounds: PE / PVC / LSZH / XLPE

ECONOMICAL

Less floor space

Shorter extrusion line because the two extruders are very close to each other

Less extrusion tooling

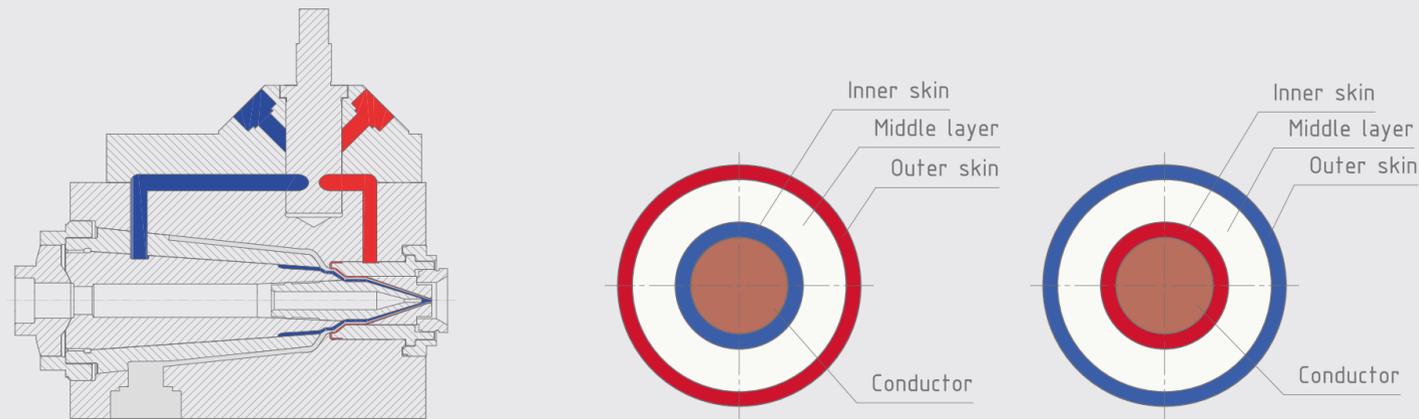
- 1 Wire guide
- 1 intermediate die
- 1 final die

Less heating power

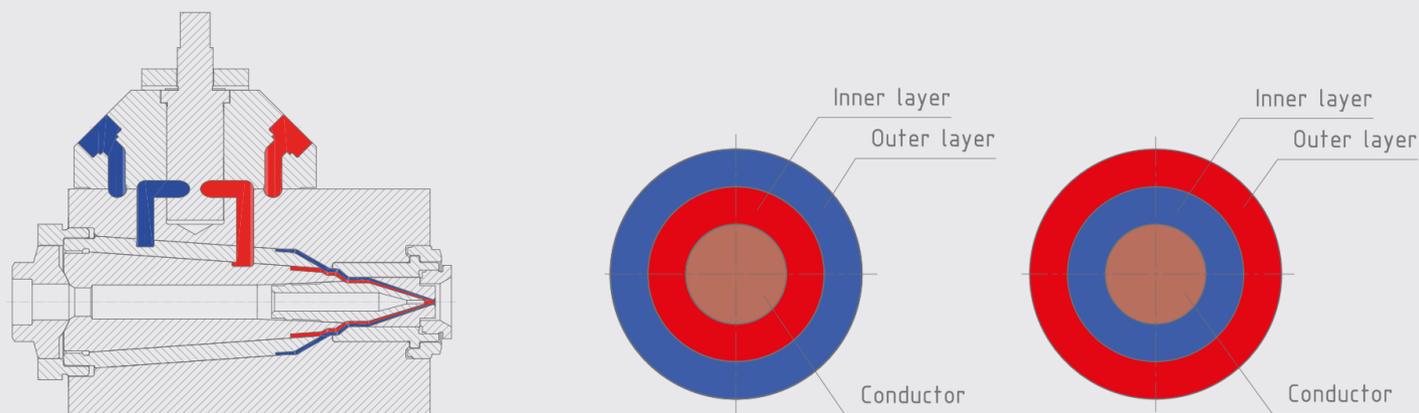
- Only one cross head to heat up
- Available with electric heating or fluid heating/cooling



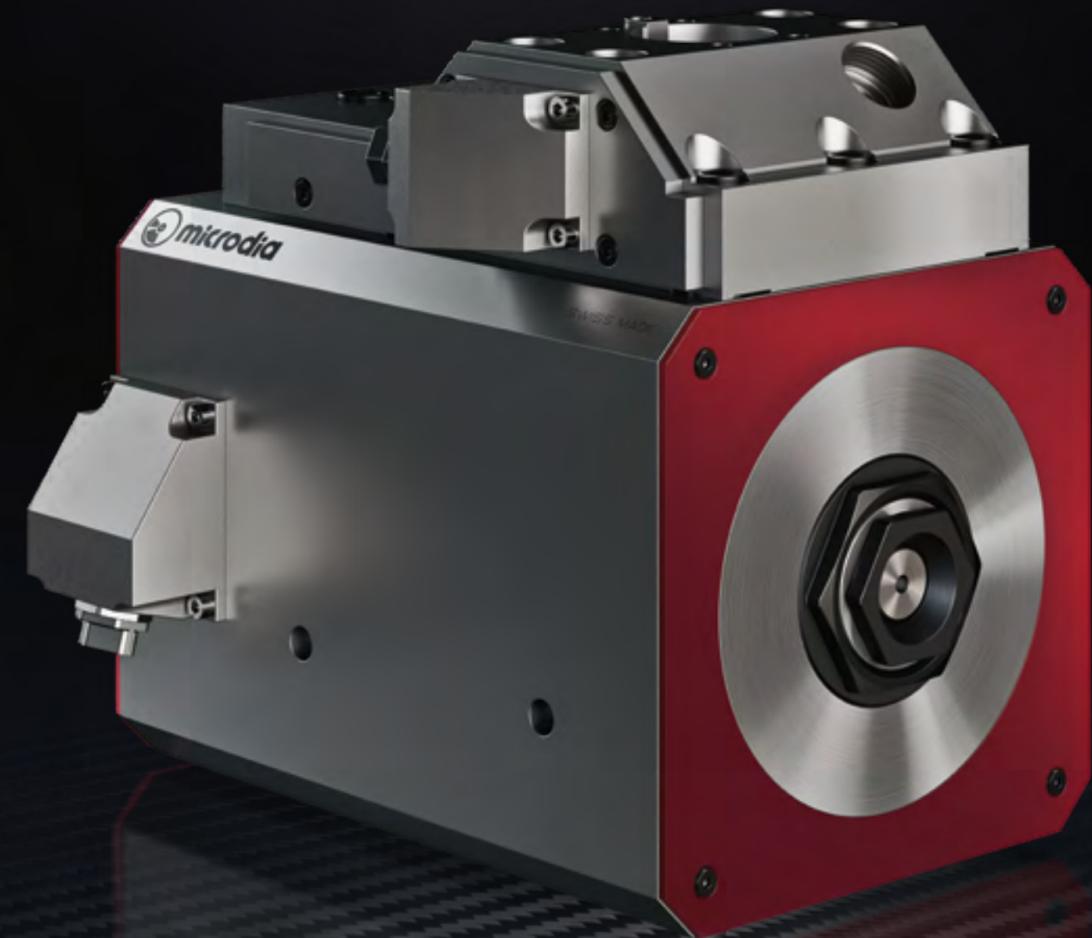
SMART COLOR CHANGE / 3 LAYER CABLE CONSTRUCTION



SMART COLOR CHANGE / 2 LAYER CABLE CONSTRUCTION



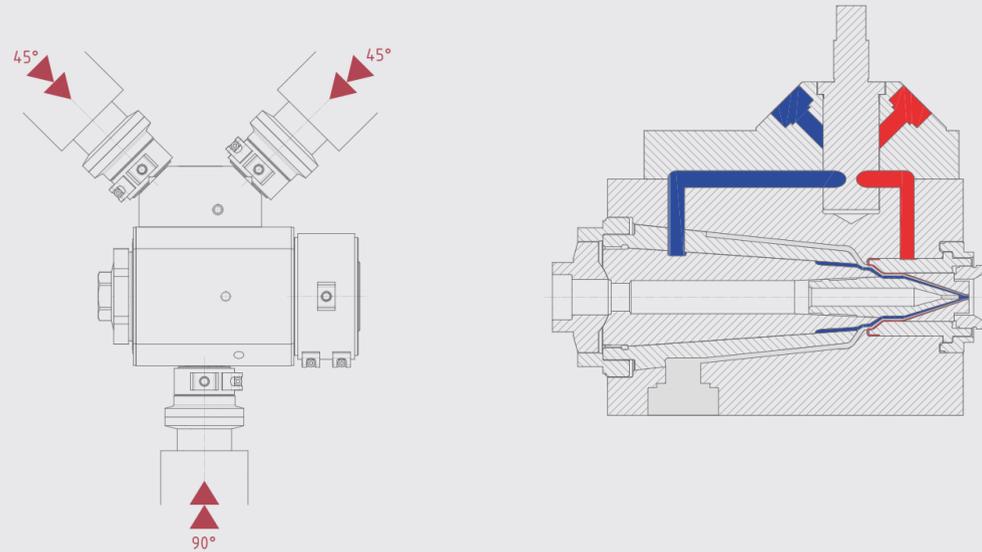
SWISS
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HEADS



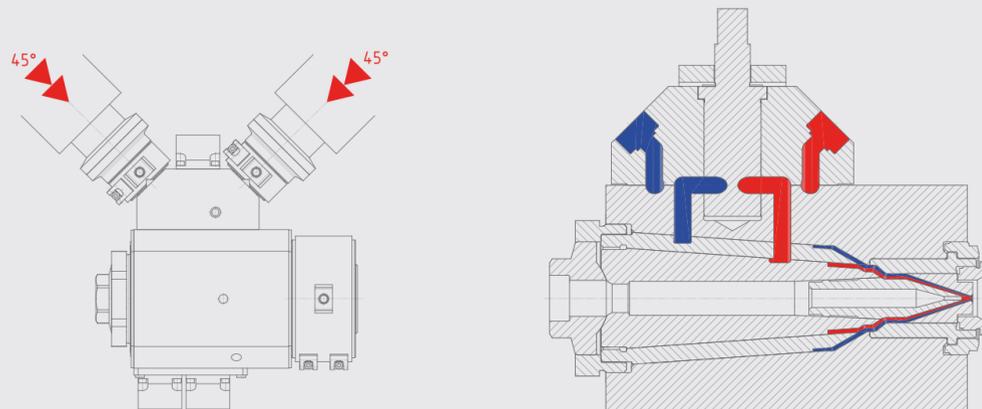
CABLE
/ AUTOMOTIVE

9000
20 XFL
SMART COLOR CHANGE

EXTRUDER LAY OUT FOR THREE LAYER EXTRUSION



EXTRUDER LAY OUT IN "V" FOR DUAL LAYER EXTRUSION

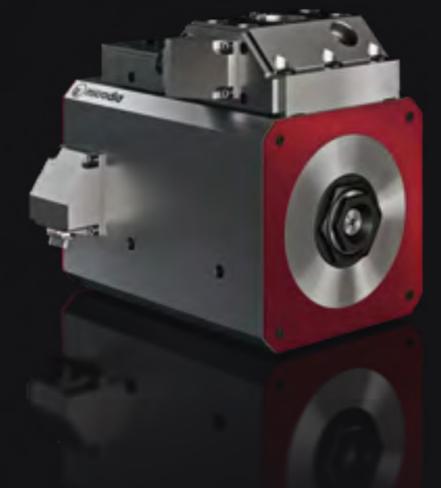


SMART COLOR CHANGE. 3 LAYER CABLE CONSTRUCTION

- Main extruder makes the middle layer
- Two auxiliary extruders make the inner and outer skin
- Both auxiliary extruders are running at the same speed

SMART COLOR CHANGE. 2 LAYER CABLE CONSTRUCTION

- Two extruders of the same size
- Cross head with two distributors
- Between color changes, inner layer can be neutral (no color)



TAILOR-MADE SOLUTIONS



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INTELLIGENT
HEADS

▶
EXTRUSION SOLUTIONS
AS UNIQUE AS YOUR NEEDS.





Microdia supplies cross heads to renowned extrusion line manufacturers and wire & cable factories all over the world, each one with particular requirements regarding their cross head configurations.

Complex multilayer cross heads must fit in limited spaces to avoid excessively long connecting tubes. Depending on the extrusion line design, the extruders are placed horizontally, vertically or diagonally, which requires many different angular fittings. It soon became necessary to find a solution limiting the number of variable components in a system, easy to combine, allowing all types of configurations, and economical to manufacture.

The modular concept fulfils all those conditions.

MODULAR CONCEPT. CROSS HEADS À LA CARTE.

+

Availability

Modular means that most of the cross head parts are composed of standard modules. The modules can be produced economically on a large scale and stocked, making them available for newly ordered heads or as replacement parts when needed.

+

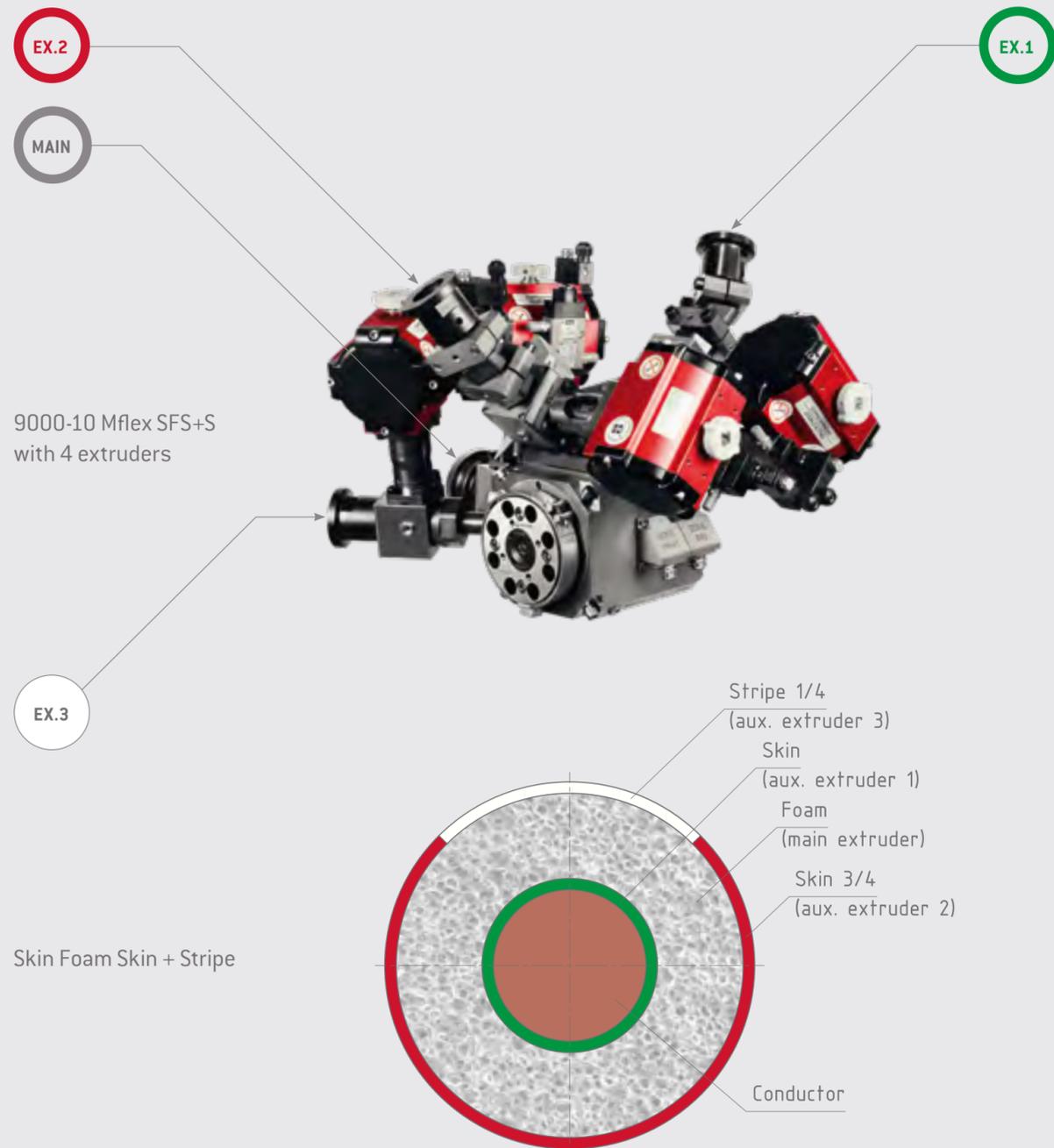
À la carte

With the exception of the connecting flanges which depend on the extruder size and center line, all the cross head parts are available from stock, making the assembly of any cross head configuration possible in a very short time.

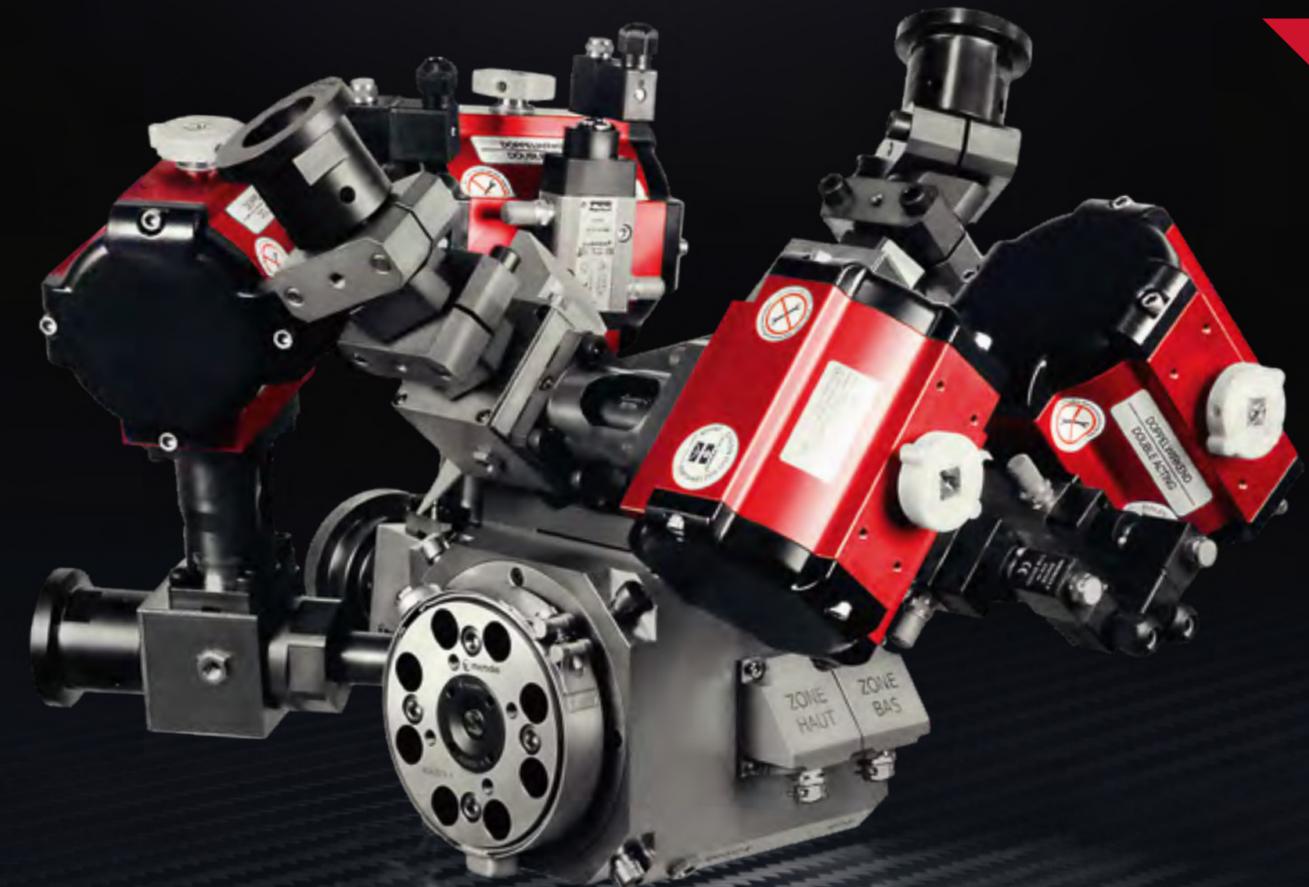
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Compliance

Nowadays, the variety of compounds is such that it is no longer possible to efficiently run products with only one distributor. Compound rheology, cross heat throughput, and other physical factors impose an adapted flow path through the head, i.e. they require an optimized distributor. Different distributors suitable for all kinds of applications are available from stock as well.



NEW



9000 10 MFLEX SFS+S 4EX

EXTRUDES LAN SKIN FOAM SKIN + STRIPE
WITH 4 EXTRUDERS

CABLE
/ DATA



+

Precision

Cat. 7 and above require a perfect insulation concentricity difficult to achieve with a conventional fixed center cross head. Microdia microflex system makes concentricity factors close to 100% possible by means of a fine manual tuning. Adjustment is possible at full production speed without any compound leak.

9000-10 MFLEX SFS+S 4EX

- 3 conical distribution cartridges
- Front adaptor for the striping extruder
- Uniform and smooth compound flow
- No stress, no shear in the melted compound
- Gum Space Axial die adjustment
- Mflex fixed centering with fine tuning

+

Main applications

LAN Cat. 6-7-8 with stripe

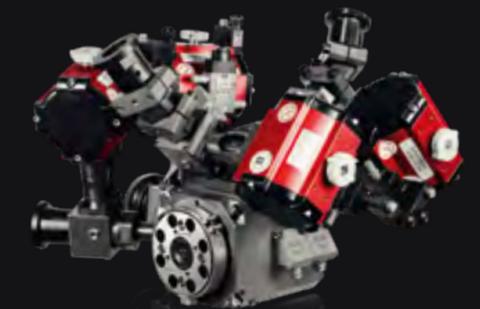
For easier pairs identification, a colored stripe has been added to the usual plain white wires 1, 3, 5 & 7. To extrude this product, the standard microdia skin foam skin cross head has been modified to allow connection to a 4th small extruder which will apply the stripe.

+

Line configuration

- Main extruder for the foam insulation, generally 60-36D.
- Auxiliary extruder for outer skin, 30-24D.
- Auxiliary extruder for inner skin, 18-24D.
- Auxiliary extruder for stripe, 18-24D.

NB: extruder sizes given as an example only.

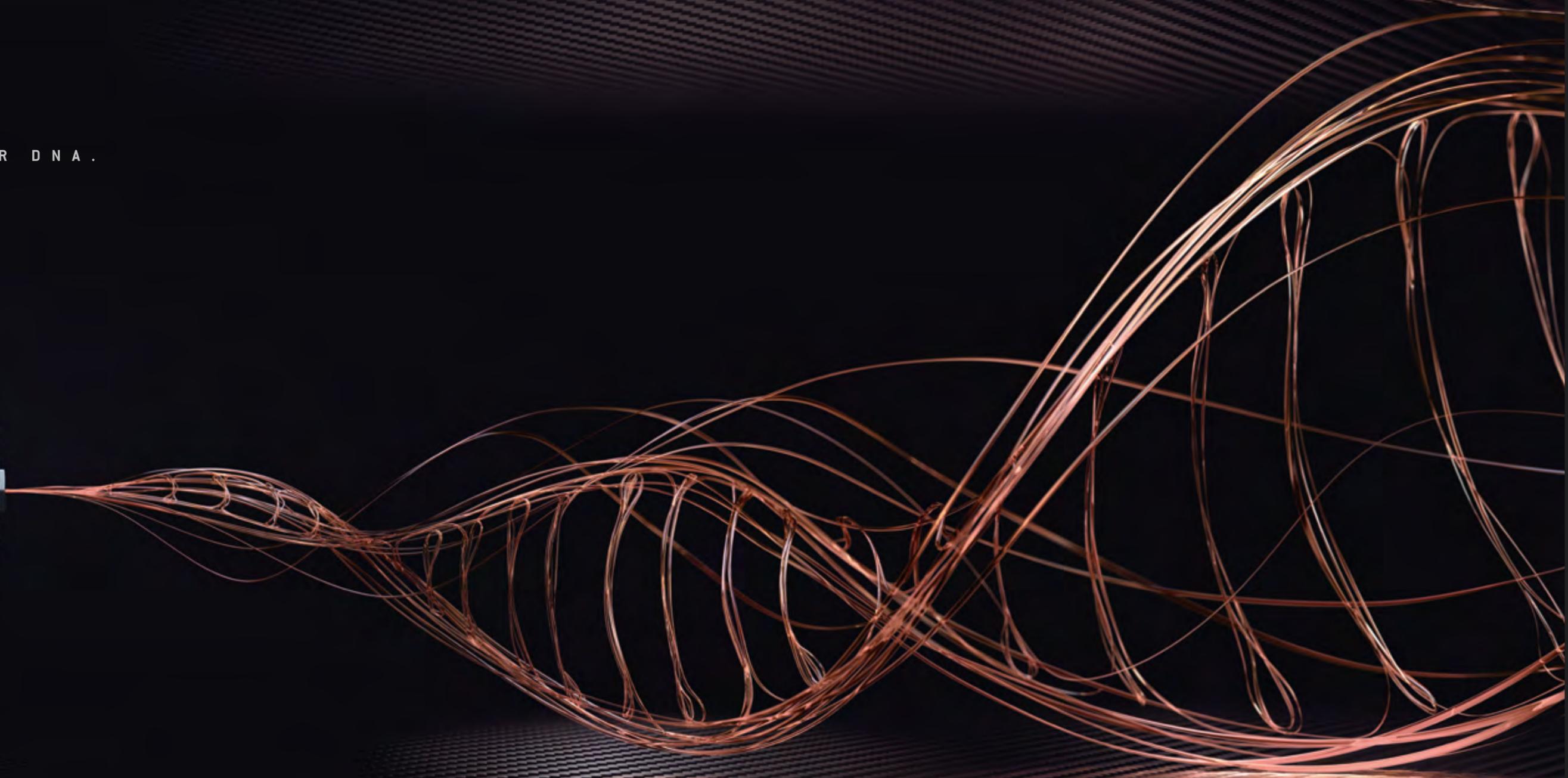
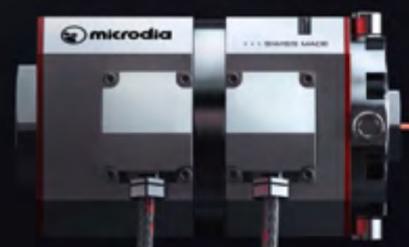


RESEARCH & DEVELOPMENT



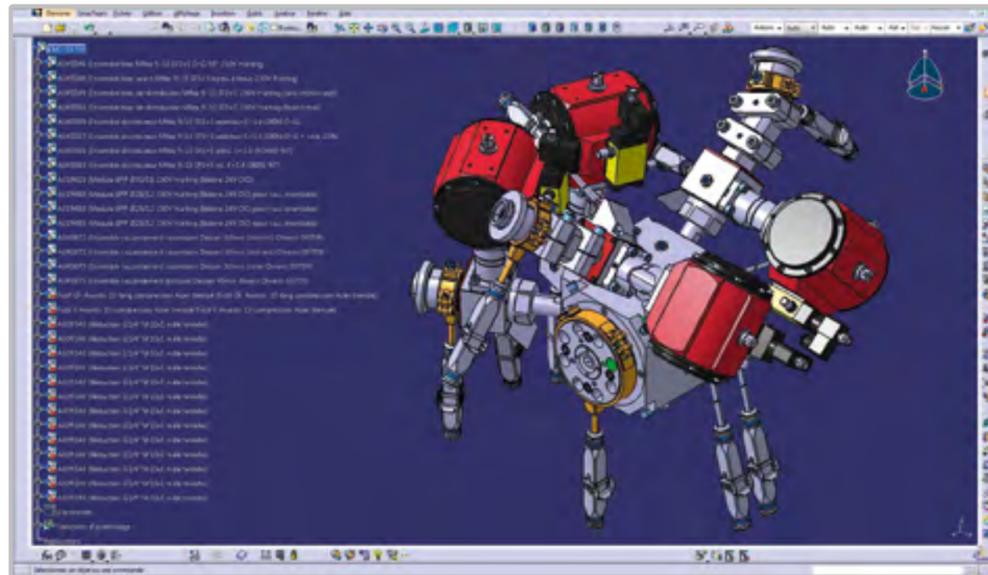
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▶
I N N O V A T I O N I S I N O U R D N A .



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HEADS

CATIA



CATIA is also the perfect tool to create realistic 3D views of a product to be submitted for customer approval.



CATIA. THE SWISS KNIFE OF INDUSTRIAL DESIGN.

Only the best is enough for our engineers and technicians. Catia the multi-platform software for computer aided design developed by the French company DASSAULT SYSTÈMES has been adopted by microdia more than 10 years ago to optimize the configuration of multi-layer crossheads, quick color change systems and cross heads attached to multiple extruders, to take full advantage of the limited space available.

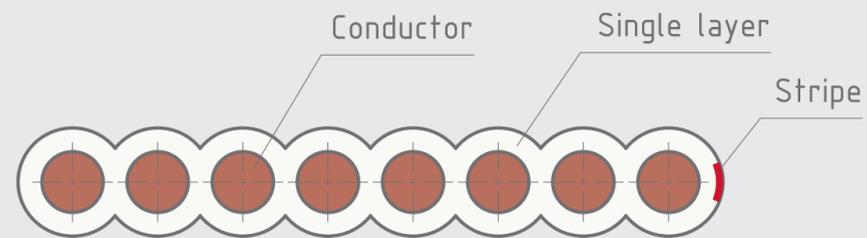
CATIA started as an in-house development in 1977 by French aircraft manufacturer Avions Marcel Dassault, to develop Dassault's Mirage fighter jet. It was later adopted by the aerospace, automotive, shipbuilding, and other industries.

Later on, Catia was selected by the two major aircraft builders, Airbus (A-380) and Boeing (777 airliner), as their main 3D CAD tool, and General Dynamics Electric Boat chose CATIA to design the U.S. Navy's Virginia class submarine. The Chinese fighter-bomber Xian JH-7A was the first aircraft developed by CATIA V5 when the design was completed on September 26, 2000.

DUAL FLOW SERIES

Model	Min. Width	Max. Width
DF 012 SL	2 mm	12 mm
DF 024 SL	12 mm	24 mm
DF 040 SL	24 mm	40 mm
DF 090 SL	30 mm	90 mm
DF 110 SL	40 mm	110 mm
DF 160 SL	60 mm	160 mm

MULTI PURPOSE FLAT CABLE



DUAL FLOW
THE ORIGINAL PATENTED MULTI PURPOSE
FLAT CABLE CROSS HEAD

DUAL FLOW

Heating options

- Electrical
- Hybrid: electrical (body) thermostatic (die)
- Thermostatic

Applications

- Computer cables
- Elevator power and signal cables
- Elevator traction cables
- Package wrapping bands
- Avionics flat core flat cable
- Mining flat cable
- Bus bar insulation
- Umbilical tube wrapping...

TOOLING

- Time saving at startup
- No adjustment required
- Long life span
- Highest quality tungsten carbide wire guide

DUAL FLOW. THE ORIGINAL PATENTED MULTI PURPOSE FLAT CABLE CROSS HEAD

DUAL FLOW was initially created to extrude composite flat cable for the first intelligent house project “smart house” back in the late eighties. Nowadays, Microdia’s DUAL FLOW has found new and important applications such as 64 core computer cable, elevator traction cable, fiber reinforced wrapping tape, downhole geology cables and many more.

Configurations

- Single layer
- Single layer + stripe
- Double layer



Next Year Microdia will celebrate its 40th anniversary producing extrusion tooling for the wire & cable industry and medical tube manufacturers.



Precision

Watch industry heritage: the tools are hand made on Swiss precision lathes with very tight tolerances. Quality checks are performed in a temperature-controlled room to eliminate deviations caused by thermal expansion of parts.

Finish

After machining all tooling is hand polished to ensure a perfect surface and guarantee the best compound flow conditions.

Delivery

Large quantities of blanks and diamonds are kept in stock to ensure a timely delivery. All the manufacturing operations are exclusively performed at our factory in Yverdon-les-Bains.

Lifespan

Careful selection of diamonds, tungsten carbide and steel grade guarantee the proven longevity of our tooling. The fidelity of our long-time customers confirms the superiority of Microdia tips and dies.

Technical support

Our customers can count on experienced process specialists who can assist with starting new types of products, testing new compounds or improving the efficiency of the extrusion line.

Development cooperation

Frequently Microdia develops new heads or crosshead configurations in cooperation with our customers. Those confidential projects are of course protected by secrecy agreements. Microdia's discretion is legendary, customer lists have never been published.

Traceability

Every single part manufactured in our factory is laser engraved. The etching gives the tool size and the five-digit internal order number. The order number allows us to access the complete parts history, kept indefinitely in our safe room. Upon customer request additional information can be engraved.

Logotype

Etched on every part manufactured in our factory is a guarantee of Swiss precision and quality.

100%
SWISS MADE
EXTRUSION
TOOLING





WWW.MICRODIA.SWISS

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